

# 27<sup>th</sup>

Meeting of the International Pediatric Colorectal Club  
(PCC-2020)

New Delhi India

December 12-13, 2020



## ABSTRACT BOOK

*for the*

**live** online conference



Detailed Scientific Program: [www.pcc2020.com](http://www.pcc2020.com)

**Further details from :**  
[drshilpas@gmail.com](mailto:drshilpas@gmail.com)  
[profdkgupta@gmail.com](mailto:profdkgupta@gmail.com)  
[anil@mikevents.in](mailto:anil@mikevents.in)

## Preface

*Dear Colleagues and Friends,*

*Due to the ongoing Covid-19 pandemic, the Scientific Committee of PCC2020 is pleased to present the **ABSTRACT BOOK** on the proceedings of the 27th International Pediatric Colorectal Club **ONLINE Meeting** being held from New Delhi, India on December 12-13, 2020. Our most sincere thanks to Prof. Shilpa Sharma for producing this Abstract Book.*

*The clinicians, fellows and the researchers still had a remarkable interest in submitting over 90 abstracts to be considered for the 27th PCC virtual congress focusing on the practice of colorectal surgery. So far, more than 275 delegates from 34 countries have already been registered. As an alternative to the regular meetings, the delegates representing all over the globe would be able to participate in the PCC scientific deliberations on the virtual congress with 58 oral presentations including two video presentations and 13 posters for discussions, apart from the two invited guest Lectures. The congress proceedings would also be available on you-tube (edited version) and the recordings of the sessions for viewing later.*

*It is hoped the PCC2020 Zoom Meeting would provide the delegates plenty of opportunities to Interact and exchange ideas in the field of pediatric colorectal surgery.*

*We look forward to your participation during PCC-2020.*

[Devendra K Gupta]  
Chairman PCC-2020

[Prem Puri]  
Chairman, Scientific Committee



**Alberto Pena**  
**Director International Center for Colorectal and Urogenital Care Children's Hospital**  
**(Colorado, USA)**



**Andrea Bischoff**  
**Pediatric Surgeon Urogenital Care Children's Hospital (Colorado, USA)**



**Tomas Wester**  
**Adjunct professor Department of Women's and Children's Health Karolinska Institutet, (Sweden)**



**Arnold G Coran**  
Professor of Surgery Active Emeritus, Pediatric Surgery Michigan Medicine,  
(Ann Arbor, USA)



**Atsuyuki Yamataka**  
Director of the Perinatal Medical Support Centre, Juntendo University School of Medicine, (Tokyo, Japan)



**Michael Höllwarth**  
Emeritus Professor Medical University of Graz (Graz, Austria)



**Risto Rintala**

**Professor of Pediatric Surgery Helsinki University Central Hospital, (Helsinki, Finland)**



**Prem Puri**

**Newman Clinical Research Professor, University College Dublin, (Dublin, Ireland)**



**Devendra K Gupta**

**Director and CEO**

**Super Speciality Paediatric Hospital & Post Graduate Teaching Institute (Noida, India)**

## **INTERNATIONAL SCIENTIFIC COMMITTEE**

1. Alberto Pena, (USA)
2. Prem Puri (Dublin, Ireland)
3. Andrea Bischoff, (USA)
4. Tomas Wester ( Sweden)
5. Arnold Coran (Ann Arbor, USA)
6. Atsuyuki Yamataka (Tokyo, Japan)
7. Michael Höllwarth (Graz, Austria)
8. Risto Rintala (Helsinki, Finland)
9. Devendra K Gupta, New Delhi (India)

## **LOCAL ORGANIZING TEAM:**

1. Devendra K Gupta
2. Shilpa Sharma
3. Nita Radhakrishnan
4. Ravi Kanojia
5. Simmi Ratan
6. Dinesh K Sahu

## **PCC-2020 ORGANIZING COMMITTEE CHAIRMAN**

**Devendra K. Gupta**, MS, M.Ch, FAMS, FCCS, Hony FRCS (Glas. & Edin.), D.Sc (h.c.)  
Director and CEO,

Super specialty Pediatric Hospital & Postgraduate Teaching Institute, Noida. India

Past: Vice Chancellor- King George's Medical University, Lucknow, India.

Past President, World Federation of Associations of Pediatric Surgeons

Tel.: +120-2455552, M: +91- 9810065280

Email: profdkgupta@gmail.com

## **PCC-2020 SCIENTIFIC COMMITTEE CHAIRMAN:**

**Professor Prem Puri**, MS, FRCS, FRCS (ED), FACS, FC Paed Surg (SA)(HON), FAAP (Hon.), D.Sc.(Hon)

Newman Clinical Research Professor, University College Dublin

Editor-in-Chief, Pediatric Surgery International

Past President, World Federation of Associations of Pediatric Surgeons (WOFAPS)

Past President, European Paediatric Surgeons Association (EUPSA)

Beacon Hospital, Sandyford, Dublin 18

Email: prof.prempuri@gmail.com

## **ORGANIZING SECRETARY-PCC 2020**

**Dr. Shilpa Sharma** M.Ch, PhD

Department of Pediatric Surgery,

All India Institute of Medical Sciences,

New Delhi-110029

E: drshilpas@gmail.com

Tel.: +91-9810863996

## **CONFERENCE NODAL OFFICER**

**Dr. Dinesh Kumar Sahu**

Senior Research Officer,

Super Speciality Paediatric Hospital &

Post Graduate Teaching Institute, Noida,

E: dinesh23biotech@gmail.com

M: +91-8303572822

## **Conference Manager:**



**MIKE Hospitality LLP**

416/ 2, 2nd Floor, MG Road, Ghitorni, New  
Delhi – 110030

## **Mike Contact Person:**

Mr. Anil Jha

E : anil@mikevents.in,

M : +91-9891158241

## General Guidelines:

- The virtual background may not function with some laptops/ pcs, so do not worry.
- Check your internet speed on [fast.com](https://fast.com) or any speed check app.
- Download the zoom app, and try to see your settings of audio and video, check your mic and audio system, preferably same device for both.
- This can be done by choosing the new meeting option.
- If you need help in zoom settings, please let us know anytime
- It will be helpful if your name is displayed on your connection for easy identification.
- We can also keep your slides for backup if you have a slow connection, you may send the same as a ppt.
- Please stick to the time slot STRICTLY.
- Please ensure your audio is off when not speaking and ON when speaking.
- Can raise hands and use the chat box for asking questions or giving comments Please introduce your name and country before speaking/ asking in the chat box.
- Can also leave the questions in the chat box in case time does not allow it, it will be answered in the box.
- For presenters, just in case you are not able to connect audio and video when your turn arrives, we will try 2 times and then reschedule it at the end of the session. You may use the chat box for letting the chairpersons know that you are ready.
- The posters will be available for viewing as a link. Please view them and reserve your questions for the session which will have only discussions.

**Day 1: Saturday, December 12, 2020**

**SCIENTIFIC SESSION – I**

**TIME ZONES:**

04:30-06:00 (Denver)

05:30-07:00 (Mexico City)

06:30-08:00 (Lima)

08:30-10:00 (Santiago)

11:30-13:00 (Dublin, London)

12:30-14:00 (Stockholm, Graz)

13:30-15:00 (Cape Town)

15:00-16:30 (Tehran)

17:00-18:30 (New Delhi, Colombo)

20:30-22:00 (Tokyo)

**CHAIRPERSONS:**

Devendra Gupta (New Delhi, India)

Prem Puri (Dublin, Ireland)



**01.LP (6+4 Minutes)**

**STAND-ALONE CALRETININ IHC IN THE DIAGNOSIS OF NEONATAL HIRSCHSPRUNG'S DISEASE: A PANACEA DURING COVID PANDEMIC**

Usha Kini, Shweta Rathi

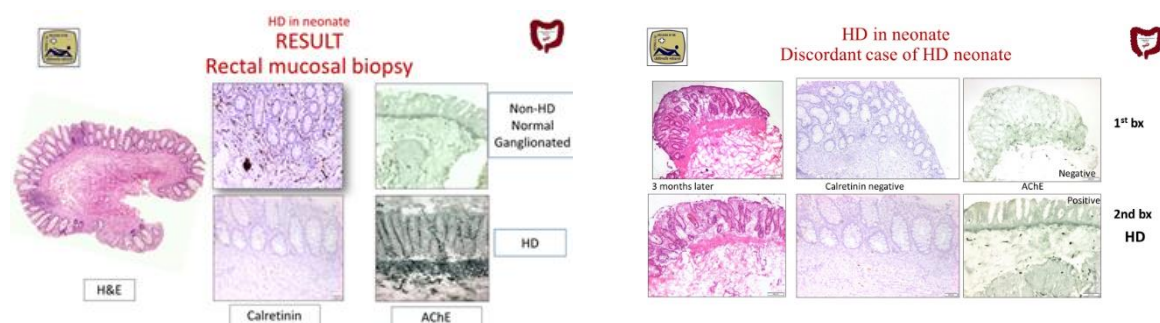
[drushakini@gmail.com](mailto:drushakini@gmail.com)

(India)

**PURPOSE:** During this COVID pandemic, the diagnostic challenges of rectal mucosal biopsies in Hirschsprung's disease (HD) are manifold as the standard histologic diagnostic modality namely, frozen sections and hence, Acetylcholinesterase Enzyme (AChE) histochemistry (gold standard) are best avoided. The evolving enteric nervous system and ganglion cell mimickers in neonates pose the greatest challenge in biopsy interpretation; a wrong move may cost an unwanted surgery and resection. This study is aimed to evaluate calretinin as a primary HD marker in neonates and compared later with AChE histochemistry retrospectively so as to reflect on its use in this COVID pandemic.

**MATERIAL AND METHODS:** Fresh neonatal rectal biopsies from suspected HD patients were evaluated during a three year pre-COVID period at the Translational Research Laboratory for Gut Motility Disorders. Their outcome using Calretinin IHC was compared with that of gold standard AChE histochemistry kept blinded.

**RESULTS:** Sixty of 110 fresh rectal biopsies included in the study (54.5%) showed absent intrinsic fibres/ganglion cells on calretinin IHC diagnostic of HD; fifty (45.5%) with intrinsic fibres were diagnostic of non-HD. Four (3.7%) showing no fibres with calretinin were inconclusive with AChE; repeat biopsy three months later showed increased AChE activity confirming HD. Twelve of the 16 suspected of HD during COVID were proved positive for HD using calretinin and confirmed with levelling biopsies / pull through surgeries done recently.



**CONCLUSION:** Calretinin, a reliable single stand-alone negative immune marker for diagnosis of neonatal HD on rectal mucosal biopsies can be a great boon during COVID pandemic when AChE histochemistry can not be practiced.

**02. LP (6+4 Minutes)**

**CURRENT PRACTICE OF RECTAL BIOPSIES FOR THE DIAGNOSIS OF HIRSCHSPRUNG DISEASE IN LATIN AMERICA. AN INTERNATIONAL ON-LINE SURVEY.**

Maricarmen Olivos, Catalina Correa, Luis De La Torre

[maricarmen.olivos@gmail.com](mailto:maricarmen.olivos@gmail.com)

(Chile)

**PURPOSE:** The gold standard for the diagnosis of Hirschsprung's disease (HD) is a rectal biopsy. Rectal suction biopsy (RSB) is not a standard procedure in Latin-America. We evaluate the current practice in rectal biopsy for HD diagnosis in Latin-America.

**METHODS:** We distributed an online questionnaire among Latin-American pediatric surgeons.

**RESULTS:** 149 pediatric surgeons from 15 countries completed the anonymous survey (71.4% of Latin-American countries), grouped into 81.9% pediatric surgeons; 8.9% pediatric colorectal surgeons, 8.9% trainees, and 1 pediatric colorectal surgeon fellow.

50.4% reported less than 5 new patients with HD per year, 36.2% 5-10 new cases, and 13.4% more than 10.

Only 14.1% of surgeons have access to perform a Rectal Suction Biopsy in the diagnostic work-up of patients with suspected HD and 90% perform an open full-thickness biopsy (OB) under general anesthesia.

When we ask if they could perform both procedures in babies up to 6 months, 52.3% indicate that they prefer an RSB, and for patients older than 6 months, 35.4% favor an RSB.

Regarding the number of samples obtained performing an OB, 32.8% get one biopsy, 31.3% two biopsies, and 17.3% three or more samples.

Surgeons obtained the most proximal biopsy at a median of 2.3 cm (range 1–4 cm) above the pectinate line. 67.8% of surgeons prescribed antibiotic prophylaxis.

Overall, 21.4 % experienced complications, including rectal blood loss (n=18), and rectal perforation (n=3).

The most frequently used staining methods for rectal biopsies are hematoxylin/eosin (87%), calretinin (56,8%), and acetylcholinesterase (21.9 %).

**CONCLUSIONS:** In Latin-America, the accessibility for RSB is limited. There is no consensus regarding sample number, site of proximal biopsy, and antibiotics use. The complications associated with the procedure seems to be less than reported with RSB. Therefore, we should standardize this common surgical practice and establish universal guidelines for Rectal Biopsy Procedure.

**03. SP (3+3 Minutes)**

**EVALUATION THE SENSITIVITY AND SPECIFICITY OF BIOCHEMICAL MARKERS BY IMMUNOHISTOCHEMISTRY FOR DIAGNOSIS OF HIRSCHSPRUNG'S DISEASE**

SaeidAslanabadi, Amir Hossein Ladan

[Amir.h.Ladan@gmail.com](mailto:Amir.h.Ladan@gmail.com)

(Islamic Republic of Iran)

**PURPOSE:** According to importance of definite diagnosis of Hirschsprung's disease and burden of it on patient's life and individual dependency on pathologists for histopathologic diagnosis, we wanted to evaluate some of introduced markers and their accuracy for this purpose.

**METHODS:** During a two years period we involved 70 patients with probable diagnosis of Hirschsprung's disease in survey of examining *Calretinin* and *Cajal cell* markers ( CD34 , CD117 ) along with H&E pathologic evaluation for ganglion cells which is routine in our center . The final diagnosis was made through histopathologic results and clinical history of patients and again was confirmed by permanent pathologic evaluation after surgery.

**RESULTS:** At last 33 patients went on definite surgery by diagnosis of Hirschsprung's disease according to clinical and pathologic criteria . In all 33 patients calretinin was negative and all excluded 37 patients has negative calretinin test . also wise Cajal cells all 70 patients were positive in identification of Cajal cells but there was obvious irregularity in aganglionic specimens . The specificity and sensivity for H&E was 100% and 94.59% accordingly.

**CONCLUSION:** Using this markers specially calretinin can have the highest accuracy as gold standard of diagnosis as histopathologic evaluation.

**04. SP (3+3 Minutes)**

**EXPERIENCE IN THE TREATMENT OF TOTAL COLONIC AGANGLIONOSIS**

Jose German Jaramillo Samaniego, Fatima Deza Becerra.

[jojasa21@yahoo.com](mailto:jojasa21@yahoo.com)

(Peru)

**PURPOSE.** To describe the experience in the treatment of total colonic aganglionosis (TCA) in the last 2 years at the National Institute of Child Health.

**METHODS.** Descriptive study of patients with histopathological diagnosis (hematoxylin, eosin and calretinin staining) by TCA colonic mapping. Results of surgical complications, intestinal control, enterocolitis and quality of life are shown.

**RESULTS.** Five male patients whose age range was between 2 years 11 months to 12 years were studied. Who underwent a colectomy plus a Swenson-type endorectal ileo anal anastomosis. Four patients underwent a protective ileostomy in the area of the anastomosis; only one patient aged 2 years and 11 months underwent a primary descent. One patient developed stenosis of the anastomosis area and is currently undergoing dilations. All patients presented perianal irritation after ileostomy closure and primary surgery. Two patients, 6 and 12 years old, presented perianal dermatitis for a period of 60 days, then presented continence, did not wear a diaper and defecated 2 to 3 times a day pasty stools. The other 2 children under 3 years of age wear a diaper, still do not have continence and have mild perianal dermatitis. Two patients with profuse diarrhea who had to be hospitalized. The mothers of the patients reported having difficulties during the first months after surgery in caring for the perianal area. None of the patients received Loperamide and none had enterocolitis.

**CONCLUSION.** TCA remains a surgical challenge for the children's surgeon. The colectomy plus ileo anal anastomosis presents complications such as stenosis, diarrhea, and peri-anal dermatitis. Continence is achieved 60 days after surgery.

## **05. VP(6+4 Minutes)**

### **LAPAROSCOPIC MODIFIED SWENSONS PROCEDURE FOR HIRSCHSPRUNGS DISEASE: TECHNICAL CONSIDERATIONS AND INITIAL EXPERIENCE**

Ankur Mandelia, Yousuf Siddiqui, Ashwani Mishra.

[drankurmandelia@gmail.com](mailto:drankurmandelia@gmail.com)

**(India)**

#### **PURPOSE**

To describe our technique and initial experience with laparoscopic modified Swenson's procedure (LmSw), which combines the advantages of laparoscopic rectal mobilization and transanal perineal dissection.

#### **METHODS**

From July 2019 to October 2020, 9 children with biopsy-proven HD underwent LmSw. Patients were placed in lithotomy position and 3 ports were used. The proximal ganglionated bowel was mobilized, and distal circumferential rectal dissection was continued below the peritoneal reflection, down to the pelvic floor. The perineal part of the procedure started with placement of anal retraction sutures. Interrupted stay sutures were placed in the rectal mucosa 1 cm above the dentate line. A full-thickness circumferential rectal incision was made and dissection was performed close to the rectal wall till it joined with the laparoscopic plane of dissection. The recto-sigmoid was then withdrawn, avoiding twisting of the pull-through segment. The colo-anal anastomosis was fashioned in two layers using absorbable sutures.

#### **RESULTS**

Median age and weight at operation was 2 years and 12 kg, respectively. 7 patients with a stoma (3 referred from elsewhere) underwent a 3 stage procedure and 2 patients underwent a primary pull through. 8 patients had classical recto-sigmoid HD. 1 patient had total colonic aganglionosis (TCA) and required conversion to open Duhamel's procedure. The median operating time was 220 minutes and the median length of resected bowel was 18 cm. The median time to full feeds and hospital stay was 36 hours and 5 days, respectively. Median follow up duration is 6 months. 1 patient had post-operative enterocolitis which was managed conservatively. 8 out of 9 patients have attained normal stooling pattern with no fecal or urinary incontinence. 1 patient required occasional rectal washouts for intermittent constipation.

#### **CONCLUSION**

LmSw is a feasible, safe and effective procedure for the laparoscopic management of HD in children with acceptable short term results.

**06. SP (3+3 Minutes)**

**LAPAROSCOPIC PULL THROUGH FOR HIRSCHSPRUNG DISEASE: COMPLICATIONS AND CHALLENGES.**

Garvita Singh, Satish Kumar Aggarwal, Gaurav Singh, Rupa Banerjee, Muni Varma

[garvitasingh429@gmail.com](mailto:garvitasingh429@gmail.com)

(India)

**AIM:** To present our experience with laparoscopic pull through for Hirschsprung Disease specially with reference to complications and their management.

**MATERIALS AND METHODS:** Records of 36 cases (32 boys and 4 girls) of HD, who underwent laparoscopy assisted pull-through for HD between June, 2010 and March 2020 were reviewed for demographics, diagnosis, level of aganglionosis, management, complications and outcomes.

**RESULTS:** The age range was 3 months to 6 years. Level of aganglionosis was upto Splenic flexure in 7, Sigmoid in 5 and rectosigmoid in 24; diagnosis confirmed on contrast enema and rectal biopsy in all. The level of pull through was decided by intraoperative frozen section biopsy (in cases where pre op biopsy could not decide the level). Thirtyfive underwent laparoscopic assisted TAPT and one had laparoscopic assisted Duhamel. All were successfully completed, there was no conversion.

**COMPLICATIONS:** 1. Lap assisted TAPT- one patient had urethral transection during transanal dissection. The urethra was repaired by perineal route (E-E anastomosis) successfully. There was no sequel. All patients had transient incontinence which improved with time. On follow up, 2 cases had anal stricture due to irregular dilatation and improved with proper dilatation.

2. Lap assisted Duhamel pull through- the solitary case in this series developed prolonged bladder dysfunction (retention) requiring 2 weeks of catheterisation followed by bladder training. The reason was thought to be pull on the distal rectal stump (misidentification)- in place of pull through colon, inadvertently the rectal stump was pulled down leading to traction injury to pelvic nerves.

**Conclusion:** Laparoscopy has established role in the management of HD. Transanal dissection can be difficult after rectal biopsy. Catheter position must be confirmed at all times to avoid urethral trauma. Correct identification of structures is important to avoid complication during Duhamel procedure.

**07. SP (3+3 Minutes)**

**EARLY DEFINITIVE SURGERY IN TOTAL COLONIC AGANGLIONOSIS WITH ILEAL INVOLVEMENT: SUCCESS STORY OF TWO INFANTS.**

Alpana Prasad

[alpanaprasad@hotmail.com](mailto:alpanaprasad@hotmail.com)

(India)

**BACKGROUND AND OBJECTIVE:** Total colonic aganglionosis (TCA) is a relatively uncommon condition. Various different operative techniques have been described for treatment of TCA but there is no consensus on the superiority of one method over another with respect to functional outcome and perioperative morbidity. Also, the timing of definitive procedure and ileostomy closure is still controversial with preference for delaying definitive surgery in order to avoid severe perianal excoriation and enterocolitis.

**PATIENTS AND METHODS:** Two term-born male infants who were diagnosed with TCA with variable segment of ileal aganglionosis on laparotomy and multiple colonic and ileal biopsies, one at 7 weeks age and the other at 9 months age, are being discussed.

**RESULTS:** Both infants underwent early definitive surgery including resection of aganglionic ileum and total colectomy with standard modified Duhamel pull-through procedure and ileo-anal anastomosis, at 5 months after the first surgery, at the age of 6 months and 14 months. Both had an uneventful postoperative recovery with insignificant issues related to increased stool frequency. At follow-up of more than 2.5 years now both are above 50th centiles of height and weight for age. Both are continent with no episodes of constipation, soiling or enterocolitis and have excellent functional outcome.

**CONCLUSION:** Early definitive surgery in infants with TCA should be the preferred option as it helps achieve better functional outcome with minimal perioperative morbidity

## 08. SP (3+3 Minutes)

### MARTINS MODIFICATION OF SCOTT BOLEY WITHOUT ILEAL DIVERSION FOR A CASE OF TOTAL COLONIC AGANGLIONOSIS PATIENT

Neel Aggerwal, Pramod.K.Sharma, Devendra Gupta.

[aggerwal.neel@gmail.com](mailto:aggerwal.neel@gmail.com)

(India)

**Aim:** Total colonic aganglionosis (TCA) is a relatively uncommon form of Hirschsprung's disease (HD), seen in 7-10% of cases and involving the entire colon and terminal 25 cm of ileum. We present a case of TCA managed with Martin's modification of Scott Boley Endorectal pull through without any diversion.

**Case details:** Baby presented with abdominal distension and enterocolitis at 5 months with 2.5 kg weight, poor built and nourishment. Baby had history of on and off constipation since birth, which was unsuccessfully treated by laxatives and suppositories. On exploration, a transition zone was seen in small bowel, about 20 cm proximal to the ileo-caecal junction. The whole colon was thickened and collapsed. A loop ileostomy just proximal to the normal proximal ileum was done. Biopsies taken from multiple sites confirmed Total colonic aganglionosis. Child improved and the Martin's modification of Scott Boley endorectal pull through was performed when baby was 1 year old and 7.5 kg in weight. Whole of the aganglionic colon (except a 12 cm long loop of the left colon), was excised. This colon segment was anastomosed with staplers to the ganglionic ileum, leaving 8 cm of the distal most ganglionic ileum, for pulling it down through the muscular cuff, and anastomosed to neoanus 1.5 cm above the dentate line. Diversion was not done. Baby settled in post operative period after the initial frequency of stools and perineal excoriation.

**Discussion:** Goal for TCA patient after surgical procedure is to provide good quality of life with fecal continence, acceptable frequency of bowel movement and prevention of enterocolitis. Surgical procedures are often associated with diversion to protect the ileo-colonic and neo anus suture lines. Our patient tolerated Martin's modification of Scott Boley pull through procedure without diversion.



## 09. LP (6+4 Minutes)

### TRANSITION ZONE IN DUHAMEL PULL THROUGH SURGERY FOR HIRSCHSPRUNG'S DISEASE: A PATHOLOGIST'S PERSPECTIVE

Usha Kini, Neha Singh, Maria Bukelo, Gowrishankar.

[drushakini@gmail.com](mailto:drushakini@gmail.com)

(India)

#### PURPOSE

Transition zone (TZ) in Hirschsprung's disease (HD), an intermediate neuroanatomically abnormal bowel situated between distal aganglionic and proximal ganglionic segments, mandates localization and resection, for, if its retained, causes persistent post-operative obstructive symptoms. This highlights the question – should one perform Duhamel pull-through (PT) surgery with /without employing levelling biopsies (LB) and intra-operative doughnut assessment (IODA) of proximal anastomosing margin.

#### METHODS

LB and PT (Duhamel) specimens of HD cases in one year period were evaluated in a tertiary care centre for TZ and correlated to assess surgical outcome.

#### RESULTS

Of the 27 PT specimens [22 short segment HD (SSHD), 3 long segment HD (LSHD), 2 TCA] studied, 19(20%) had prior LB; 8(30%) were without LB and none had IODA. Subsequently, TZ at proximal anastomosing margin was noted in 6 of the PT specimens (5/22 SSHD, 1/5 LSHD) involving  $\frac{1}{2}$  (3/6, 50%) and  $\frac{1}{4}$ ,  $\frac{3}{4}$  &  $\frac{1}{16}$  (1 each,16.6%)of the circumferential involvement. All six underwent redo surgeries.

#### CONCLUSION

Duhamel PT surgeries mandate IODA in addition to LB, and the frozen section services must be offered/utilized for the same. This technique establishes the distal level of normally innervated colon for the best surgical outcome and leave no scope for re-do surgeries.

**10. SP (3+3 Minutes)**

**LONG TERM OUTCOMES IN CHILDREN WITH HIRSCHSPRUNGS DISEASE AND TRANSITION ZONE BOWEL PULL THROUGH. IMPACT OF SURGICAL TECHNIQUES AND ROLE FOR CONSERVATIVE APPROACH.**

Gowri Shankar, Usha Kini, Deepak J, Ramesh S

[bcgshankar@gmail.com](mailto:bcgshankar@gmail.com)

(India)

**PURPOSE:** Presence of *transition zone (TZ)* in the pulled colon can impact the outcome of surgery in children with Hirschsprung's disease. There is a wide variation in terminology used to define TZ and its management. We present our series of managing 11 such children with *considerations for conservative management.*

**METHODS:** 11 of 114 children operated for Hirschsprung's disease had features of *TZ* on the *4 quadrant doughnut assessment of proximal anastomosing margin.* They were followed up for development of obstructive symptoms, failure of pull through procedure or bowel related complications. Intervention done were observation with laxatives, dilatation, botox injection and redo-pullthrough.

**RESULTS:** Of the 11 children, 6 underwent Duhamel's procedure and 5; TERP. Features identified on HPE were presence of *hypertrophic nerve bundles involving 2/3 quadrants* in the circumferential *doughnut biopsy of proximal anastomosing margin.* Observed symptoms included constipation, enterocolitis, increased bowel frequency and soiling. Intervention done were use of laxatives with bowel management program in 6 and Botox injections in 4. Only one child with TZ in 3 quadrants required redo surgery. Mean followup was 5.2 years with resolution of symptoms in most.

**CONCLUSION:** This paper highlights the role of conservative management with good outcomes in children with TZ bowel pullthrough. Children who underwent Duhamel's procedure had little impact of presence of TZ at anastomotic margin. Children undergoing TERP benefitted from botox injection. Conservative management can be attempted successfully to limit the surgical interventions and prevent long term incidents as redo surgeries or local procedures can lead to fibrosis of anal-canal sphincter. Only those children not responding to above measures can be planned for revision surgery.

**11. LP(6+4 Minutes)**

**DOES THE TRANSITION ZONE MATTER? A REVIEW OF PULL-THROUGH HISTOPATHOLOGIC REPORTS AND POSTOPERATIVE OUTCOMES IN HIRSCHSPRUNGS DISEASE**

Jenny Stevens, Marina Reppucci, Maxene Meier, Christopher Schlieve, Michael Arnold, Mark Lovell, Alberto Pena, Andrea Bischoff, Maria Zornoza, Luis De La Torre

[jenny.stevens@childrenscolorado.org](mailto:jenny.stevens@childrenscolorado.org)

(USA)

**PURPOSE:** The histologic transition zone (TZ) in Hirschsprung's disease (HD) is an area with ganglion cells and hypertrophied nerves in the proximal margin of the resection. Some suggest that a TZ-pull-through (TZ-PT) is the cause of postoperative obstructive complications leading to reoperations. In most informed series, functional outcomes following reoperation are not reported. Even more, this assertion has not been validated in the literature. We sought to determine if postoperative obstructive complications were associated in patients with a primary TZ-PT.

**METHODS:** A retrospective review of HD patients who had a pull-through and clinical follow-up at our institution from 2010-2020 was performed. Patients were stratified by the proximal circumferential margin pathology of their primary pull-through. Normal-PT was defined as the presence of ganglion cells with absence of hypertrophic nerves and TZ-PT as the presence of ganglion cells and hypertrophic nerves. Obstructive complications (enterocolitis, colonic distension on radiograph, abdominal distension on exam, and constipation), hospital readmission, and rebiopsy were summarized using frequencies with percentages or means with standard deviation and compared between groups using Fisher's exact test and ANOVA.

**RESULTS:** Of 71 patients included in analysis, 92% (65) had normal pathology and the remaining 8% (6) had TZ. Postoperative obstructive complications were seen in 69% (45) of the normal group and 67% (4) of the transition zone group (p=1.00). There was no significant difference in rates of readmission (42% vs 33%, p=1.00), re-biopsy (9% vs 33%, p=0.13), or reoperation (0% vs 0%) for HD related complications between the two groups.

**CONCLUSION:** Our study found no significant difference in rates of postoperative obstructive complications, hospital readmission, rebiopsy or reoperation between HD patients with Normal-PT and TZ-PT of primary pull-throughs. These findings suggest that the presence of TZ-PT in patients operated on for HD does not explain postoperative obstructive complications

**Day 1: Saturday, December 12, 2020**

**SCIENTIFIC SESSION - II**

**TIME ZONES:**

06:00-07:30 (Denver)  
07:00-08:30 (Mexico City)  
08:00-09:30 (Lima )  
10:00-11:30 (Santiago)  
13:00-14:30 (Dublin, London)  
14:00-15:30 (Stockholm, Graz)  
15:00-16:30 (Cape Town)  
16:30-18:00 (Tehran)  
18:30-20:00 (New Delhi, Colombo)  
22:00-23:30 (Tokyo)

**CHAIRPERSONS:**

Michael Höllwarth (Graz, Austria)

Andrea Bischoff (Denver, USA)

## 12. LP (6+4 Minutes)

### **VISUALIZATION OF THE FETAL ANUS BY PRENATAL ULTRASOUND FOR THE DIAGNOSIS OF ANORECTAL MALFORMATIONS: IS IT FEASIBLE?**

Andrea Bischoff, Mariana L. Meyers, Carolina Guimaraes, David M. Mirsky, Michael Zaretsky, Jill Ketzer, Jennifer Hall, Luis De La Torre, Alberto Pena, Andrea Bischoff

[andrea.Bischoff@childrenscolorado.org](mailto:andrea.Bischoff@childrenscolorado.org)

(USA)

**PURPOSE:** Prenatal diagnosis of anorectal malformations (ARMs) remains challenging. As such, mainly the severe forms, such as cloaca or cloacal exstrophy, are identified in utero. Given the recent advances in prenatal imaging, identification of the less severe spectrum of ARMs may be possible. Using the presence or absence, appearance, and location of the anal dimple as a surrogate for possible underlying ARM, we hypothesize that evaluation of the anal dimple as part of the fetal anatomic survey may increase our sensitivity in detecting less severe ARMs. The goal of this study was to determine the feasibility of identifying the anal dimple on routine prenatal imaging.

**METHODS:** Pregnant women having a prenatal ultrasound at the Fetal Care Center between October 2019 and October 2020 were enrolled in the study. Fetuses with suspected ARM were excluded. Prospectively collected data included: gestational age, singleton versus multiple pregnancy, gender of the fetus, visualization of the anal dimple, and reason for non-visualization of the anal dimple. IRB approval was obtained for this study.

**RESULTS:** A total of 902 ultrasounds were performed, evaluating 1048 fetuses, in 362 different pregnant women. Gestational ages ranged from 16 weeks to 38 weeks. The anal dimple was visualized in 609 fetuses (58.1%) and not seen in 439 (41.9%). The two most common reasons for non-visualization were extremes in gestational age in 156 (35.5%) and fetal position in 154 (35.1%). The optimal gestational age range for anal dimple visualization was 26-32 weeks, with 80% visualization rate.

**CONCLUSION:** Visualization of the anal dimple by ultrasound is feasible and may aid in the detection of less severe ARMs, ultimately impacting pregnancy management and family counseling.

### 13. LP(6+4 Minutes)

#### COMPUTED TOMOGRAPHY (CT) WITH CLOACOGRAM WITH 3D RECONSTRUCTION IN PREOPERATIVE PLANNING FOR CLOACAL ANOMALIES.

Karla Alejandra Santos Jasso, Pablo Lezama Del Valle, Rossy Angelica Quimbert Montes,

[santosjasso@hotmail.com](mailto:santosjasso@hotmail.com)

(Mexico)

**PURPOSE:** to show a better imaging technique for surgical planning in definitive correction of cloacal malformations, that could be achieved in settings with limited resources.

**METHODS:** This a retrospective case series of patients with cloacal anomalies treated at the Instituto Nacional de Pediatría, in Mexico City, Mexico, in whom a low dose pelvic CT with cloacogram was used for surgical planning. The period of the study is from January 2014 to December 2019, and the medical records and picture archiving system were reviewed. All patients had a follow up period of at least 6 months. The variables include age, weight, length of the common channel, urethral length, presence or absence of the vagina, other Müllerian malformations, and radiation absorbed dose (DLP, or Dose Length Product, mGy x cm), and effective radiation dose (mSv). SPSS 22, with descriptive statistics and central tendency measures.

**RESULTS:** We reviewed the records of 23 patients with cloacal anomaly, their imaging studies available in the Picture Archiving and Communication System, or PACS, although only for 16 we had the details of the radiologic protocol. The median age for surgical correction was of 17 months (range 6 to 72 months). The median effective radiation dose was of 1.98 mSV/mGy cm<sup>3</sup>, with a range of 0.82 to 2.05 mSV/mGy cm<sup>3</sup>. The length of the common channel at the time of the operation in the 23 patients was as follow: ≤ 1cm, in 1; from 1 to 3 cm, in 12; from 3 to 5 cm, in 8; > 5 cm, in 2.14 patients (60.9 %) had diverse Müllerian anomalies, Nine patients (39%) required a vaginal reconstruction.

**CONCLUSION:** The technique describe in this paper can be reproduced with CT scanners of 64 cuts, with limited radiation and can be implemented where multiplanar or 3D fluoroscopy is not available.

#### 14. LP (6+4 Minutes)

### **VARIED PARAMETERS AND UTILITY OF THE ANAL POSITION INDEX: A SYSTEMATIC REVIEW AND META ANALYSIS**

Shilpa Sharma, Vanamail Perumal, Kanika Sharma, Devendra K Gupta

[drshilpas@gmail.com](mailto:drshilpas@gmail.com)

(India)

**PURPOSE:** The Anal position index (API) was described in 1984 by Reisner et al. Since then it has been measured in different ethnic populations and its utility in various medical conditions has been explored. We aimed to review the literature regarding the various values reported analytically.

**METHOD:** A pubmed search was carried out with the terms Anal Position Index. There were 158 articles hit by the search. The description of the API was uniform in all studies, described as ratio of anus-fourchette distance in girls and anus-scrotum distance in boys to the distance between coccyx and fourchette/scrotum. 18 relevant studies were included describing the values in different ethnic groups and describing its utility. One study was excluded from statistics due to different landmark for measurement. The studies were grouped into 4. Group A:B:C:D comprised of Newborns: Infants: All age groups: Constipated children. We carried out meta-analysis to estimate effect size (mean difference) using STATA software version 16.0

**RESULTS:** The different ethnic populations in which API was measured were Indian (2), Turkish (3), Isreal (2), Taiwanese, Thai, Iranian, Spanish, Italian and Mexican. The API was higher by 0.129 in boys. The mean API in males was 0.53:0.54:0.48:0.52 in Group A:B:C:D with an overall mean(SD) API of 0.51(0.04). The mean API in females was 0.40:0.40:0.38:0.37 in Group A:B:C:D with an overall mean (SD) API of 0.40(0.03). Two studies were done in mice and showed the relation of API to intrauterine exposure to androgens. In children, API was mostly used to diagnose an anterior ectopic anus and see correlation with constipation. The abnormal values varied from less than 0.3-1 in girls and less than 0.4-0.9 in boys. The anal position in relation to genitalia was measured in nulliparous women, menopause women and women with levator deficiency. It was affected in vulvovaginal atrophy. Dichlorodiphenyldichloroethylene exposure during the first trimester of pregnancy was reported to alter the anal position in male infants

**CONCLUSION:** The Anteriorly positioned anus has been measured in various populations with minor variations. The API is higher in males. Presence of constipation does not seem to alter API. One should adopt a single method for measurement and compare values with the matching populations.

### 15. LP (6+4 Minutes)

#### **MISSED/DELAYED DIAGNOSIS OF ANORECTAL MALFORMATIONS: URGENT NEED FOR AN EDUCATIONAL PROGRAMME**

Govind Murthi, PorusBustani, Richard Lindley.

[govind.murthi@nhs.net](mailto:govind.murthi@nhs.net)

(United Kingdom)

**PURPOSE:** Missed or delayed diagnosis of Anorectal Malformations (ARMs) at birth is frequent and leads to increased morbidity and mortality. In order to reduce this problem, there is a need for a widespread educational programme for midwives, neonatologists and allied healthcare professionals in the correct method of examination of the perineum and recognition of ano-rectal malformations in the new-born child.

**METHODS:** a) Case report: A term 3-day old male infant was brought by parents to A&E with poor feeding, abdominal distension, severe sepsis and shock. Following resuscitation, the infant was found to have a perineal fistula that was missed at the Newborn and Infant Examination (NIPE) check. The infant succumbed to the severe sepsis (E.coli) that was likely secondary to bowel obstruction as no other abnormality was found at post-mortem.

b) Literature review: See Table I.

**RESULTS:** Currently, worldwide, >20% of ARMs are missed at birth. There is no trend towards decrease in this incidence over the last two decades; this problem is prevalent in developed and developing nations. Missed/delayed diagnosis can lead to bowel perforation, sepsis and death. In addition, some low ARMs have to be treated initially with a colostomy instead of an anoplasty.

**CONCLUSION:** Paediatric Surgeons should work with healthcare professionals involved in the routine examination of the new-born (mid-wives, neonatologists, paediatricians, advanced nurse practitioners, GPs) to develop an educational programme that teaches the correct method of examination of the perineum of the new born, draws attention to the problem and raises awareness. Such an educational program should be standardised, incorporated in local syllabi and reviewed regularly. There is a case for modifying existing national new-born screening programs (e.g. NIPE in UK) to address this issue.

Table I: Summary of literature search for missed/delayed diagnosis of ARMs

|                            | <b>Worldwide</b> | <b>UK</b> |
|----------------------------|------------------|-----------|
| <b>Period studied</b>      | 1994-2016        | 1994-2016 |
| <b>No. of publications</b> | 14               | 4         |
| <b>Total ARMs</b>          | 2193             | 678       |
| <b>Missed ARMs</b>         | 469              | 162       |
| <b>% missed</b>            | 21.4             | 23.9      |
| <b>Bowel perforation</b>   | ~48              | 7         |
| <b>Deaths</b>              | 21               | 4         |
| <b>% died</b>              | 1                | 0.6       |



## 16. LP (6+4 Minutes)

### **THE OUTCOME OF THE MALIGNANT PRESACRAL TUMOR IN THE PATIENT WITH ANORECTAL MALFORMATION: A SYSTEMATIC REVIEW**

Hiroki Nakamura, Yusuke Shigeta, Tokiko Okunobou, Takashi Doi

[doitak@hirakata.kmu.ac.jp](mailto:doitak@hirakata.kmu.ac.jp)

(Japan)

**PURPOSE:** Presacral masses (PM) in patients with anorectal malformation are relatively rare. Among them, a congenital disorder characterized by a triad of anorectal malformation, a PM and a sacral bone defect is known as Currarino syndrome. Although the majority of PM has been reported to be benign by histological diagnoses, some cases have the malignant degeneration of the mass. The purpose of this study is to evaluate the outcome of the presacral malignant tumor in patients with an anorectal malformation.

**METHODS:** A systematic literature search for relevant articles was performed in 4 data bases using the combinations of following terms “anorectal malformation”, “presacral tumor/mass”, “malignant/malignancy”, “Currarino” for studies published between 1974 and 2020. The relevant cohorts of a presacral malignant tumor in patient with anorectal malformation were systematically searched for clinical outcomes.

**RESULTS:** 14 studies met defined inclusion criteria, reporting a total of 14 patients who had malignant presacral tumor associated with anorectal malformation. Of 14 patients, 7 cases were children (age: 4 months old – 4 years old) and 7 cases were adults (age: 22 years old – 59 years old). Reported pathology of malignancy were malignant teratoma, yolk sac tumor, low-grade neuroendocrine carcinoma, leiomyosarcoma and nephroblastoma. Treatment of these condition were excision of tumor, chemotherapy, radiotherapy and combinations of them. Overall survival rate was 50%. 14 cases were diagnosed as Currarino syndrome. 2 of 14 cases had gene mutation of *HLXB9*.

**CONCLUSION:** This study suggests that the diagnosis and the treatment of the malignant presacral tumor in patients with anorectal malformation tend to be delay. It is therefore important to pay attention to the risk of malignancy for the patient with the presacral mass associated with anorectal malformation.

## 17. SP (3+3 Minutes)

### **2D ECHOCARDIOGRAM FINDINGS OF NEONATES WITH ANORECTAL MALFORMATIONS REFERRED TO A TERTIARY CARE CENTER IN SRI LANKA**

Diroji Antony, TharushihanMuhunthan, Paul Bright Benedict, Duminda Samarasinghe, Malik Samarasinghe, Naveen Wijekoon.

[diroji.antony@gmail.com](mailto:diroji.antony@gmail.com)

**(Sri Lanka)**

**PURPOSE:** To describe the 2D Echocardiogram findings of neonates born with anorectal malformations (ARM), who were referred to Lady Ridgeway Hospital in Sri Lanka for paediatric surgical management.

**METHODS:** A retrospective analysis of medical records was carried out of neonates with ARM who were referred to Lady Ridgeway Hospital between November 2015 and April 2019. Relevant findings from pre-operative echocardiogram and operation notes were documented. Cardiac anomalies were categorized as major and minor according to their severity.

**RESULTS:** There were a total of 60 patients with the ARM: 48 with isolated ARM, 10 with ARM & oesophageal atresia (OA), 1 with ARM & duodenal atresia (DA) and 1 with ARM, OA & DA. The male to female ratio was 7:3. Associated congenital heart disease (CHD) was seen in 80% (n=48) of patients and it was commoner in patients with other associated GI anomalies (92%) compared to patients with isolated ARM (77%). The most common cardiac anomalies were combined atrial septal defect (ASD) & patent ductus arteriosus (PDA) (31.25%), followed by isolated ASD and isolated PDA (16.67% both). In those with cardiac defects, 89.6% (n=43) had minor cardiac defects. In-hospital mortality rate was 13.3% (n=8). All 5 patients with major cardiac defects died due to cardiac complications. Extra-gastrointestinal malformations were present in 35% (n=21) of patients, the most being genitourinary, followed by musculoskeletal anomalies.

**CONCLUSION:** The majority of patients with ARM have associated cardiac anomalies, which are minor CHDs and their prevalence is higher in newborns with other associated GI anomalies compared to isolated ARMs. The commonest cardiac anomaly was combined ASD & PDA. All the major cardiac anomalies in our cohort proved to be fatal. Larger scale studies are required to analyse the effects of cardiac anomalies on the long-term outcome of ARM.

## 18. LP(6+4 Minutes)

### **ROLE OF URODYNAMICS IN MALE PATIENTS OF HIGH ANO-RECTAL MALFORMATIONS- A PROSPECTIVE STUDY**

Vineet Binu.

[dr.vineet.binu@gmail.com](mailto:dr.vineet.binu@gmail.com)

**(India)**

**PURPOSE.** Association of spinal or vertebral anomalies and iatrogenic denervation during surgical correction of anorectal malformation especially in boys is responsible for neurogenic bladder in patients with anorectal malformation. The paucity of literature with regard to urodynamic studies focusing exclusively on male children with high anorectal malformations (HARM) lead us to analyze the urodynamic changes. The objective was to study urodynamic abnormalities in male patients who have undergone surgery for anorectal malformation.

**METHODS.** Male high anorectal malformation patients who had completed all the stages of repair were prospectively studied. Following basic workup, all patients based on urodynamics were categorized into 2 groups as safe or unsafe bladders. Unsafe bladder was defined as detrusor pressure > 40 cm (high detrusor pressure) or pressure variability of 15 cm of water (detrusor overactivity) or significant post-void residue. MRI was limited to patients with only abnormal urodynamics to rule out spinal causes of neurogenic bladder and due to financial constraints, it could not be offered to all patients.

**RESULTS.** 41 HARM meet the exclusion criteria. All patients presented with increased frequency with normal stream of urine but none had a history of urinary tract infections. All patients underwent ultrasound which showed bladder wall thickening in 10 patients (20%). Reduction in bladder capacity and compliance was noted in 31.7% and 30 % patients respectively. Detrusor pressures were normal 70% (29/41), high in 10 % (4/41). Detrusor overactivity was noted in 19.5% (8/41). UDS revealed 13 patients (31.7%) to have abnormal cystometric parameters with 12(30%) having unsafe bladders. MRI detected a spinal abnormality in 1 patient with unsafe bladder.

**CONCLUSION.** Urodynamics can demonstrate occult neurovesical dysfunction in patients with HARM. This would help in early renal protective therapy and prevent the burden of long term sequelae of neurovesical dysfunction in HARM patients

## 19. SP(3+3 Minutes)

### **HISTOPATHOLOGY OF POUCH COLON: A SYSTEMATIC REVIEW**

Kanika Sharma, Shilpa Sharma.

[kanikasharma@bhu.ac.in](mailto:kanikasharma@bhu.ac.in)

**(India)**

#### **INTRODUCTION**

Congenital pouch colon is a rare variant of anorectal malformation worldwide, however the incidence of congenital pouch colon is reported to be around 5-10% of all the anorectal malformation in northern part of Indian Subcontinent. The literature reports a variable histopathology and immunohistopathology. The present systemic review highlights the prime characteristics of histopathology of congenital pouch colon.

#### **METHOD AND MATERIALS**

Relevant articles were searched on PubMed/Medline using a simple search strategy. All the articles published from year 2000 onwards, with sample size of five or more, describing histopathology of pouch colon were included. References of the articles were also evaluated. Subsequently, included articles were tabulated in Microsoft Excel (version 16.16). Characteristics including authorship, country and institution of origin, the number of subjects included study, male: female ratio, gross and microscopic findings of excised pouch colon were noted.

#### **RESULTS**

Out of 55 studies, 8 studies describing the histopathology of pouch colon were considered for final analysis. All the studies were from Indian subcontinent. Male: female ratio ranging from 1.8- 6 :1. Studies reported the thinning and disorganisation of muscle layer. Mucosa is reported to have normal ganglion cells or hypoganglionosis. Submucosal widening was noted in two studies. Three studies documented an additional muscle layer. One study reported immunohistochemical findings, while other one study described the colovesical fistula anatomy.

#### **CONCLUSION**

The histopathology of pouch colon may vary slightly across the studies, however there is a distinct structural difference with the normal colon, which suggest a defect in neuromusculature of colon.

**20. SP(3+3 Minutes)**

**POSTERIOR SAGITTAL APPROACH FOR INDICATIONS OTHER THAN ARM**

Satish K. Aggarwal, Rupa Banerjee, Gaurav Singh, Muni Varma, Garvita Singh

[Satish.childurology@gmail.com](mailto:Satish.childurology@gmail.com)

(India)

**INTRODUCTION** : In 1982, Pena and DeVries introduced the posterior sagittal midline approach for repair of ano-rectal malformations. In due course of time the technique has been applied to various other conditions like recurrent rectal prolapse, redo pull thru for Hirschsprung's disease and genito-urinary trauma in children.

**AIM** : To present our experience of posterior sagittal approach in 16 non ARM cases over 10 years.

**MATERIAL AND METHODS** : The records of patients undergoing Posterior Sagittal Approach for non ARM indications during 2010 -2019 were reviewed.

**RESULTS** There were 16 cases (age range 1 year to 35 years), all males, with distribution as follows:

1. Redo pull through for Hirschsprung's disease (HD): 4 cases (Combined abdominal and posterior sagittal)
2. Posterior Sagittal myectomy for internal sphincter achalasia: 5
3. Post traumatic Recto-Prostatic fistula (transrectal Bull horn injury in a 35 year old army man)
4. Genito-urinary trauma in girls: 6 cases (recto vaginal fistula, complex trauma with recto-vaginal and urethro- vaginal fistula, urethral loss requiring Monti ileal urethral reconstruction from ileum, multiple failed surgeries for complex trauma on top of a repaired ARM - combined abdominal and Posterior sagittal approach)

All cases could be completed successfully. There was minimal effect on continence due to trans anorectal approach. There was no recurrence of fistula in the trauma cases

Salient features of cases will be shown by pictures, sketches and other graphics.

**CONCLUSION** : The posterior sagittal Trans Anorectal midline approach allows good exposure and working space for complex reconstruction of Genito -urinary tract. Trans Anorectal approach affects continence minimally. It can be applied to variety of indications

## 21. SP(3+3 Minutes)

### **ADENOMUCINOSIS: A RARE COMPLICATION OF SURGERY FOR ANO-RECTAL MALFORMATION**

Satish K. Aggarwal , Rupa Banerjee, Gaurav Singh, Aparajita Mitra

[Satish.childurology@gmail.com](mailto:Satish.childurology@gmail.com)

(India)

**INTRODUCTION:** In 1982, Pena and DeVries introduced the posterior sagittal midline approach for repair of ano-rectal malformations. In due course of time the technique has been applied to various other conditions like recurrent rectal prolapse, redo pull thru for Hirschsprung's disease and genito-urinary trauma in children.

**AIM:** To present our experience of posterior sagittal approach in 16 non ARM cases over 10 years.

**MATERIAL AND METHODS:** The records of patients undergoing Posterior Sagittal Approach for non ARM indications during 2010 -2019 were reviewed.

#### **RESULTS:**

There were 16 cases (age range 1 year to 35 years), all males, with distribution as follows:

1. Redo pull through for Hirschsprung's disease (HD): 4 cases (Combined abdominal and posterior sagittal)
2. Posterior Sagittal myectomy for internal sphincter achalasia: 5
3. Post traumatic Recto-Prostatic fistula (transrectal Bull horn injury in a 35 year old army man)
4. Genito-urinary trauma in girls: 6 cases (recto vaginal fistula, complex trauma with recto-vaginal and urethro- vaginal fistula, urethral loss requiring Monti ileal urethral reconstruction from ileum, multiple failed surgeries for complex trauma on top of a repaired ARM - combined abdominal and Posterior sagittal approach)

All cases could be completed successfully. There was minimal effect on continence due to trans anorectal approach. There was no recurrence of fistula in the trauma cases

Salient features of cases will be shown by pictures, sketches and other graphics.

**CONCLUSION:** The posterior sagittal Trans Anorectal midline approach allows good exposure and working space for complex reconstruction of Genito -urinary tract. Trans Anorectal approach affects continence minimally. It can be applied to variety of indications

**Day 1: Saturday, December 12, 2020**

**SCIENTIFIC SESSION- III**

**TIME ZONES:**

07:30-09:00 (Denver)  
08:30-10:00 (Mexico City)  
09:30-11:00 (Lima)  
11:30-13:00 (Santiago)  
14:30-16:00 (Dublin, London)  
15:30-17:00 (Stockholm, Graz)  
16:30-18:00 (Cape Town)  
18:00-19:30 (Tehran)  
20:00-21:30 (New Delhi, Colombo)  
23:30-01:00 (Tokyo) + 1day

**CHAIRPERSONS:**

Alberto Pena (Denver, USA)  
Shilpa Sharma (New Delhi, India)

## **INVITED GUEST LECTURE 1 ( 20 + 10 mins)**

### **IMPORTANCE OF THE LONG-TERM FOLLOW-UP IN ANORECTAL MALFORMATIONS**

**ALBERTO PENA (DENVER, USA)**

#### **22. LP(6+4 Minutes)**

### **AN OVERVIEW OF OPIOID USAGE AND REGIONAL ANESTHESIA FOR PATIENTS UNDERGOING REPAIR OF ANORECTAL MALFORMATION**

Julie Schletker, John Wiersch, Jill Ketzer, Tiffany Edmonds, Amy Krause, Hope Simmons, Alberto Pena, Luis De La Torre, Andrea Bischoff

[julie.schletker@childrenscolorado.org](mailto:julie.schletker@childrenscolorado.org)

**(USA).**

**PURPOSE:** The recent opioid crisis in the United States compelled us to evaluate our practice on its usage for post-operative pain management in patients undergoing repair of anorectal malformations.

**METHODS:** A retrospective chart review was performed evaluating patients who underwent posterior sagittal anorectoplasty (PSARP) and posterior sagittal anorecto-vagino-urethroplasty (PSARVUP), with or without laparotomy, between January 2016 and March 2020. Regional anesthesia and perioperative opioid administered were recorded. All opioid doses were converted into morphine milligram equivalents per kilogram (MME/kg). IRB approval was obtained for this study.

**RESULTS** A total of 105 surgical patients had either a PSARP (74 without laparotomy, 10 with laparotomy) or PSARVUP (13 without laparotomy, 8 with laparotomy). Of the PSARP patients, 4 without laparotomy and 7 with laparotomy received regional anesthesia. Half of patients who had PSARVUP with laparotomy (n=4) received regional anesthesia while the others did not. No patient having PSARVUP without laparotomy received a regional anesthetic. 44% of PSARP patients without laparotomy received no opioids after leaving the operating room. For PSARVUP patients, opioid use in the group not receiving a regional anesthetic declined on average  $1.29 \pm 1.64$  days postoperatively, while the group receiving regional required it for  $4 \pm 2.45$  days. The amount of MME/kg required for pain control exponentially increased for patients over the age of 5 who underwent PSARP (Figure 1).

**CONCLUSIONS** Regional anesthesia is a useful modality for pain control for PSARP/PSARVUP with laparotomy, decreasing the opioid usage in this population but it is unnecessary for the already low opioid requirements, in patients younger than 5 years of age, not having a laparotomy.



**23. LP (6+4 Minutes)**

**GYNAECOLOGICAL TURMOILS IN ADULTHOOD WITH UTERUS DIDELPHYS IN ANORECTAL MALFORMATION**

Shilpa Sharma, Devendra K Gupta.

[drshilpas@gmail.com](mailto:drshilpas@gmail.com)

(India)

**PURPOSE:** Anorectal malformation especially common cloaca and associated urogenital sinus are complex anomalies. Though the reconstruction is completed in childhood, the functional and anatomic abnormalities manifest in puberty after menarche. We describe the sequelae of these anatomic defects in teenage and adult patients

**METHODS:** From a cohort of patients with anorectal malformation, girls with Uterus Didelphys who had menstruation problems on reaching puberty and were in regular follow up for the gynaecological concerns were evaluated.

**RESULTS:** Three patients aged 19, 21, 34 had uterus didelphys and menstruating problems. 2:1 had common cloaca: urogenital sinus and a vulval anterior ectopic anus. One patient had undergone Gracilis sling for fecal incontinence. She also had a pouch colon and stormy post operative follow up. At 17 years follow up, she developed properitoneum and had intestinal obstruction. Two had double cycles of menstruation occurring at intervals of 5-10 days. One had repeated episodes of menorrhagia followed by ammenorrhea. Two had bilateral haemorrhagic ovarian cysts. One developed a right tuboovarian abscess that was managed with pigtail catheter insertion twice and finally subsided on antitubercular treatment. Two were worked up to rule out ovarian malignancy with CA125 that was normal. Vaginoscopy revealed small polyps in one. Two underwent vaginal dilatation under general anaesthesia. The urethra opens in the anterior vaginal wall in one. All three are socially continent. One is on bowel management. One is married and has infertility. Hormonal treatment was given for 9 months to adjust the menstruation cycles of both the uteri in one patient but the menorrhagia still persisted. On stopping the hormonal treatment, the problem persisted.

**CONCLUSIONS:** Pattern of menstruation in uterus didelphys is a curiosity and needs further attention. The gynaecological anatomy and the patency of Mullerian structures should be documented during infancy in all cases of anorectal malformation.

#### **24. LP(6+4 Minutes)**

### **PAEDIATRIC COLORECTAL CONDITIONS TYPICAL OF A LOW TO MIDDLE INCOME COUNTRY**

Giulia Brisighelli, Jerome Loveland, Tarryn Gabler, Catterina Bebington, Christopher Westgarth Taylor.

[giuliabrisighelli@gmail.com](mailto:giuliabrisighelli@gmail.com)

**(South Africa)**

**PURPOSE:** Present the paediatric colorectal conditions treated at our institution with emphasis on conditions typical of our setting.

**METHODS:** We retrospectively reviewed records of children with colorectal conditions treated between January 2017 and December 2019. Conditions were divided into congenital (Anorectal malformations, Hirschsprung's disease, spina bifida...), acquired (idiopathic constipation, rectal prolapse, rectal polyps...) and acquired typical of our setting (anogenital warts, HIV-associated fistulae, complicated perianal sepsis, accidental and non-accidental perineal injuries (NAI), hollow-visceral-myopathy (HVM). Information regarding type of surgical approach and number of surgeries per patient was recorded.

**RESULTS:** In 3 years, 808 surgeries were performed in 318 patients: 516 procedures on 211 patients with congenital conditions (2.4 surgeries/patient), 140 on 111 with acquired conditions (1.3 surgeries/patient), and 152 on 57 patients with acquired conditions typical of our setting (2.7 surgeries/patient). Forty-five procedures were performed on 8 patients with HIV-associated fistulae, 42 on 21 with anogenital warts, 25 on 8 with complicated perianal sepsis, 20 on 10 with perineal NAI, 13 on 6 with accidental perineal trauma, and 7 on 4 with HVM. Warts cauterization was performed in 38 patients, 2 of whom also required a diverting stoma. To repair HIV associated fistulas, 5 patients underwent a pull through with fat interposition, 2 an anterior sagittal transanorectal approach (ASTRA), and one a posterior sagittal anorectoplasty (PSARP). For definitive repair of accidental perineal and NAI, the pull through (2), fat pad interposition (3) or PSARP technique (2) were used. Diagnostic biopsies (5) and insertion of decompressing buttons in the transverse colon (2) were performed in patients with HVM.

**CONCLUSION:** Acquired conditions such as HIV-associated fistulae, anogenital warts and perineal traumas are conditions frequently encountered in our setting. Surgical techniques described for congenital colorectal conditions, like the PSARP, pull-through, or ASTRA can be used to repair these more unusual colorectal diseases.

## 25. LP (6+4 Minutes)

### **REGIONAL ANESTHETICS MODIFY OUTCOMES IN PATIENTS AFTER COLOSTOMY CLOSURE BUT NOT AFTER ANTEGRADE CONTINENCE ENEMA PROCEDURES**

John Wiersch, Julie Schletker, Jill Ketzer, Tiffany Edmonds, Amy Krause, Hope Simmons, Alberto Pena, Luis De La Torre, Andrea Bischoff

[JWiersch@dmc.org](mailto:JWiersch@dmc.org)

(USA)

**PURPOSE:** This study seeks to analyze pain management practices for our patients undergoing two common types of abdominal colorectal surgeries, antegrade continence enema (ACE) procedures (Malone and Neo-Malone) and colostomy closures.

**METHODS:** A retrospective chart review was performed evaluating patients who presented for surgery between January 2016 and March 2020 and underwent a Malone or Neo-Malone procedure or a colostomy closure. Length of stay (LOS), use of regional anesthetic blocks, and perioperative pain medications administered were recorded. All opioid doses administered were converted into morphine milligram equivalents (MMEs).

**RESULTS:** 36, 10, and 41 patients had a Malone, Neo-Malone, and colostomy closure surgery respectively. Patients who had an ACE procedure had a median LOS of 2 days which was not significantly different between patients with and without regional anesthetics. Neo-Malone patients had significantly longer LOS ( $3.8 \hat{\pm} 1.33$  days) and number of days of inpatient opioid therapy ( $1.8 \hat{\pm} 2.32$  days) compared to Malone patients ( $2.03 \hat{\pm} 0.99$  days and  $-0.28 \hat{\pm} 1.43$  days respectively). There was no significant difference in LOS or MMEs for ACE patients regardless if they received a regional anesthetic (n=24) or not (n=22). In our colostomy closure patients, administration of a regional anesthetic (n=32) trended towards decreased LOS ( $3.5 \hat{\pm} 1.5$  days vs  $5.0 \hat{\pm} 1.5$  days without regional) and reduced time to freedom from opioid pain medications ( $0.29 \hat{\pm} 1.97$  days vs  $1.67 \hat{\pm} 1.25$  days without regional). There was no significant difference in overall opioid consumption in MMEs/kg between patients receiving regional blocks and those who did not.

**CONCLUSION:** In this study, patients undergoing small midline laparotomy for ACE procedures did not appear to benefit from regional anesthetics. Regional anesthetics for colostomy closure (flank oblique incision) did improve LOS and duration of opioids, suggesting benefits in this population.

## 26. SP (3+3 Minutes)

### **ANALYSIS OF PATIENT AND FAMILY PSYCHOSOCIAL FUNCTIONING IN COLORECTAL CONDITIONS: COMPARISON OF DIAGNOSIS GENDER AND DEVELOPMENTAL FUNCTIONING**

Laura Judd Glossy, Merlin Ariefdjohan, Jill Ketzer, Stefanie Curry, Julie Schletker, Tiffany Edmonds, Amy Krause, Hope Simmons, Alberto Pena, Luis De La Torre, Andrea Bischoff  
[laura.judd-glossy@childrenscolorado.org](mailto:laura.judd-glossy@childrenscolorado.org)  
(USA)

**PURPOSE:** To evaluate the psychosocial functioning of caregivers and patients with anorectal malformation (ARM), Hirschsprung disease (HD), spinal anomalies, and idiopathic constipation (IC) during the beginning of bowel management week (BMW).

**METHODS:** Parent Stress Scale (PSS) and Strengths and Difficulties Questionnaire (SDQ) were used to evaluate parental stress levels and behavioral functioning, respectively. Parent-proxy of SDQ (SDQ) and PSS were completed by caregivers, while self-report SDQ (SDQ-S) were completed by patients aged 11 years and above. The study period ranged from March 2018 to March 2020. Descriptive and correlational statistical approaches were applied to summarize data and determine differences in scores between diagnoses, gender, and developmental functioning.

**RESULTS:** 198 patients and caregivers participated in BMW during the study period. PSS scores (n=133) were significantly higher for caregivers of patients with IC than ARM (p=0.01). No significant differences in PSS scores due to gender, and presence of developmental delays. SDQ scores (n=128) for emotional subscale and total score were significantly higher for caregivers of patients with IC than ARM (p=0.02 and 0.04, respectively). SDQ conduct subscale score were significantly higher for caregivers of male versus female patients (p=0.04). Caregivers of patients with developmental delays reported significantly higher SDQ scores in hyperactivity, peer problems, social difficulties, and total score (p=0.003, 0.04, 0.02, and 0.01, respectively), than caregivers of patients without delays. There were no significant differences in SDQ-S scores (n=30) due to diagnoses, gender, and presence of developmental delay.

**CONCLUSION:** Key findings suggest that level of parental stress and behavioral concerns were significantly influenced by diagnoses, and partly by gender and presence of developmental delay. Thus, psychosocial support provided during BMW may need to be tailored depending on these variables to provide optimum quality of care for these patients and families, with a particular focus on patients with IC and their caregivers

## 27. LP (6+4 Minutes)

### **A REVIEW OF ADOPTED COLORECTAL PATIENTS: A PARENT'S PERSPECTIVE**

Jen Hall, Julie Schletker, Laura Juddglossy, Kristina Matkins, Tiffany Edmonds, Amy Krause, Hope Simmons, Alberto Pena, Luis De La Torre, Andrea Bischoff

[Jennifer.Hall@childrenscolorado.org](mailto:Jennifer.Hall@childrenscolorado.org)

(USA)

**PURPOSE:** After working with many adopted patients with congenital colorectal conditions, our goal was to understand if parents were properly counseled about the daily medical needs of their child prior to adoption, in order to better help future parents.

**METHODS:** A comprehensive questionnaire was developed for parents of adopted children with a colorectal condition. Recruitment occurred by social media and our colorectal database. There were no financial incentives for participation.

**RESULTS:** 48 parents participated in the study. Adopted children were primarily male (60%), internationally adopted (75%), and with a median age of 2.5 years (range newborn-13yo). While 96% of parents received medical records, 41% had incorrect/missing information. Most patients had an anorectal malformation (83%, Table 1), and a third had the primary pull through prior to adoption (16). 52% required medical intervention within one month after adoption. Nearly all required a surgical procedure after adoption (87%), including a redo pull through (19%). Children were frequently incontinent of stool (83%) and urine (46%). Most families had other children (87.5%). In some families, the medical condition of the adopted child negatively affected the relationship between the parent and adopted child (12.5%), parent and other siblings (40.5%), and adopted child and other siblings (19%). 58% of parents stated their child's medical condition was more difficult to manage than anticipated, mostly due to the daily bowel and urinary needs. Family, friends, and medical team was noted as the most helpful support systems.

**CONCLUSION:** Adopting a child with a medical condition can be incredibly rewarding, but it can be challenging. When adopting a child with colorectal and urogenital needs, we strongly recommend putting support systems in place, obtaining as much medical information as possible, preparing for possible lifelong management, and consulting with a specialized colorectal center team prior to adoption.

## 28. SP (3+3 Minutes)

### EARLY DEFINITIVE OPERATION FOR PATIENTS WITH ANORECTAL MALFORMATION WAS ASSOCIATED WITH A BETTER LONG-TERM POSTOPERATIVE BOWEL FUNCTION

Toshio HARUMATSU, Ayaka NAGANO, Mayu MATSUI, Koshiro SUGITA, Keisuke YANO, Shun ONISHI, Koji YAMADA, Waka YAMADA, Makoto MATSUKUBO, Mitsuru MUTO, Tatsuru KAJI, Satoshi IEIRI

[t-haru@m.kufm.kagoshima-u.ac.jp](mailto:t-haru@m.kufm.kagoshima-u.ac.jp)

(Japan)

**PURPOSE:** Ensuring a favorable bowel function after anorectoplasty is the most important issue for maintaining a high quality of life in patients with anorectal malformation (ARM). The operative procedure and postoperative bowel management are essential for achieving a better anorectal function. In general, patients with ARM undergo surgical treatment at around 6 months of age in Japan. We aimed to clarify whether the timing of a definitive operation affects the long-term bowel function.

**METHODS:** Patient data were collected from 1984 to 2007. Fifty-two male patients with high- and intermediate-type ARM were enrolled. All patients underwent sacroperineal or sacroabdominoperineal rectoplasty. Patients were classified into 2 groups based on their operative period: the early group (EG) underwent anorectoplasty at <5 months of age (n=22); the late group (LG) underwent anorectoplasty at  $\geq 5$  months (n=30). The bowel function was evaluated at 3, 5, 7, 9, and 11 years of age using the evacuation score (ES) of the Japan Society of Anorectal Malformation Study Group.

**RESULTS:** The total score and 4 functional outcomes improved chronologically with age. The comparison of the constipation score by a repeated-measures ANOVA revealed a significant difference between the 2 groups, ( $F = 4.6$ ,  $p < 0.05$ ). The total score and the incontinence score in the EG were significantly higher than those in the LG at 11 years of age (Total Score;  $6.6 \pm 1.1$  vs.  $5.7 \pm 1.2$ ,  $p = 0.02$ , Incontinence Score;  $3.9 \pm 0.3$  vs.  $3.3 \pm 0.9$ ,  $p = 0.02$ ).

**CONCLUSION:** The early performing definitive anorectoplasty achieved a better bowel function, especially in terms of continence. The long-term bowel function in the EG was better than that in the LG. Anorectoplasty at an early age of infant was desirable for obtaining better postoperative bowel function in ARM patients.

**Day 2: Sunday, December 13, 2020**

**SCIENTIFIC SESSION - IV**

**TIME ZONES:**

04:30-06:00 (Denver)  
05:30-07:00 (Mexico City)  
06:30-08:00 (Lima)  
08:30-10:00 (Santiago)  
11:30-13:00 (Dublin, London)  
12:30-14:00 (Stockholm, Graz)  
13:30-15:00 (Cape Town)  
15:00-16:30 (Tehran)  
17:00-18:30 (New Delhi, Colombo)  
20:30-22:00 (Tokyo)

**CHAIRPERSONS:**

Atsuyuki Yamataka (Tokyo, Japan)  
Tomas Wester (Stockholm, Sweden)

**INVITED GUEST LECTURE 2 ( 20 + 10 mins)**

**LAPAROSCOPIC-ASSISTED TRANSANAL PULL-THROUGH FOR HIRSCHSPRUNG'S DISEASE: TECHNIQUE REFINEMENTS**

**ATSUYUKI YAMATAKA (TOKYO, JAPAN)**

**29. LP (6+4 Minutes)**

**LESSONS LEARNT FROM LOWER URINARY TRACT COMPLICATIONS OF ANORECTOPLASTY FOR IMPERFORATE ANUS WITH RECTOURETHRAL / RECTOVESICAL FISTULA. LAPAROSCOPY ASSISTED VERSUS POSTERIOR SAGITTAL APPROACHES.**

Kentaro Fujiwara, Takanori Ochi, Hiroyuki Koga, Go Miyano, Shogo Seo, Tadaharu Okazaki, Masahiko Urao, Geoffrey J. Lane, Risto J. Rintala, Atsuyuki Yamataka

[Tochi@juntendo.ac.jp](mailto:Tochi@juntendo.ac.jp)

**(Japan)**

**PURPOSE:** To report the sequelae of lower urinary tract (LUT) complications, i.e., posterior urethral diverticulum (PUD), intraoperative LUT injuries, postoperative dysuria, and fistula recurrence in male imperforate anus (IA) with rectourethral/rectovesical (RU/RV) fistula using laparoscopy assisted anorectoplasty (LAARP) or posterior sagittal anorectoplasty (PSARP) and present preventive strategies.

**METHODS:** 153 boys with IA and RU/RV fistula treated between 1986 and 2019 (LAARP: n=56; PSARP: n=97) were studied retrospectively.

**RESULTS:** After a mean follow-up of 17.0 years (range: 36.5 days-32.0 years), overall LUT complications were: LAARP: 6/56 (10.7%) and PSARP: 7/97 (7.2%);  $p=0.55$ , comprising PUD: LAARP (n=5), PSARP (n=0);  $p=0.006$ ; injuries: LAARP (n=0), PSARP (n=5);  $p=0.16$ ; dysuria: LAARP (n=1), PSARP (n=1);  $p>0.999$ ; and recurrence: LAARP (n=0), PSARP (n=1);  $p>0.999$ . PUD presented after a mean follow-up of 5.1 years (range: 1.0-15.1 years). Treatment was: PUD: surgery (n=2/5), conservative (n=3/5); injuries: intraoperative repair (n=5/5); dysuria: conservative (n=2/2), and recurrence: redo PSARP (n=1/1). See Table-1 for details of all LUT complications patients. Currently, the incidence of new cases of PUD and LUT injuries is zero.

**CONCLUSIONS:** LUT complications differed because of technical issues (remnant RU fistula dissection in LAARP and blind posterior access in PSARP), but are uncommon after devising strategies to improve dissection accuracy.



**30. VP(6+4 Minutes)**

**TRANS-PERINEAL TRANSECTION THROUGH NEO-ANUS FOR RECTO-BULBAR URETHRAL FISTULA USING A 5-MM STAPLER IN LAPAROSCOPICALLY ASSISTED ANORECTOPLASTY - A NOVEL AND SECURE TECHNIQUE**

Shun Onishi, Toshio Harumatsu, Shinichiro Ikoma, Aayaka Nagano, Mayu Matsui, Masakazu Murakami, Koshiro Sugita, Keisuke Yano, Koji Yamada, Waka Yamada, Makoto Matsukubo, Mitsuru Muto, TatsuruKaji, Satoshi Ieiri.

[sonishi@m3.kufm.kagoshima-u.ac.jp](mailto:sonishi@m3.kufm.kagoshima-u.ac.jp)

**(Japan)**

**PURPOSE:** Laparoscopically assisted anorectoplasty (LAARP) for recto-bulbar urethral fistula has not become standard practice because of the risk of urethra injury and incomplete fistula removal. From laparoscopic view, the recto-bulbar urethral fistula is located at most deep pelvic space and technically difficult for secure transection from abdominal approach. By changing the concept of approach direction, we thought of the transection from perineal lesion through “Neo-Anus” using 5-mm stapler.

**METHODS:** Before the laparoscopic procedure, the rectobulbar fistula orifice was confirmed using flexible cystoscope. The perineal reflection and rectum were carefully dissected using 3.5-mm bipolar scissors. Before transection of the fistula, the center of the muscle complex was confirmed from outside using an electrical nerve stimulator, and an 8-mm longitudinal incision was made on perineal skin. The muscle complex, including the pubo-rectal sling, was then laparoscopically confirmed using a 3.5-mm bipolar forceps connected to an electrical nerve stimulator. A pean was inserted to keep the center of the muscle complex away from the perineal skin incision under direct laparoscopic vision, and a 5-mm trocar was replaced through the center of the muscle complex. The 5-mm stapler was inserted through the perineal trocar and the recto-bulbar urethral fistula was hold by 5-mm stapler. The operator confirmed the adequate closure of the fistula using dual view of both laparoscopic view and the urethral view under flexible cystoscope observation. The recto-bulbar urethral fistula was trans-perineally stapled and transected using a 5-mm stapler through the trocar placed at the “Neo-Anus”. The stapled rectum was pulled through, and the stump was sutured to the perineal skin.

**RESULTS and CONCLUSION:** A 5-mm stapler was effective and useful for the secure treatment of a fistula in the case of laparoscopic assisted anorectoplasty for a patient with a recto-bulbar urethral fistula.

### **31. LP(6+4 Minutes)**

## **COMPARISON OF THE OUTCOME OF TWO DIFFERENT SURGICAL TECHNIQUES IN PATIENTS WITH MEGARECTOSIGMOID DUE TO IDIOPATHIC CONSTIPATION**

Lea A Wehrli, Luis De La Torre.

[lea.wehrli@luks.ch](mailto:lea.wehrli@luks.ch)

(Switzerland)

### **PURPOSE**

The outcome of two surgical techniques for patients with severe idiopathic constipation with megarectosigmoid (SICMRS) was compared.

### **METHODS**

A retrospective, descriptive and observational study was conducted with IRB approval. The medical records of patients with SICMRS who underwent surgery from January 2014 to April 2019 were reviewed. The patients underwent two different surgeries: (Group A) trans-abdominal sigmoidectomy with preservation of the rectum and (Group B) transanal proximal rectosigmoidectomy, with the resection starting 5 cm cranial to the dentate line. Postoperative assessment included the presence or absence of voluntary bowel movement (VBM) as a manifestation of bowel control and the extent of reduction in laxative dosage.

### **RESULTS**

34 patients were included. 17 had transabdominal sigmoidectomy (group A) and 17 underwent transanal rectosigmoidectomy (group B). VBM occurred postoperatively in 9 patients in group A and in 16 patients in group B. Postoperatively, laxative dosage was reduced or discontinued in 9 patients in group tA; enemas were required in 7 patients and an ileostomy was performed in one. In group B, reduction or discontinuation of laxatives was successful in 13 patients, one remained at the same dose and three had enemas. The mean follow-up time in group A was 43 months and 15 months in group B. Postoperative recurrent fecal impaction occurred in 12 patients in group A and one patient in group B. Pre- and postoperative milligram senna differed statistically significantly in group B (p-value = 0.007).

### **CONCLUSION**

Although sigmoidectomy improved symptoms in patients with SICMRS, a significant number of patients continued to suffer from postoperative problems such as recurrent stool impactions or stool accidents. The additional partial resection of the rectum resulted in a higher rate of bowel control, lower occurrence rate of fecal impaction and a significant reduction in the dose of laxatives

### 32. LP (6+4 Minutes)

#### **KIDNEY STRUCTURE AND FUNCTION IN DILATING VESICoureTERAL REFLUX PATIENTS WITH ANORECTAL MALFORMATION**

Yuichiro Miyake, Hiroyuki Koga, Takanori Ochi, Shogo Seo, Go Miyano, Geoffrey J. Lane, Atsuyuki Yamataka

[Ymiyake@juntendo.ac.jp](mailto:Ymiyake@juntendo.ac.jp)

(Japan)

**PURPOSE:** We assessed the impact of anorectal malformation (ARM) on the kidneys of children with dilating vesicoureteral reflux (D-VUR)  $\geq$  grade III using a simple dimercaptosuccinic acid (DMSA) scintigraphy scan based renal dysfunction score (RDS).

**METHODS:** The medical records of 121 D-VUR patients treated between 2000 and 2014 were reviewed retrospectively. After excluding patients with secondary D-VUR (n=18), presence of ARM was used to create 2 groups: ARM+ (n=12 cases; 15 ureters) and ARM- (n=91 cases; 131 ureters). Types of ARM, grades of D-VUR, bladder and bowel dysfunction (BBD), and RDS were compared.

**RESULTS:** Patient demographics, mean follow-up, grades of D-VUR, and history of urinary tract infections were not significantly different. BBD were significantly higher in ARM+; 41.7% versus 7.7% ( $p=0.0006$ ). RDS were significantly higher in ARM+. ( $p=0.036$ ) Grades of D-VUR were significantly lower in ARM- with low RDS ( $p=0.008$ ). During follow-up, changes in DMSA uptake over time were not observed in ARM+.

**CONCLUSIONS:** While renal cortical lesions were correlated with grade of D-VUR in ARM- and RDS were significantly higher in ARM+, BBD did not appear to contribute to progressive renal dysfunction as is commonly believed. In fact, no progression in renal cortical lesions was observed in ARM+ based on RDS data. Renal cortical lesions may possibly be a feature of ARM, a topic that warrants further study.

### **33. SP (3+3 Minutes)**

#### **LOWER URINARY TRACT DYSFUNCTION IN PATIENTS WITH ANORECTAL MALFORMATION**

Mamta Sengar, Niyaz A Khan, Gaurav Saxena, Chhabi Ranu Gupta

[Mamtasengar@gmail.com](mailto:Mamtasengar@gmail.com)

**(India)**

**PURPOSE** - Urological anomalies have significant effect on quality of life of patients with anorectal malformation. Although few centres have adopted a detailed protocol for urological work up of these patients, most of the centres underemphasise the urological work up beyond a screening ultrasonogram of kidney ureter and bladder.

The study here was planned to find whether apart from anatomical genito urinary anomalies and spinal malformations, there are other factors too existing with ARM, which can affect functioning of lower urinary tract.

**METHOD** – The study included all toilet trained patients of anorectal malformations who had consented to participate in study. Their records were analysed for episodes of Urinary tract infection, renal anomalies, back pressure changes in kidney or ureters, abnormal bladder wall thickness and post void residual volume. Abnormal findings in VCUG and MRI spine were recorded. A follow up ultrasonogram of urinary tract too was done to see for any improvement or deterioration in bladder wall thickness or back pressure changes.

**RESULTS** – Total of sixty patients were enrolled for the study. Male: female ratio was 1.2:1. Urological symptoms were present in 40% of patients. Most common symptom was dribbling of urine. 12/60 patient had increased bladder wall thickness in ultrasonogram. Improvement in bladder wall thickness and the back pressure changes was seen in 7/12 of affected cases in subsequent ultrasonogram. Apart from spinal cord anomalies(14cases),urethral kinking(2cases),urethral diverticulae(1 case) and non neurogenic neurogenic bladder (11cases )were associated with dysfunctional voiding in these patients.

#### **CONCLUSION-**

LUTD can be seen even in absence of spinal malformations in patients with ARM  
Severity of LUTD in absence of neurological involvement changes with time.

### 34. SP (3+3 Minutes)

#### TOTAL UROGENITAL MOBILIZATION IN COMMON CLOACA: OUR EXPERIENCE OF SIX CASES

Shyamendra Pratap Sharma, Sarita Chowdhary, Shiv Prasad Sharma, Saroj Chooramani Gopal  
[shyambrd07@gmail.com](mailto:shyambrd07@gmail.com)  
(India)

**PURPOSE:** To present our experience in surgical management of short common channel common cloaca patients.

**METHODS:** This retrospective study included 6 children were diagnosed and treated short common channel (< 3cm) common cloaca from January 2017 to January 2020 in paediatric surgery department of IMS BHU. Patient's Data of 3 years was retrieved from case sheets and analysed. Ultrasonography and MRI pelvis were used for imaging **PURPOSE.** Pan-endoscopy was done in all patients. Patient with long common channel (> 5cm) and lost to follow up were excluded.

**RESULTS:** Six patients were included in the study. Age ranged from 6 months to seven years. Bowel diversion was done as transverse colostomy in four patients, high sigmoid colostomy in two patients had tube vaginostomy had been done in two patients due to hydrocolpos in neonatal period. Imaging revealed associated anomalies as sacral anomalies in two, genital anomalies in one, ectopic kidney one patient. The Length of common channel was less than 3 cm in all patients (1.5 to 3 cm) confirmed during pan-endoscopy. Total urogenital mobilization (TUM) with posterior sagittal ano-recto-urethro-vaginoplasty (PSARUVP) was done in all cases. Post -Operative complications were found in 2 patients as wound dehiscence, catheter dislodgement. Follow up done from 1 year to 3 years.

**CONCLUSION:** The short common channel common cloaca patients can be fairly managed via *total urogenital mobilization (TUM) with posterior sagittal ano-recto-urethro-vaginoplasty (PSARUVP)*. Continuous long-term follow-up is required to determine the long-term results of corrective surgery.

**35. SP (3+3 Minutes)**

**CAUDAL DUPLICATION SYNDROME WITH DUPLICATED CLOACAL MALFORMATION**

Shilpa Sharma

[drshilpas@gmail.com](mailto:drshilpas@gmail.com)

(New Delhi, India)

**PURPOSE:** Caudal Duplication Syndrome (CDS) is a rare anomaly. When associated with complex anorectal malformation the surgical management is a challenging necessity.

**METHOD:** Management of a rare case of CDS associated with cloacal malformation is described.

**RESULTS:** A 6 month old girl presented for correction of CDS. She was a result of invitro fertilization and had a healthy twin sister. She had undergone colostomy in newborn age elsewhere. The distal wash through the colostomy depicted the rectal pouch opening into the common cloacal channels. Panendocopy was done. The baby was operated through an anterior sagittal route. Anterior sagittal anorectovaginourethroplasty was done. The extreme right lateral labia and the extreme left labia were retained for reconstruction. The two vaginae were approximated and made into one. The rectal pouch was placed between the two sphincter complexes that were approximated in the midline. The colostomy was closed after 5 months. The baby passed formed stools one week after closure. At one month follow up, she had mild constipation that was managed with laxatives. At a follow up of 23 months, the child is continent and passes stool once a day without any enemas.

**CONCLUSION:** CDS associated with cloacal malformation is a complex anomaly. However, if surgery is delayed till there is adequate tissue growth a satisfactory cosmetic and functional outcome is feasible

**Day 2: Sunday, December 13, 2020**

**SCIENTIFIC SESSION - V**

**TIME ZONES:**

06:00-07:30 (Denver)  
07:00-08:30 (Mexico City)  
08:00-09:30 (Lima)  
10:00-11:30 (Santiago)  
13:00-14:30 (Dublin, London)  
14:00-15:30 (Stockholm, Graz)  
15:00-16:30 (Cape Town)  
16:30-18:00 (Tehran)  
18:30-20:00 (New Delhi, Colombo)  
22:00-23:30 (Tokyo)

**CHAIRPERSONS:**

Risto Rintala (Helsinki, Finland)  
Ram Samujh (Chandigarh, India)

### **36. LP (6+4 Minutes)**

#### **ASSOCIATION BETWEEN HLA VARIANT AND THE COURSE OF UC IN PAEDIATRIC PATIENTS: A MONOCENTRIC RETROSPECTIVE OBSERVATIONAL PILOT STUDY**

Alessandro Raffaele,Cristiana Riboni,Michele Zorzetto, Fabrizio Vatta, Maria Ruffoli, Marco Brunero, Giovanna Riccipetioni

[a.raffaele@smatteo.pv.it](mailto:a.raffaele@smatteo.pv.it)

(Italy)

#### **PURPOSE**

Multifactorial, genetic, immunologic and environment factors contribute to onset of Ulcerative Colitis (UC). The aim of this research is to evaluate the association between different polymorphism in the HLA class I and II and: 1) the onset of UC 2) the needs of more aggressive treatments, such as biological drugs and/or surgical intervention 3) the clinical course.

#### **METHOD**

We performed a monocentric retrospective observational pilot study. We included all paediatric patients with UC or adult patients with a diagnosis of UC in paediatric age in follow up between 2016-2019 among our outpatient clinic. For each patient we collected a sample of venous blood to analyse all class I and II genes of HLA; we gathered information about therapy (mesalamine, steroids, azathioprine or biologic drugs), surgery. We measured clinical course using PUCAI, Mayo and Parigi scores.

#### **RESULTS**

23 patients were enrolled (14 F; 9M); two were excluded for inability to perform genetical analysis due to poor blood sample (1M, 1F). Comparing HLA variants frequency to general population, alleles DPB1\*04:02, DRB3\*02, C\*05 and B\*48 increase the risk of developing UC (respectively 3.9x, 5.9x, 10x e 29.4x;  $p < 0.01$ ). The analysis of data showed an association between severity of the disease and HLA DRB3\*02, in particular in its variant DRB3\*02:02:01, which is also associated to a higher PUCAI score.

#### **CONCLUSION**

Genetic component plays a crucial role in the etiopathogenesis of UC as well as in its clinical variability. HLA DPB1\*04:02, HLA DRB3\*02, HLA C\*05 e HLA B\*48 represent risk factors for the development of UC. The allele HLA DRB3\*02, and its variant 02:02:01 could play an important role in the pathogenesis of UC, increasing risk of developing the disease and its severity. Other genes such as HLA DQA1\*01:02 could be a protective factor against the extension and the severity of UC.



### **37. LP (6+4 Minutes)**

#### **MASTERS OF PHENOTYPE FLIP - RISK OF DEVELOPING CROHN'S DISEASE FOLLOWING RESTORATIVE PROCTO-COLECTOMY FOR ULCERATIVE COLITIS**

Alison Campbell, Bruce Jaffray  
[alison.campbell21@nhs.net](mailto:alison.campbell21@nhs.net)  
(United Kingdom)

**PURPOSE** 30% of Ulcerative Colitis (UC) patients require surgery. Restorative proctocolectomy (RPC) with ileal pouch-anal anastomosis (IPAA) is the preferred procedure. Published experience suggests up to 25% of patients subsequently manifest Crohn's Disease (CD), and 50% of these require pouch excision. Despite long-term follow up, we had not previously identified Crohn's conversion in our UC pouch patients. We analysed our UC cohort, for cases where the pouch was either excised or de-functionalised. The aim of this study was to quantify the incidence of CD in this group.

**METHODs** All patients undergoing pouch surgery have had data regarding their surgery, pre-op management and disease status recorded contemporaneously. This database was interrogated and further results from the histology database retrieved. In addition pre-pouch surgery work up, specifically diagnosis and number of pre-op colonoscopies, was evaluated.

**RESULTS** From 1999 to 2020, 86 patients have undergone surgery for UC with the intention of performing RPC and IPAA. 3 patients were unable to be anastomosed. 8 patients have had their pouch excised. The excised pouch did not demonstrate CD. 5 were excised for poor function, 1 for pelvic sepsis, 1 for faecal incontinence and 1 for bleeding. 4 patients are currently diverted with an ileostomy (2 because of complications in pregnancy). We have not identified CD developing in previous UC in our cohort. No patients with a diagnosis of indeterminate colitis underwent RPC and IPAA. Patients with the diagnosis of indeterminate colitis on initial histology had a subsequent diagnosis of UC on imaging or histology before surgery.

**CONCLUSION** At median follow up of 10 years, we have not seen a conversion of diagnosis from UC to CD. This contrasts with published experience

### **38. SP(3+3 Minutes)**

#### **EOSINOPHILIC COLITIS IN CHILDREN: A NEW AND ELUSIVE ENEMY?**

Alessandro Raffaele, Martina Votto, Amelia Licari, Maria Ruffoli, Marco Brunero,

Gianluigi Marseglia, Giovanna Riccipetioni,

[a.raffaele@smatteo.pv.it](mailto:a.raffaele@smatteo.pv.it)

(Italy)

#### **PURPOSE**

Eosinophilic gastrointestinal disorders (EGIDs) are rare in children and present with a broad spectrum of non-specific symptoms. To date no guidelines for diagnosis, therapy and follow-up are validated. Aim of our study is to focus on eosinophilic colitis (EC), to determine a possible correlation between associated disorders, macroscopic findings and treatment/follow up.

#### **METHODS**

Retrospective study from 2015 to 2019 including all colonoscopies performed at our Institution. Eosinophilic colitis were defined according to the threshold identified by Collins: >100 Eo/Hpf: right colon, >84 Eo/Hpf transverse and left colon, >64 Eo/Hpf sigma and rectum. We excluded colonoscopy in patients with IBD or other diseases causing ipereosinophilia (i.e. parasite infection, GVHD).

#### **RESULTS**

Among 399 colonoscopies performed in 355 patients, we made 50 diagnosis of EC, 36 males, 14 females, median age 8 (3-17). Symptoms leading to endoscopy were recurrent abdominal pain (66%), chronic diarrhea (34%), and chronic constipation (8%). Two patients presented with GI bleeding and one with weight loss. Macroscopic findings were mostly normal or lymphoid nodular hypertrophy presenting different endoscopic features. In seven children (14%) we found history of allergy and atopy. 22 children present a diagnosis of autistic spectrum disorder (ASD) with a prevalence higher than in the overall population (44% vs 28.5%,  $p = 0.03$ ). According to symptoms, treatment consist variably of steroids, six food elimination diet (SFED), mesalamine. For patients with available follow up we found histological persistence of Eosinophils in 75%, even in patients with symptoms relief.

#### **CONCLUSION**

This study focus attention on EC as a new challenging pathology. Multicentric randomized clinical trials are needed to understand physiopathological mechanisms in order to validate a possible endoscopic score and related histological threshold, and to standardize therapy according to clinical features and instrumental findings. The high prevalence of EC in ASD need further specific research.

### 39. LP (6+4 Minutes)

#### **SPORT MEDICAL PERFORMANCE OF ADOLESCENTS FOLLOWING ARM REPAIR: A PROSPECTIVE AGE-MATCHED CONTROLLED STUDY**

Christoph Arneitz, Jana Windhaber, Christina Flucher, Paolo Gasparella, Eva Amerstorfer, Andrea Huber Zeyringer, Christoph Castellani, Georg Singer Holger Till

[c.arneitz@medunigraz.at](mailto:c.arneitz@medunigraz.at)

(Austria)

**PURPOSE:** Anorectal Malformations (ARMs) may have a major impact on the functionality of the pelvis and lower extremities. We hypothesized that patients following ARM repair have a decreased cardiorespiratory performance capacity and impaired motor skills.

**METHOD:** All children treated for ARMs between 2000 and 2014 were invited to participate in a prospective study consisting of a clinical examination (using the Krickbeck classification, Rintala's Bowel function score and the Quality of Life (QoL) questionnaire according to Bai et al.), spirometry, cardiopulmonary exercise performance testing (CPET) and assessment of the motor activity. The results were compared to a healthy age- and sex-matched control group.

**RESULTS:** Eighteen patients (n=13 f, n=5 m) were included in the study (mean age  $13.6 \hat{\pm} 2.9$  yrs). Ten patients (55.6%) had a perineal, 5 (27.8%) a rectovestibular and 1 (5.6%) a rectobulbar fistula. One patient had an imperforate anus. All of them had a posterior sagittal anorectoplasty (PSARP). The remaining patient with a cloaca was treated with an abdomino-perineal pull-through. Sacral anomalies were documented in 2 patients (11.1%). There was no statistically significant difference in height, weight, BMI, muscle mass or body fat percentage between the study and the control group. Nine out of 18 patients (50%) had an excellent functional outcome. Spirometry revealed no significant differences of VCmax or Tiffeneau index. Spiroergometry revealed a significantly lower relative performance capacity ( $p=0.007$ ) in the ARM group compared to the control group. The overall rating of the motor ability test showed significantly decreased grades in the ARM group ( $p < 0.001$ ).

**CONCLUSION:** ARM patients were affected by an impaired cardiopulmonary function and decreased motor abilities. Long-term examinations consisting of routine locomotor function evaluation and spiroergometry are advisable to detect impaired cardiopulmonary function and to prevent a progression of associated complications and related impaired QoL.

**40. LP (6+4 Minutes)**

**FUNCTIONAL OUTCOME AFTER CORD DETETHERING IN FECAL INCONTINENT PATIENTS WITH ANORECTAL MALFORMATIONS**

Emilio Fernandez Portilla, Leticia Moreno Acosta, Alfredo Dominguez Munoz, Fernando Chico Ponce De Leon, Vicente Gonzalez Carranza, Roberto Davila Perez

[drejfernandez@gmail.com](mailto:drejfernandez@gmail.com)

(Mexico)

**PURPOSE:** Tethered cord (TC) occurs in 25% of anorectal malformations (ARM); it is unclear the significance of this association with fecal and urinary function, and if detethering them will provide any benefit. Our main outcome was to determine if improvement on fecal and urinary control can be achieved after detethering.

**METHODS:** A cohort study from 2016 to 2020 was conducted, including patients with fecal incontinence, ARM and tethered cord submitted to detethering. We only analyzed those over 3 years of age and at least 6 months of follow up after the detethering. Demographic data including type of ARM, sacral ratio and type of fecal incontinence (FI) was analyzed. Fecal and urinary control after the procedure was studied as the main outcome.

**RESULTS:** 29 patients were included in the study. Associated anomalies were a common finding; 57% had some form of sacral anomalies. Most of our patients (57%) had a sacral ratio between 0.4 and 0.7 (indetermined for prognosis). Regarding type of FI (56%) had hypermotility. Overall fecal continence was achieved in 18 patients (62%), and the number of urinary control raised from 8 (27%) to 23 (79%) after the procedure. There were no significant differences in the recovery of bowel control among type of FI, and in the different groups of sacral ratio. There were no mayor adverse effects of the procedure.

**CONCLUSION:** In our study detethering patients with ARM and fecal incontinence had a profound, meaningful impact on bowel and urinary control. Achieving 62% of bowel control and 52% urinary control. To our surprise this improvement was not related to sacral ratio nor type of ARM, but patients with no sacral anomaly did better after the procedure. Although we show promising results, we acknowledge we have a small sample size to make a strong recommendation on this matter.

**41. LP (6+4 Minutes)**

**QUALITY OF LIFE IN PATIENTS WITH CONSTIPATION OR FECAL INCONTINENCE AFTER THE REPAIR OF AN ANORECTAL MALFORMATION**

Jose Alejandro Ruiz Montanez, Maria Zornoza Moreno, Luis De La Torre Mondragon, Miguel Angel Ramirez Garnica, Juan Domingo Porras Hernandez

[alejandro.ruiz@centrocolorrectal.com](mailto:alejandro.ruiz@centrocolorrectal.com)

(Mexico)

**PURPOSE:**

The goal of our study is to evaluate the quality of life of patients with anorectal malformation (ARM).

**METHODs:**

A random interview was conducted by the same surveyor with patients with ARM. Patients were accompanied by their parents, and informed consent was obtained. The interviews were performed from October 2018 to May 2019. Patients' records were reviewed to collect epidemiological variables, type of ARM, associated malformations, type of surgery, and follow-up time since the last surgery. We stratified the patients based on their functional outcome in constipation or fecal incontinence. Also, we compared the two groups if they have involuntary bowel movements (IBM) with bowel management. To know the quality of life, we use the PedsQL 4.0 questionnaire, a modular instrument for measuring health-related quality of life in children with chronic conditions. This instrument rates from 0 to 100 points. SPSS v24 program was used for statistical analysis.

**RESULTS:**

We interviewed 52 patients, 26 girls, and 26 boys. The age range was 5 to 14 years. The average age was  $7.2 \pm 2.5$  years. 63% of patients had constipation, and 37% fecal incontinence. No statistically significant differences were found between children with constipation (73 points out of 100) and fecal incontinence (75 points out of 100) ( $p=0.6$ ). The quality-of-life assessment in children with a good bowel management program without involuntary bowel movements (IBM) was 93 out of 100. In contrast, it was statistically significant for the patients with IBM; they scored 64 points out of 100 ( $p<0.05$ ).

**CONCLUSIONs:**

This study demonstrates that successful bowel management provides a better quality of life in patients with anorectal malformation.

**42. LP (6+4 Minutes)**

**BOWEL MANAGEMENT PROGRAM FOR FECAL INCONTINENCE. RUSSIAN EXPERIENCE**

Evgeniya Pimenova, Maksim Klementev, Kuljash Kezhenbaeva, Dmitry Morozov,  
[evgeniyapimenova@list.ru](mailto:evgeniyapimenova@list.ru)  
**(Russian Federation)**

**PURPOSE.** To present the first experience of implementing a bowel management program (BMP) for fecal incontinence consecutive to anorectal malformation (ARM), Hirschsprung disease (HSCR) and spina bifida (SB) in Russia.

**METHODs.** We have adapted the BMP of Children's hospital Colorado and implemented it in our hospital since September 2019. This retrospective study including patients with ARM, HSCR and SB who attended BMP (Sep.2019 – Sep.2020). Data collection: diagnosis, gender, age, characteristics of colon, the need to increase the concentration of the solution, satisfaction.

**RESULTS.** 27 children were included (15 female, 12 male). Age ranged from 1.6 to 17 years. Most of patients had ARM and SB (diagram). All patient or parents attended lectures in advance and after that visited our hospital (inpatients protocol). Only 3 children underwent regular enemas before program, 9 used enemas irregular, 15 didn't use enemas. 10 patients shows dilated colon on contrast enema (9 ARM, 1 Currarino syndrome with presacral meningocele). 17 didn't have dilated colon (2 ARM, 2 HSCR, 12 SB, 1 tethered cord). All SB patients with non-dilated colon needed glycerin in enema receipt. Some time we used 5% saline solution with good results. 22 patients were clean of stool between enemas. 3 were lost to follow-up. 2 were not considered successful.

**CONCLUSION.** BMP with enemas is effective for patients with fecal incontinence after surgical treatment ARM, HSCR, SB. Children with SB needed more concentrate enemas (2-5% saline or addition of glycerin)

**43. SP (3+3 Minutes)**

**A COMPLEX VARIANT OF COVERED CLOACA EXSTROPHY.  
A COLORECTAL AND UROGENITAL SURGICAL CHALLENGE**

Maria Zornoza Moreno, Jose Alejandro Ruiz Montanez, Luis De La Torre Mondragon,  
[mariazoroz@gmail.com](mailto:mariazoroz@gmail.com)  
(Mexico)

**PURPOSE:**

To present a complex case on the spectrum of girls with covered cloaca exstrophy

**METHODs:**

A 15-year-old girl with ileostomy at birth because of a "complex anorectal malformation." Her genital anatomy showed a large orifice in her vulva's center, through which urine dripping constantly. This urinary incontinence obligated the use of a diaper since newborn. On either side of the central hole, there were two other openings. We performed radiological studies and an endoscopy confirming that the lateral structures were vaginas with the cervix in continuity with the uterus, tube, and ovary. The big central orifice in the vulva had continuity with a large cavity. This cavity had in its posterior wall intestinal mucosa and the anterior urinary mucosa. In the posterior and upper part, we identified an opening corresponding to the distal stoma's end (Figure 1.)

**RESULTS:**

We performed a posterior sagittal approach to separate the lateral vaginas from the central cavity. Then a laparotomy was required to finalize the separation of the vaginas. The central cavity was closed in its distal part, becoming a neo-bladder. The distal ileostomy was left as a Mitrofanoff. We made an invaginating continent mechanism. The original ileostomy was not modified and was left as a terminal intestinal stoma. In a third surgical time, the posterior sagittal wound was closed, and the vaginas were anastomosed to the perineum. The patient has solid bowel movements through the ileostomy. She is dry with clean intermittent catheterization through the Mitrofanoff. She uses regular underwear and produces regular menstruation and is waiting to create a single introitus.

**CONCLUSIONs:**

Covered cloaca exstrophy is a spectrum of malformations that can achieve great complexity and become a surgical challenge. A multidisciplinary group of surgeons with experience in different pediatric surgical areas is needed to resolve these abnormalities.

**44. SP (3+3 Minutes)**

**GRACILIS MUSCLE TRANSPOSITION IN CHILDREN WITH ANAL INCONTINENCE POST TRAUMA AND POST ANO-RECTAL MALFORMATION SURGERY**

Gaurav Singh, Satish Kumar Aggarwal, Rupa Bannerjee, Muni Varma, Garvita Singh

[gauravpsurg86@gmail.com](mailto:gauravpsurg86@gmail.com)

[\(India\)](#)

**PURPOSE :** Since the original description of gracilis transposition by Pickrell in 1952, there is a paucity of literature about its use and long term follow up. We report a long term follow up study of 21 children who underwent gracilis muscle transposition for anal incontinence.

**METHODs:** Data of 21 children who underwent gracilis transposition between 2007 and 2019 were reviewed. Demography, etiology of incontinence, clinical profile and operative intervention were recorded. Continence status before and after gracilis transposition were assessed clinically. Long term follow up status was assessed either clinically or by telephonic conversations with the patients or care givers.

**RESULTS:** 21 cases (16 boys and 5 girls) in the age range of 4-19 years (median 6.4) were studied. The etiology of incontinence was Ano rectal malformation in 16 and traumatic loss of external sphincter in 5 cases. Both gracilis muscles were used in 16 cases while single side was used in 4 cases. Technique of gracilis transposition was as per Pickerell's description. All cases were performed under covering colostomy except for one. All attained social continence, only two patients have natural bowel movements and are continent. All others required bowel management program.

**CONCLUSION:** Gracilis transposition provides passive outlet grip that prevents leakage, therefore improving social continence. It can't substitute the normal sphincter mechanism. Bowel management program is still required for diaper free life.



**Day 2: Sunday, December 13, 2020**

**SCIENTIFIC SESSION - VI**

**TIME ZONES:**

07:30-09:00 (Denver)  
08:30-10:00 (Mexico City)  
09:30-11:00 (Lima)  
11:30-13:00 (Santiago)  
14:30-16:00 (Dublin, London)  
15:30-17:00 (Stockholm, Graz)  
16:30-18:00 (Cape Town)  
17:30-19:00 (Moscow)  
18:00-19:30 (Tehran)  
20:00-21:30 (New Delhi, Colombo)  
23:30-01:00 (Tokyo) + 1day

**CHAIRPERSONS:**

Luis De La Torre (Denver, USA)  
S Roy Choudhury (New Delhi, India)

**45. LP (6+4 Minutes)**

**DETUBULARIZED ISOLATED URETEROSIGMOIDOSTOMY A CONTINENT DIVERSION (ATTA POUCH)**

Nehal Shah, Sandesh Parelkar, Aditi Rangnekar

[Nehalshah8311@gmail.com](mailto:Nehalshah8311@gmail.com)

**(India)**

**PURPOSE-** To discuss use of modified ureterosigmoidostomy ( Detubularised isolated ureterosigmoidostomy- Atta pouch) to achieve urinary continence in case of complicated common cloaca.

**METHOD-** A 6 year old girl operated for common cloaca as an infant presented with urinary incontinence and severe perineal excoriation. She had undergone a Posterior sagittal anorecto-vagino-uretheroplasty with a diversion stoma in a single sitting at the age of 2 months and colostomy closure at 3 months. She now had urinary incontinence but was continent for stools with a single large cavity in the introitus. We did detubularised isolated ureterosigmoidostomy which has an advantage over conventional ureterosigmoidostomy by creating a separate pouch /reservoir for urine storage. It works on the principles of detubularization, abolishing recto-anal inhibitory reflex, isolation of rectal and urinary segments and minimizing the contact of urine with colonic surface. An adequate length of sigmoid colon is fashioned as inverted U shape, detubularised, posterior layer of the pouch is anastomosed, ureteric reimplant is done and anterior layer of the pouch is closed. Left colon sutured to rectal ampulla in line with anorectal canal.

**RESULT-** On 2 year follow up, patient is continent, diaper free, free of urinary tract infections with better quality of life

**CONCLUSION-** Ureterosigmoidostomy (US) has regained popularity in recent times due to its modifications which reduce the complications. It is a safe and feasible approach for salvage in such complicated cases

**46. SP (3+3 Minutes)**

**SIGMOID LOOP VAGINOPLASTY FOR A CASE OF MAYER ROKITANSKY KUSTER HAUSER SYNDROME**

Neel Aggerwal ,Pramod.K.Sharma, Devendra Gupta

[aggerwal.neel@gmail.com](mailto:aggerwal.neel@gmail.com)

**(India)**

**PURPOSE:** Mayer Rokitansky Kuster Hauser (MRKH) syndrome undergoing vaginoplasty at puberty.

**METHODS and RESULTS:** A 13 years old female weighing 60 Kg presented with irregular cyclic abdominal pain for 6 months. She had not attained menarche yet and the mother noticed no vaginal opening in perineum. On examination breasts and external features were well developed. Abdomen was normal. Urinary stream was satisfactory and Perineum had normal urinary meatus. Two pits were seen in perineum as mark of double vagina, one was placed laterally but without a vaginal lumen. Ultrasound and MRI showed no renal abnormalities. Bilateral ovaries were normal but uterus and vagina were not found, suggestive of a case of MRKH syndrome. Abdominoperineal vaginoplasty was performed. On Laparotomy, a tiny uterus with cornu of 5mm x 4 cm size was found. however, there was no upper vagina. Ovaries and fallopian tube were normal. Sigmoid colon 15 cm isoperistaltic loop was used to construct neovagina, and anastomosed to the perineum, using a Barrow flap. Post-op dilatations were done and child was well on follow up for 15 months.

**CONCLUSION:** MRKH is a rare congenital anomaly with possibly of genetic disorder. Patient has normal external genitalia. Uterus and vagina are underdeveloped. Skeletal and renal abnormalities may be associated. Patient seek medical help for delayed menarche. Abdominoperineal vaginoplasty using sigmoid loop and Barrow's flap achieved good anatomical and cosmetic outcome in this patient. Postoperative dilatations and vaginal washouts are recommended to prevent stricture formation and collection of secretions in neovagina.

**47. SP (3+3 Minutes)**

**MAYER-ROKITANSKY-KUSTER-HAUSER (MRKH) SYNDROME ASSOCIATED WITH ANORECTAL MALFORMATION (ARM): A SINGLE-CENTRE EXPERIENCE**

Charu Tiwari, Nilesh Nagdeve, Rajendra Saoji

[drcharusharma18@gmail.com](mailto:drcharusharma18@gmail.com)

(India)

**INTRODUCTION:** Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome is a disorder of müllerian agenesis and usually presents as primary amenorrhoea in adolescence. It is occasionally associated with an anorectal malformation (ARM); and such patients have early presentation. We present our experience of managing 25 such patients of MRKH syndrome with ARM over a period of 10 years.

**METHODS:** A retrospective review of 25 cases with MRKH syndrome associated with ARM who were managed at Paediatric Surgery Department at our Institute over a 10-year period (from 2009-2018) was done and data was analyzed on the basis of type of ARM, age at presentation and referral to us, associated anomalies, management and follow-up.

**RESULTS:** There were total 25 patients - 14 patients with cloaca and 11 patients with recto-vestibular fistula. Eleven patients had presented to us in neonatal period, 8 patients were referred to us during infancy after diversion stoma and 3 patients after a definitive pull-through procedure. Associated anomalies were found in 18 patients.

Amongst 14 total patients with cloaca, PSARP with ileo-vaginoplasty was done in 10 patients and pull-through procedure was done in the rest 4 patients; they are awaiting vaginoplasty. Amongst 11 patients with vestibular fistula, 5 patients were kept on washouts and underwent primary ASARP with retention of distal fistula as vagina. Three patients with a primary procedure done outside (n=3) underwent ileo-vaginoplasty. The three patients with a diversion colostomy done outside are awaiting a definitive procedure and vaginoplasty. All patients are on follow-up and have been counselled about assisted fertility techniques.

**CONCLUSION:** MRKH syndrome association with anorectal malformation is rare and may masquerade. Imaging studies of müllerian structures are mandatory. Recently with vaginal reconstructive surgery, cosmetic and continence aspects are promising.

**48. SP (3+3 Minutes)****DELAYED PRESENTATION OF ANORECTAL MALFORMATIONS IN A TERTIARY CARE HOSPITAL IN INDIA**

Gali Divya, Vijay Kumar Kundal, Raja Sekhar Addagatla, Anil kumar, Arnab kumar, Pinaki R Debnath, Amita Sen.

[vijayraksha@yahoo.com](mailto:vijayraksha@yahoo.com)

(India)

**PURPOSE:** To study delayed presentation of ARMs, management and its effect on surgical and functional complications.

**METHODS:** It's a retrospective study from March 2015 to March 2020. All the patients satisfying the criteria of delayed ARMs i.e presenting 7 days after birth were included. Information regarding type of ARM, mode of presentation, time of presentation, associated anomalies, management strategy, postoperative complications and functional outcome were noted. Minimum follow up period was 6 months.

**RESULTS :**

Out of 102 patients with ARM, 44 patients presented late. Among the 44 patients, 9 were males and 35 were females. Associated comorbidities observed are low birth weight(n=9) and preterm(n=13). Associated anomalies observed were cardiac(n=18), renal(n=8), other Gastrointestinal(n=5) and skeletal(n=1).

|   |               |  |
|---|---------------|--|
| 1 | <b>Male</b>   | Recto urethral fistula -2(staged repair)<br>Anal stenosis- 3(anoplasty)<br>Anocutaneous fistula-4(anoplasty)   |
| 2 | <b>Female</b> | Vestibular fistula : 15(6 primary + 9 staged)<br>Ectopic anus : 3(staged repair)<br>Anal stenosis : 2(anoplasty)<br>Urogenital sinus : 4(staged repair)<br>H-Type ARM : 8(staged repair)<br>Persistant cloaca : 3(staged repair) |

Primary repair was done in 15 patients (34%%) and staged repair was done in 29 patients(65.9%). Anoplasty was done in 9 patients, ASARP(modified tsuchida's procedure) in 8 patients and PSARP in 27 patients. Post operative complications observed were constipation (n=21, 47.7%), fecal incontinence (n=12, 27.27%) with perianal excoriation in 2 patients, anal stenosis (n=3,6.8%) and rectal mucosal prolapse (n=2, 4.5%%)

**CONCLUSION :** Delayed presentation of ARMs is not uncommon and is more common in females. Management is almost similar to those who present early. Those who present with chronic constipation and megarectum require staged repair. Complications were more frequent with delayed presentation. Hence every newborn should have careful examination of perineum and screened for ARM to avoid possible morbidity and mortality.

**49. SP (3+3 Minutes)**

**NEOVAGINA STRICTURE COMPLICATED BY HIGH GRADE DYSPLASIA IN A PATIENT WITH ULCERATIVE COLITIS**

Veronica Alaniz, Duncan T. Wilcox, Michael Arnold, Luis De La Torre, Alberto Pena, Andrea Bischoff

[veronica.alaniz@cuanschutz.edu](mailto:veronica.alaniz@cuanschutz.edu)

(United States)

**PURPOSE:**

Vaginoplasty with colon is a common technique used for vaginal replacement in patients with cloaca. Complications include colitis, stenosis, prolapse, and excessive mucus production. Premalignant and malignant neoplasms are rarely reported. We present a case of dysplasia in a colonic neovagina in the setting of recurrent neo vaginal stenosis and history of ulcerative colitis.

**METHODS:**

The patient's medical record was reviewed and clinical history reported.

**RESULTS:**

The patient is a 17-year-old female with a complicated medical and surgical history including chronic kidney disease requiring renal transplant (x2), reconstructed cloaca with sigmoid neo vagina complicated by vaginal stenosis, and ulcerative colitis diagnosed at 2 years of age and managed by total colectomy and end ileostomy. Multiple vaginoplasties were attempted during early adolescence, including augmentation with buccal mucosal graft after the patient presented with menstrual obstruction. Due to recurrent stenosis with subsequent pelvic infection, she ultimately underwent exploratory laparotomy, hysterectomy, vaginectomy, and neo-vagina creation with ileum. Polypoid low-grade dysplasia with a focal high-grade lesion in the background of marked chronic colitis was identified on pathologic evaluation. The case was reviewed with colorectal, gastrointestinal, and oncologic specialists who agreed that long-term surveillance was warranted. For the next five years, the patient will be monitored with serum CEA every six months, annual pelvic magnetic resonance imaging, and annual pelvic examination.

**CONCLUSION:**

Ulcerative colitis can occur in colonic neovaginas, which theoretically increases the risk of premalignant and malignant lesions. Recommendations for managing dysplasia of the colonic neovagina are not well established. Long-term surveillance with serum tumor markers and imaging should be considered.

**50. LP(6+4 Minutes)**

**SURGICAL MANAGEMENT IN PATIENTS WITH INTESTINAL POLYPOSIS**

Maria Zornoza Moreno , Jose Alejandro Ruiz Montanez

[mariazornoza@gmail.com](mailto:mariazornoza@gmail.com)

(Mexico)

**PURPOSE:**

Intestinal polyposis in children is an uncommon disease. The best therapeutic approach has not been established because there are no large series of pediatric patients. There is controversy on some points, such as what is the best surgical technique, best age to perform and whether primarily or stage approach.

**METHODS:**

A retrospectively review of the medical records of 3 patients with intestinal polyposis in our hospital since 2014 was performed. We analyzed age at diagnosis, symptoms, previous family history, physical examination and complementary studies. Surgery was performed in two stages: firstly, a colectomy with rectum closure (Hartmann's procedure) and ileostomy was performed. The second stage was a proctectomy with straight "ileoanal" pull-through. We reviewed their age at surgery, histopathological reports and follow-up.

**RESULTS:**

Patients came to the clinic for the first time at 3, 6 and 13 years old. All 3 had rectal bleeding as the main symptom and 2 of them (the smallest) associated rectal prolapse. The oldest patient had a family history of polyposis. All had clinical signs and symptoms of anemia and required transfusion. Colonoscopy and endoscopy with biopsies were performed. The patient with familiar history had adenomatous polyposis, and the other two, juvenile polyposis. Between the first and second surgery, patients improved remarkably, they had significant weight gain, bleeding and anemia symptoms disappeared and their general conditions improved. We waited 6 months between both surgeries. Follow-up was 44 months on average after surgery, and the 3 patients are fecal continents, with 3 voluntary bowel movements per day and no accidents.

**CONCLUSION:**

Surgical treatment in symptomatic patients with intestinal polyposis should begin when the condition is diagnosed. We suggest two-stage approach with straight "ileoanal" pull-through.

**51. SP(3+3 Minutes)**

**STUBBORNLY RECURRENT RECTOVAGINAL/ VESTIBULAR FISTULA  
MANAGED USING SCOT BOLEY PULL THROUGH**

Simmi K Ratan, Anju Verma, Shashank Panda, Sujoy Neogi, Neelam Prasad, Munisha Aggarwal

[drjohnsimmi@yahoo.com](mailto:drjohnsimmi@yahoo.com)

(India)

**INTRODUCTION:**

Acquired Rectovaginal fistula can pose a real management challenge. Though classical approach is by posterior sagittal route, it may not be feasible for recurrent disease. In such cases alternate surgical approaches have to be resorted to. We herein present a child presenting with recurrent rectovaginal fistula managed using Scot Boley pull through

**CASE REPORT:**

A 2 year old girl presented with congenital rectovestibular fistula was initially managed r using anterior sagittal approach without any protective colostomy. The patient developed post operative wound infection and dehiscence that gradually healed with formation of protective sigmoid colostomy and conservative management. However few days after colostomy closure redeveloped leakage of fecal matter from within vestibule, necessitating transverse colostomy stoma. Following this distal cologram as well as panendoscopic examination using per op dye study done to delineate fistula but none was located. The washout fluid irrigated from distal stoma also did not show any escape from the vestibule. The fistula was taken to have healed and stoma was closed. A month following this she again developed fecal leakage from vestibule. Transverse stoma was refashioned

At this time point MRI pelvis was done to decipher the anatomy of any fistulous tract. However except for showing few tell tale sign of scarring on the sigmoid colon, no definitive tract was outlined. Again the fistulous tract was apparently dormant but based on past experience we chose to adopt an alternate approach

The laparotomy was done and scot boley pull through to bring down the normal bowel above the scarred area of colon (as was suggested on MRI) was accomplished. There were multiple adhesions and no attempt was made to dissect in space between colon and vagina. The post op was uneventful. The child is well even after two years post surgery and has good fecal continence score.



**52. SP(3+3 Minutes)**

**ENDO-RECTAL PULL-THROUGH IN NON- HIRSCHSPRUNGS DISEASE PATIENTS**

Pramod K. Sharma, NeelAggerwal, Poonam Motiani, D K Gupta,

[drsharmapramod@gmail.com](mailto:drsharmapramod@gmail.com)

**(India)**

**INTRODUCTION:**

Since it was popularized by Soave, the Endorectal Pull-Through has been extensively used as a procedure in the management of Hirschsprung's disease (HD). However, it has not been utilised much for several other conditions where it may prove to be a good alternative. Here we are discussing two non-HD cases that were successfully managed with the Endorectal Pull Through.

**AIMS:**

To assess the feasibility and use of Endo-rectal Pull-through in non-Hirschsprung's disease patients in a super specialty pediatric tertiary care hospital in North India.

**METHODS:**

We describe our experience with two non-Hirschsprung's disease patients that were managed successfully with Endo-rectal Pull-through procedure.

**RESULTS:**

One case of congenital rectal stenosis was treated with ERPT and is doing well after 3 years. Another 8 years old girl a case of Recto-vestibular fistula, who was initially operated elsewhere and presented with stricture of neo-rectum was also treated successfully and is doing well at 2.5 years of follow-up.

**CONCLUSION:**

The authors believe that ERPT is a versatile tool and is still to be utilised to its full potential.

**53. SP (3+3min)**

**KSHARSUTRA (AYURVEDIC SETON TIE) FOR REPAIR OF PEDIATRIC FISTULA IN ANO.**

**Shilpa Sharma, Devendra K Gupta**

[drshilpas@gmail.com](mailto:drshilpas@gmail.com)

**(New Delhi, India)**

**PURPOSE:** Ksharsutra is a popular treatment modality in Ayurveda (Indian medicine) for the management of fistula-in-ano. It works by dual action of making the fistula lining raw and cutting outwards and also stimulating healing from inside outwards.

**METHOD:** Cases of Fistula in ano managed by Ksharsutra are described.

**RESULTS:** Two cases of fistula in ano presented with history of discharge from the fistula and perianal itching. Both were repaired by Ksharsutra. It was inserted under general anaesthesia in one patient and later changed as an outdoor procedure. In the other patient it was inserted as an outdoor procedure. Both wounds healed well. At a follow up of 3 years, there is no recurrence.

**CONCLUSION:** Ksharsutra is an effective modality for fistula in ano and works on the principle of excision, scraping, draining, debridement as well as healing and sclerosing simultaneously without a surgical excision. It can be applied in children too with safety and efficacy.

**54. SP (3+3min)**

**A RARE CASE OF RECTAL DUPLICATION PRESENTING AS POSTERIOR PERINEAL HERNIA**

Pramod K. Sharma, Rachit Goel, Neel Aggerwal, D K Gupta

[drsharmapramod@gmail.com](mailto:drsharmapramod@gmail.com)

**(India)**

**INTRODUCTION:** Rectal duplication is a rare entity and posterior perineal hernia is even so. Having both entities together poses a clinical challenge, however sticking to basic surgical principles helps in such situations.

**AIMS:** The case is being presented here with the aim of describing a rare case scenario and its successful management.

**METHODS:** We describe here a case of rectal duplication that presented as posterior perineal hernia in neonatal period.

**RESULTS:** A 26 days old child presented to emergency room of a tertiary care paediatric hospitals with complaints of gradually increasing swellings in bilateral gluteal regions since birth and abdominal distension with bilious vomiting for one day. The child was taken for exploratory laparotomy and excision of the cyst with covering high sigmoid loop colostomy was done. The child later developed rectal stricture that was successfully managed conservatively

**CONCLUSION:**

Pediatric surgeons will keep on facing new challenges in the form of rare anomalies or combinations. Sticking to the basic principles of the surgery is key in such situations.

**55. SP (3+3 Minutes)**

**PEDIATRIC COLORECTAL CARCINOMA AN INCREASINGLY RECOGNIZED ENTITY: A SERIES OF SEVEN CASES.**

Niyaz Khan, Mamta Sengar, Chabbi Ranu Gupta, Nidhi, R Jain

[khanniyaz82@yahoo.in](mailto:khanniyaz82@yahoo.in)

(India)

**PURPOSE:**

Colorectal carcinomas are one of the most common cancers worldwide in adults, with a peak at the age of 65 years. Very rarely, does it affects adolescents and is extremely rare in the first decade of life, constituting only 1% of all pediatric neoplasms.

The clinical presentation is nonspecific, making it difficult to differentiate from other commoner benign and infectious etiologies seen in children. We wish to draw attention to the rising incidence of colorectal carcinoma in the first decade of life, its varied symptomatology mimicking infectious diseases, role of incisional biopsy early in the work up of suspected cases.

**METHOD**

All the cases of diagnosed as colorectal carcinoma over a period of four years (January 2016 – January 2020) were reviewed. The clinical history and radiological details were obtained from the case files. Immunohistochemical markers like Cytokeratin, beta-Catenin, MLH1, MSH2, MSH6 were done. The pathological stage, treatment provided and clinical outcome was also recorded.

**RESULTS:**

A total of seven cases reported as colorectal carcinoma were identified. Five of which were males and two female (M: F- 5:2). The clinical presentation was variable. Mucinous carcinoma was the commonest histotype in four cases. Immunohistochemistry was positive for Cytokeratin and beta Catenin, however all microsatellite instability markers were found negative (control-normal lining mucosa being positive). All cases received neo-adjuvant chemotherapy, FOLFOX (Oxaliplatin, Folinic Acid and 5-Fluorouracil) regimen. Despite surgical treatment and chemotherapy, four of our cases faced mortality and 2 survived and one was lost to followup.

**CONCLUSION:**

Children represent only a minority of patients with colorectal carcinoma. Increased awareness of this entity amongst pediatricians can aid in establishing an early diagnosis .Pediatric CRC trials need to be developed both to establish etiology and for refining treatment recommendations for these children.

**56. SP(3+3 Minutes)**

**HIRSCHSPRUNG AND PELVIC NEUROBLASTOMA: A RARE NEUROCRISTOPATHIC ASSOCIATION**

SravanthiVutukuru, Nitin James Peters, Ram Samujh, AmitaTrehan

[nitinjamespeters@yahoo.com](mailto:nitinjamespeters@yahoo.com)

**(India)**

**PURPOSE:** Hirschprung's disease(HSCR) is a common genetic disorder, seen in children with an incidence of 1:5000. The association of HSCR and neuroblastoma is very rare. This represent an extreme end of the spectrum of neurocristopathy complex.Less than 10 cases of this association are reported in literature.

**METHODS/RESULTS:**

(Case report)

One-year old female child, presented with chronic constipation and was on regularenemas and laxative usage. There was h/o delayed passage of meconium. Clinical examination showed a distended abdomen. Routine laboratory levels including thyroid function test were normal. Contrast enema revealed transition zone below the peritoneal reflection.In view of the intractable constipation sigmoid colostomy was done. With rectal biopsy. At the time of Duhamel's pull through a well-defined, bilobed presacral mass, was encountered which was firm to hard in consistency. Excision and coccygectomy was done and the pull thorough completed. The histopathology showed a well differentiated neuroblastoma. FDG PET scan done post-surgery was suggestive of faint somatostatin receptor expressing lesion in the sacrococcygeal area and pre-coccygeal lymphnodes. The NMyC amplification was negative and the patient in consultation with the Pediatric haemato-oncology team was managed with expectant treatment. She is doing well over a 1.5 year follow up with no recurrence and good resolution of bowel functions

**CONCLUSION:**

Neuroblastoma in association with HSCR is extremely rare. The association may be attributed to the common embryonic origin from neural crest cells.

### **57. SP (3+3Minutes)**

#### **COMPLICATIONS OF SACRAL NEUROMODULATION IN THE TREATMENT OF INCONTINENCE.**

R Domínguez., D Liberto, P Lobos, M Ormaechea, F De Badiola.

[rogelio.dominguez@hospitalitaliano.org.ar](mailto:rogelio.dominguez@hospitalitaliano.org.ar)

(Argentina)

#### **PURPOSE**

To analyze the results obtained with sacral neuromodulation therapy (NMS), and its complications, in patients with urinary and fecal incontinence.

#### **METHOD**

All patients treated for NMS were included. Data collected: diagnosis, symptoms before and after NMS with defecation diary, Cleveland Clinic Incontinence scale and urinary incontinence with daily evacuation. Previous treatments (behavioral therapy, medication, biofeedback and posterior tibial stimulation) and response to sacral neuromodulation were considered.

#### **RESULTS**

3 out of 10 patients who were treated with SNS, presented complications that required surgical intervention (range 11-24 years); 1 patient with ARM, 1 patient with HD and 1 patient with agenesis of the corpus callosum. All presented migration of the implant device.

All patients showed adequate clinical efficacy with an average of 78% (70% - 90%). The mean follow-up time was 36 months (12-60). 1 patient out of 10 had no clinical efficacy during the trial period and the tetrapolar catheter was removed at 21 days. A complication during the long-term follow-up was in a patient, to whom the device was explanted, due to its migration and loss of efficacy, after 18 months of the initial surgery and another patient was able to save the device by changing the battery.

#### **CONCLUSION**

NMS is a third-line treatment for incontinence. The long-term results in our series have proven to be successful in correctly selected patients. Although the case series are still small in pediatrics, there are elements that show that it is a promising alternative for patients with incontinence.

## 58. LP (6+4 Minutes)

### ANALYSIS OF TREATMENT RESULTS FOR PERSISTENT CLOACA

Yuliya Shugina, OG Mokrushina, VS Shumikhin, RV Khalafov, MV Levitskaya

[doctorshugina@gmail.com](mailto:doctorshugina@gmail.com), [pedsurg.colon@gmail.com](mailto:pedsurg.colon@gmail.com)

(Russia)

**PURPOSE:** to analyze early postoperative complications in patients with persistent cloaca.

**MATERIALS AND METHODS:** 43 girls with a persistent cloaca were operated on from 2014 to 2019 in Filatov' Children Hospital. The patients were divided into two groups according to the length of the common canal: I - with a canal  $\leq 20$  mm (n=25); II - with a canal  $> 20$  mm (n=18).

**RESULTS:** Differences between groups in comparative analysis in terms of gestational age (I -  $38.44 \pm 0.31$ , II -  $37.83 \pm 0.61$ ,  $p = 0.378000$ ), weight at birth (I -  $2930.2 \pm 125, 94$ , II -  $3130.67 \pm 213.88$ ,  $p = 0.423639$ ) and age at the time of defect correction (I -  $178.08 \pm 13.0$ , II -  $178.06 \pm 15.71$ ,  $p = 0.999223$ ) were statistically insignificant. The choice of the type of operation depended on the length of common canal. For group I posterioragittal anorectourethrovaginoplasty was chosen, for group II - plastic with abdominal mobilization of the intestine, 12/18 - laparoscopically. In group I, we made vagina septal excision for 6 patients. In II - excision of the vagina septum for 6 patients, and plastic surgery of the vagina for 6 (3 - with help of the intestine). Complications after surgery in both groups were homogeneous (Fisher's criteria  $0.48047 \geq 0.05$ ). In group I, infection were observed in 3 patients, prolapse in 1, fistula formation in 1. In group II, infection in 2 children, prolapse in 1, fistula formation - 1, vaginal stenosis - 1. Rectal stenosis was not observed in both groups. In 1 case, the patient had bowel retraction due to infectious complications. This required reoperation.

**CONCLUSION:** the main criteria for choosing the type of operation is the length of the common channel. There were no statistical differences in complications between the two groups.

**Day 1: Saturday, December 12, 2020**

**POSTER SESSION FOR DISCUSSION (P1-13)**

**TIME ZONES:**

09:00-10:00 (Denver)  
10:00 - 11:00 (Mexico City)  
11:00 - 12:00 (Lima)  
13:00 - 14:00 (Santiago)  
16:00 – 17:00 (Dublin, London)  
17:00 - 18:00 (Stockholm, Graz)  
18:00 – 19:00 (Cape Town)  
19:30 - 20:30 (Tehran)  
21:30 - 22:30 (New Delhi, Colombo)  
01:00 - 02:00 (Tokyo) + 1day

**CHAIRPERSONS:**

Simmi Rattan, (New Delhi, India)  
Ravi Kanojia, (Chandigarh, India)



P1. **ACCIDENTAL VAGINAL TRAUMA FROM MISPLACED PERISTEEN BALLOON**

Veronica Alaniz, Julie Schletker, Hope Simmons, Alberto Pena, Luis De La Torre, Andrea Bischoff

[veronica.alaniz@cuanschultz.edu](mailto:veronica.alaniz@cuanschultz.edu)

(USA)

**PURPOSE:** Peristeen is a device used to administer rectal enemas. Complications are rare with a reported bowel perforation risk of 6 per million procedures. We present a case of vaginal bleeding due to a vaginal laceration from a misplaced Peristeen balloon catheter.

**METHODS:** The patient's medical record was reviewed and is presented as a case report.

**RESULTS:** An 11 year old pre-menarchal female with history of cerebral palsy, seizure disorder, and fecal incontinence presented to the emergency department with active vaginal bleeding and concern for vaginal trauma. The patient was on a daily enema program using the Peristeen, primarily administered by a home health nurse. The patient had onset of bright red vaginal bleeding after the balloon was misplaced into the vagina and filled with 60 ml of air. She was taken to the operating room for exam under anesthesia and repair of vaginal laceration, where she was found to have normal external female genitalia and a 5 cm laceration on the left vaginal side wall extending to the level of the cervix. The laceration was repaired and the estimated blood loss was 225 ml. The patient was discharged from the hospital in stable condition and had no further vaginal bleeding.

**CONCLUSION:** Enema administration with Peristeen is a management option for patients suffering from fecal incontinence. Although generally considered to have less risk than surgical options, proper training is critical for safe use of this system. Injury to surrounding structures should be considered with any bleeding and warrants prompt attention.

**P2. ACCESSORY SCROTUM AND PERINEAL LIPOMA, A RARE ASSOCIATION OF ANORECTAL MALFORMATION**

Ajay Abraham, Om Prakash Purbey, Ramakrishnan P, Aswin Prabhakaran P, Naveen Viswanath

[ajay.abraham27@gmail.com](mailto:ajay.abraham27@gmail.com)

**(India)**

**PURPOSE:** Accessory scrotum is a rare congenital anomaly. A combination of accessory scrotum, anorectal malformation and perineal lipoma is extremely rare with only four cases reported in English literature. We report this case for its rarity.

**CASE REPORT:** Our patient is a one day old baby boy who was referred to us from a peripheral centre as a case of imperforate anus. He was a term born who cried and passed urine after birth. On examination, he had anorectal malformation with absent anal orifice. His scrotum was bifid with palpable testes within. Posterior to this, there was a subcutaneous soft tissue swelling covered by skin, the anterior part of which resembled that of scrotum. A small cystic area within the skin filled with meconium was identified in the midline anterior to this swelling. Since this meconium filled cystic area increased in size with more meconium within, no further imaging was done and he was taken up for surgery. Excision of the accessory scrotum and swelling along with anorectoplasty was done. The swelling, histologically, was found to be a lipoma. The infant had a smooth post-operative recovery.

**DISCUSSION:** Of the 4 previously reported cases, two were rectourethral fistulae and two were anocutaneous fistulae. It is thought that the mesenchymal tumour situated in the midline interferes with the normal anorectal development when the cloacal membrane breaks down. Management of these cases includes excision of the accessory scrotum and mesenchymal tumor along with correction of anorectal malformation. These lesions can be excised fully without damage to the sphincter complex.

### P3. ANTERIOR SAGITTAL ANORECTOPLASTY WITH INFLATED BULB OF CATHETER FOR FISTULA DISSECTION

Charu Tiwari, Hemanshi Shah

[drcharusharma18@gmail.com](mailto:drcharusharma18@gmail.com)

(India)

**INTRODUCTION:** Primary Anterior Sagittal Anorectoplasty (ASARP) is the standard of care for patients with vestibular and perineal (cutaneous) fistula. This is a standardized procedure performed by both experienced surgeons and fresh graduates in practice. Being a frequent performed procedure with ease of performance, it is performed at all non-tertiary peripheral centres too. Complications include constipation, incontinence, fistula recurrence, retraction of rectal pouch and vaginal injury. We present our experience with ASARP procedure using a minor modification of technique with aid of inflated bulb of catheter for fistula dissection.

**METHODS:** 12 female patients underwent primary ASARP by the standardized procedure of ASARP except that traction to the fistula and distal pouch during dissection was provided by an indwelling inflated catheter bulb instead of conventional placement of multiple non-absorbable sutures through the fistula wall.

**RESULTS:** The dissection, separation and mobilization of fistula were smooth, quick and with clear visualization of planes in view of the distended rectum via the fistula, especially anteriorly between the rectum and vagina. There was no vaginal injury, rectal retraction or recurrent fistula formation in any of the patients. All patients are continent. One patient is on bowel management program for constipation.

**CONCLUSION:** Modification of primary ASARP with inflated bulb of catheter for fistula dissection seems a promising and convenient technique. This technique saves time, defines the plane between vagina and rectum more clearly and avoids damage to perirectal tissues. It is easily reproducible by young surgeons in smaller centres.

P4. **ANAL MEMBRANE: VARIED PRESENTATIONS**

SyamantakBasu, Apoorva Makan, AkritiTulsian, Vini Joseph, Suraj Gandhi, Neha Sisodiya  
Shenoy, Hemanshi Shah  
[syamantak.basu@gmail.com](mailto:syamantak.basu@gmail.com)  
**(India)**

**PURPOSE:** An anal membrane has been categorized as a low ano-rectal malformation without a fistula. We present this to show that, in addition to being very rare, clinical presentation of an anal membrane may vary at different age groups.

**METHOD:** We present two cases of anal membrane. A newborn girl presenting within 48 hours of birth was treated by primary excision of the membrane. The second case is that of a 2 year boy with chronic constipation and a pink mass protruding outside the anal verge which was obstructive. At surgery, it appeared to be a persistent ruptured anal membrane.

**CONCLUSION:** Anal membrane is a rare ano-rectal malformation which may present differently in different age groups and needs management different to that of other ano-rectal malformations.

P5. **JUVENILE POLYPOSIS OF INFANCY: A VICIOUS CYCLE**

Garvita Singh, Satish Kumar Aggarwal, Rupa Banerjee, Gaurav Singh, Muni Varma  
[garvitasingh429@gmail.com](mailto:garvitasingh429@gmail.com)  
(India)

**PURPOSE:** Juvenile polyposis of infancy is an autosomal dominant hereditary disorder characterized by generalized polyposis of the intestine. Diamond et al described the term first on the basis of histopathological findings. We report a case of juvenile polyposis in an infant and the challenges faced in the management.

**METHODS:** A 1year old boy presented to ER with acute intestinal obstruction which on imaging (USG/CECT) was because of ileocolic intussusception secondary to polyps. He had history of blood in stools and red colored prolapsed mass per rectum, failure to thrive and anemia. An upper GI endoscopy was normal and Colonoscopy revealed multiple polyps in the entire colon more so in the rectum. On exploration, there was irreducible ileocolic intussusception. Resection of intussusception and upto descending colon was performed and end ileostomy was fashioned. Distal colon was left as Hartman pouch. He suffered heavy stoma losses, required prolonged ICU stay and a tracheostomy. Subsequently, further resection of remaining colon and an ileo-rectal anastomosis was performed. Polyps in the rectum were individually removed and he was kept on rectal surveillance. Two more settings of polypectomy (Transanal) were required. He is currently well. In future, total colectomy with ileoanal anastomosis may be required.

**CONCLUSION :** Juvenile polyposis of infancy is very rare ~2% and is associated with high risk of colorectal cancer. Endoscopic management of the cases with limited involvement is possible however in cases with generalized polyposis laparotomy and resection is cornerstone of management. Periodic endoscopic follow up for recurrence is required.

**P6. RECTAL DUPLICATION CYST - A RARE CAUSE OF CONSTIPATION**

Apoorva Makan, SyamantakBasu, A. Tulsian, V. Joseph, S. Gandhi, N. S. Shenoy, Hemanshi Shah

[makan.apoorva@gmail.com](mailto:makan.apoorva@gmail.com)

**(India)**

**PURPOSE:** Rectal duplications are rare

**CASE:** We report a case of a 3 month old male child who presented with constipation and straining while micro nutrition and defecation since 10 days.

USG and CT scan revealed a thick walled pelvic cyst lying posterior to bladder. Excision of cyst was done. No communication to the bladder or rectum was found. Histopathology was consistent with rectal duplication cyst.

**P7. RECTAL DUPLICATION AND ANORECTAL MALFORMATION: BOTH CONNECTED TO URETHRA. A RARITY**

Satish Kumar Aggarwal, Sugandh Agarwal, Rupa Banerjee, Gaurav Singh, Garvita Singh  
[Satish.childurology@gmail.com](mailto:Satish.childurology@gmail.com)  
(India)

**BACKGROUND:** Rectal duplications are rarely associated with ARM; Only 10 such cases have been reported. We report the first case of ARM with rectal duplication wherein the both the rectum and the duplication were connected to the urinary tract with two different fistulae.

**CASE REPORT:** A baby boy had a sigmoid colostomy for ARM on day 2. At 6 weeks, distal cologram showed anterior peaking but no definite fistula. USS showed left renal agenesis. There was a deviated median raphe. Cystoscopy showed a posterior urethral diverticulum in and a fistula just distal to the veru. During PSARP the fistula was taken down. while mobilizing the rectum, a duplication cyst was noted on the anterior wall of the rectal pouch. The cyst shared a common wall with the rectum and communicated with the posterior urethra corresponding to the diverticulum seen on cystoscopy. Mucosal excision of the cyst was done. The rectal pouch was mobilized further and PSARP completed. The baby recovered uneventfully. recovery, Histopathology confirmed colonic mucosa in duplication.

**DISCUSSION:** To the best of our knowledge this is the first case of rectal duplication with ARM where both the rectum as well as the duplication had a communication with the urinary tract. Only 10 cases of rectal duplication in association with ARM have been reported. Only one male had cystic duplication as in our case but without a communication with urinary tract. In our case retrospectively there were some some unusual features such as deviated median raphe, posterior urethral diverticulum on MCUG and cystoscopy, and left renal agenesis. Perhaps an MRI pre-operatively could have been helpful and we suggest such an approach in ARM with unusual features like in our case.

**P8. LOW RECTOVAGINAL FISTULA LOCATED AS AN OPENING WITHIN VAGINA MIMICKING A SEPTATE VAGINA:**

**UNUSUAL PRESENTATION OF AN UNUSUAL ANOMALY**

Simmi Rattan, Aravindh Radhakrishnan, Sujoy Neogi, Shashank Panda, Bharti Taneja, Kirti Nath Saxena.

[drjohnsimmi@yahoo.com](mailto:drjohnsimmi@yahoo.com)

(India)

**INFORMATION :** Recto-vaginal fistula (RVF) is a rare variant of ano-rectal malformation (ARM), could be high or low type. In past workers have even doubted existence of this entity. We herein describe a girl with low rectovaginal fistula in per-operative examination confirmed the diagnosis and brought to light a rare presentation of this rare congenital condition

**REPORT :** A 5 month old female child with ARM status post transverse colostomy (operated elsewhere in newborn period) presented to us for definitive management. The baby had absent anal opening and was described to be passing stools from some orifice within the vestibule instead. However, local examination revealed absent anus with only two openings within the perineum. Pressure augmented distal cologram showed a vague opacification suggestive of vagina, just anterior to the rectal pouch, hinting at presence of rectovaginal fistula. Examination under anesthesia revealed a wide introitus and a well circumcised fistulous opening just interior to it. This examination finding somewhat resembled that of septate vagina but a deeper location and smaller size of orifice was suspicious. Also liquid betadine injected under pressure into the distal colonic stoma escaped through this orifice confirming it to be fistulous opening of the track with rectal pouch. After confirming findings at panendoscopy, the definitive repair was carried out using posterior sagittal ano-rectoplasty (PSARP). An oblique fistulous tract entering from an intermediately located rectal pouch to lower posterior vaginal wall was divided and pouch could be relocated within sphincteric muscle complex without much difficulty.

**CONCLUSION :** An unusual examination finding of low congenital rectovaginal fistula which itself is a rare condition has been described, emphasizing the importance of a good per-operative examination which is confirmatory in such situations.



P9. **PROGRESSIVE PSEUDO-OBSTRUCTION OF INTESTINE: A FATAL ENTITY**

Kanika Sharma, Shilpa Sharma, Devendra Kumar Gupta

[kanikasharma@bhu.ac.in](mailto:kanikasharma@bhu.ac.in)

(India)

**PURPOSE** Intestinal motility disorders are very rare. Chronic intestinal pseudo-obstructions (CIPO) are often associated with significant morbidity and mortality. The severe forms of chronic intestinal pseudo-obstruction may be managed with a rare option of small-bowel transplantation, however this may have its limitations due to availability and affordability.

**METHODS** We report a case of girl child with antenatal diagnosis of megacystitis. A fetal vesicoamniotic shunt was given for the bladder drainage. Postnatally, she was noted to have a mucus plug at urethral meatus, which upon manual removal lead to free-flowing non-obstructed urinary flow, however megacystitis persisted. At 4 months of age, child had repeated episodes of abdominal distension and vomiting. Contrast studies suggested hypo-peristaltic intestine.

**RESULTS.** A transverse loop colostomy was done, to allow antegrade and retrograde enema instillation and evacuation of bowel. Child improved for 2 months and subsequently underwent colostomy closure. The intestinal obstruction worsened over 3 week post-operative period and child underwent exploratory laparotomy with adhesiolysis and jejunostomy. Repeat contrast studies demonstrated hypokinetic stomach and entire bowel. Multiple biopsies from different bowel sites were inclusive. Child was not tolerating oral feeds or jejunal feeds. Total parental nutrition support was provided. Medical support for gut motility and intestinal stimulation was also provided. Child became malnourished with poor response to supportive management and succumbed at age of 10 months.

**CONCLUSION** Though can be attributed to the neurological cause, the case reports a rare association of gastroparesis and CIPO along with megacystitis

**P10. CHIMNEY STOMA: SAFETY VALVE FOR PULL THROUGH IN TOTAL COLONIC AGANGLIONOSIS**

Rupa Banerjee, Satish Kumar Aggarwal, Garvita Singh, Gaurav Singh, Muni Varma  
[dctrupa@gmail.com](mailto:dctrupa@gmail.com)  
[\(India\)](#)

**INTRODUCTION:** In 1952, Bishop and Koop introduced a chimney stoma technique for the patients of meconium ileus, who had gross luminal discrepancy in proximal and distal loop. It decompresses the proximal loop effectively and provides a channel for distal washes to gradually allow it to function.

**AIM:** To present our experience of two cases with total colonic aganglionosis where Bishop Koop stoma was applied in different stages of management.

**Case 1:** A baby boy presented with neonatal intestinal obstruction. Exploratory laparotomy revealed a hugely distended proximal ileum with a transition zone in mid ileum. Another transition was seen at about 70 cm distal at the ileo-cecal junction. Two Bishop Koop stomas were created, one at mid ileum and another at IC junction with a motive of adequate decompression of the gut as well as to utilize the 70 cm long intervening segment for absorption. Histology confirmed Total Colonic Aganglionosis. At 1 year of age Martin modification of Duhamel's operation was performed. A 22 cm long ileo-colic side to side anastomosis was performed between the pull through ileum and left colon with GIA staplers (x3) with retrorectal ileal pull through. Instead of a covering ileostomy, a Bishop Koop stoma was created at splenic flexure / transverse colon.

The child recovered with little output from the chimney stoma. Stoma closure is due. He passes formed stools per rectum.

**Case 2:** Similar principle was used as in first case.

**CONCLUSION:** The chimney stoma helps to decompress the bowel as well as protects the distal anastomosis of pull through. It is of particular use if decompressing ileostomy is difficult either because of too little of available ileum or because of fear of too much fluid loss through a proximal ileostomy.

**P11. ATTRITION RATE IN ARM- IS IT HIGH?**

Shishir Kumar, Parveen Maan, Vivek Manchanda  
[shishirjha1610@gmail.com](mailto:shishirjha1610@gmail.com)  
(India)

**PURPOSE** Primary- To estimate attrition rate in the patients of anorectal malformation (ARM) on stoma.

Secondary- To find out reasons for attrition.

**METHOD** This was a retrospective observational study done at the department of Pediatric surgery Chacha Nehru Bal Chikitasalaya, New Delhi. The data was collected from medical records department. All the files with final diagnosis of ARM who underwent diversion stoma at our centre from January 2019 to December 2019 were retrieved. The parents were contacted telephonically to find out if the child had underwent definitive surgeries at some other centre, was awaiting surgery, or had died. The attrition was calculated as the difference between the number of patients for whom stoma was done for ARM at our centre and the number of patients who did not undergo further definite surgeries.

**RESULT** A total of 72 records of operated ARM patients could be retrieved. Out of 72 patients, 3 had diversion colostomy done outside and were excluded. 8 underwent anoplasty and 9 female ARM underwent primary PSARP. Thus, a total of 52 patients were included in the study. 6 died in post-operative period, 10 had all 3 stages complete in study duration and 2 pouch colon patients underwent definitive surgeries. Out of remaining 34, 18 are still on diversion stoma. 16 had undergone second stage surgery (PSARP/PSARVUP/ASARP). On tracing 18 patients on stoma, 6 were found unfit from anaesthesia point of view, 2 could not get done definitive surgeries in view of COVID-19 pandemic, 5 expired at home ( 2 pneumonia, 2 ? aspiration and 1 fever with seizures ?meningitis) . Rest 5 were not contactable. The attrition rate at our centre was 19.23% (10 out of 52).

**CONCLUSION** This study highlights the social attributes with psychosocial aspects and need for early surgery or primary PSARP as soon as possible.

## P12. POSTERIOR CLOACA VARIANT WITH COMPLEX UROGENITAL ANOMALIES: A CHALLENGE

Gaurav Singh, Satish Kumar Aggarwal, Rupa Banerjee, Muni Varma, Garvita Singh  
[gauravpsurg86@gmail.com](mailto:gauravpsurg86@gmail.com)  
(India)

**INTRODUCTION:** Posterior cloaca is a rare variant of female ano-rectal malformation described first by Peta et al in 1998. We report our experience of diagnosis and management of these cases.

**METHODS:** Two cases of cloacal malformation variant with complex urological anomalies were operated. The demographics, antenatal and post natal records, imaging studies and surgical records with follow up investigations were recorded and reviewed.

Case 1. A one month old girl was brought by the parents with complaints of anomalous orientation of vestibule and the anal opening, high grade fever, passage of turbid urine and failure to thrive. Urinary tract infection was managed and cysto-genitoscopy revealed a case of posterior cloaca variant ano-rectal malformation. Total uro-genital mobilization and vaginoplasty was done at 3 months. She had bilateral vesico-ureteric reflux (right >>left). The right kidney was poorly functioning (26%) with a concomitant PUJ obstruction, ballooned pelvis and duplex like configuration. She subsequently underwent right pyeloplasty including infundibuloplasty and right sober's ureterostomy. Post op course was smooth. She is thriving well with no UTIs and further procedures awaited.

Case 2. A term born baby presented in neonatal ICU with ambiguous genitalia, hydrocolpos and bilateral hydroureteronephrosis. She had complete clitorolabial transposition, labial fusion and absent clitoris. In neonatal period she underwent vesicostomy and vaginostomy. On further evaluation she was diagnosed to be a case of posterior cloaca variant for which total urogenital mobilization and urethrovaginoplasty were done subsequently. She also had high grade bilateral reflux, non functioning left kidney and bad bladder with a significant post void residues associated with recurrent UTIs. Left nephrectomy with ureterostomy was also done. Once the child was stable with no UTIs, bilateral ureteric reimplantation were done with left ureter as mitrofanoff. She is free from UTIs and post op course is smooth.

**CONCLUSION:** Posterior cloaca is commonly associated with urological anomalies (80%) which makes the disease complex and pose challenges in management. Posterior sagittal midline approach is ideal for the malformation repair while urological anomalies may require staged treatment. A good understanding of normal and anomalous anatomy in ano-rectal malformations is required to make the correct diagnosis and management of the condition.

**P.13 DOUBLE FISTULA: RECTOVESTIBULAR WITH RECTOVAGINAL FISTULAE  
“A NEW TYPE OF ANORECTAL MALFORMATION”**

Aditi Rangnekar, Sandesh Parelkar, Nehal Shah

[aditir90@gmail.com](mailto:aditir90@gmail.com)

(India)

**PURPOSE:** Since the original description of gracilis transposition by Pickrell in 1952, there is a paucity of literature about its use and long term follow up. We report a long term follow up study of 21 children who underwent gracilis muscle transposition for anal incontinence.

**METHODS:** Data of 21 children who underwent gracilis transposition between 2007 and 2019 were reviewed. Demography, etiology of incontinence, clinical profile and operative intervention were recorded. Continence status before and after gracilis transposition were assessed clinically. Long term follow up status was assessed either clinically or by telephonic conversations with the patients or care givers.

**RESULT:** 21 cases (16 boys and 5 girls) in the age range of 4-19 years (median 6.4) were studied. The etiology of incontinence was Ano rectal malformation in 16 and traumatic loss of external sphincter in 5 cases. Both gracilis muscles were used in 16 cases while single side was used in 4 cases. Technique of gracilis transposition was as per Pickerell's description. All cases were performed under covering colostomy except for one. All attained social continence, only two patients have natural bowel movements and are continent. All others required bowel management program.

**CONCLUSION:** Gracilis transposition provides passive outlet grip that prevents leakage, therefore improving social continence. It can't substitute the normal sphincter mechanism. Bowel management program is still required for diaper free life.

## Registered Delegates till 8<sup>th</sup> December 2020

|     |                                  |   |
|-----|----------------------------------|---|
| 1.  | Alberto Pena                     | Alberto.Pena@childrenscolorado.org        |
| 2.  | Andrea Bischoff                  | Andrea.Bischoff@childrenscolorado.org     |
| 3.  | Atsuyuki Yamataka                | yama@juntendo.ac.jp                       |
| 4.  | Alessandro Raffaele              | a.raffaele@smatteo.pv.it                  |
| 5.  | Aditi Rangnekar                  | aditir90@gmail.com                        |
| 6.  | Ajay Abraham                     | ajay.abraham27@gmail.com                  |
| 7.  | Alan Mortell                     | alan.mortell1@gmail.com                   |
| 8.  | Alison Campbell                  | alison.campbell21@nhs.net                 |
| 9.  | Andreea Moga                     | andreea.moga@ymail.com                    |
| 10. | Anju Verma                       | anju_v2006@rediffmail.com                 |
| 11. | Ashitha K Unny                   | ashitha.aku@gmail.com                     |
| 12. | Avinash Hiremath                 | avi_pedsurg@rediffmail.com                |
| 13. | Gowri Shankar                    | bcgshankar@gmail.com                      |
| 14. | Bruno Martinez Leo               | brunomartinezleo@gmail.com                |
| 15. | Carolina Talini                  | caroltalini@yahoo.com.br                  |
| 16. | Catalina Correa                  | catalina.correa11@gmail.com               |
| 17. | Catalina Restrepo Reyes          | catalina.restrepo@sanvicentefundacion.com |
| 18. | Jose Alejandro Ruiz Montanez     | cirugiapediatrica@msn.com                 |
| 19. | Rupa Banerjee                    | dctrupa@gmail.com                         |
| 20. | Deepa Makhija                    | deepee.sweety@gmail.com                   |
| 21. | Diroji Antony                    | diroji.antony@gmail.com                   |
| 22. | Yuliya                           | doctorshugina@gmail.com                   |
| 23. | Vineet Binu                      | dr.vineet.binu@gmail.com                  |
| 24. | Balaji.B.S                       | dr_balajibs@yahoo.co.in                   |
| 25. | Ankur Mandelia                   | drankurmandelia@gmail.com                 |
| 26. | Charu Tiwari                     | drcharusharma18@gmail.com                 |
| 27. | Shilpa Sharma                    | drshilpas@gmail.com                       |
| 28. | Emilio Fernandez Portilla        | drejfernandez@gmail.com                   |
| 29. | Fayza Haider                     | drfayzahaider@gmail.com                   |
| 30. | Simmi K Ratan                    | drjohnsimmi@yahoo.com                     |
| 31. | Sunita Ojha                      | drojha@gmail.com                          |
| 32. | Parthapratim Gupta               | drparthapratimgupta@gmail.com             |
| 33. | Rajendra Ghritleharey            | drrajendrak1@gmail.com                    |
| 34. | Pramod K Sharma                  | drsharmapramod@gmail.com                  |
| 35. | Devendra K Gupta                 | profdkgupta@gmail.com                     |
| 36. | Dora Sandra Cardenas Hilasaca    | dscardenash@yahoo.es                      |
| 37. | Evgeniya Pimenova                | evgeniyapimenova@list.ru                  |
| 38. | Luis Mauricio Figueroa Gutierrez | figueroa.luis@correounivalle.edu.co       |
| 39. | Francesca Destro                 | francesca_destro@hotmail.com              |
| 40. | Ferzine Mohamed                  | fuzzmohamed@gmail.com                     |
| 41. | Gali Divya                       | galidivya55@gmail.com                     |
| 42. | Garvita Singh                    | garvitasingh429@gmail.com                 |
| 43. | Gaurav Singh                     | gauravpsurg86@gmail.com                   |
| 44. | Giulia                           | giuliabrisighelli@gmail.com               |
| 45. | Jennifer Hall                    | jennifer.hall@childrenscolorado.org       |
| 46. | Jenny Stevens                    | jenny.stevens@childrenscolorado.org       |

|     |                               |   |
|-----|-------------------------------|---|
| 47. | Jos Germn Jaramillo Samaniego | jojasa21@yahoo.com                      |
| 48. | Manoj Joshi                   | joshimanojkr32@gmail.com                |
| 49. | Julie                         | julie.schletker@childrenscolorado.org   |
| 50. | John Wiersch                  | jwiersch@dmc.org                        |
| 51. | Kanika Sharma                 | kanikasharma@bhu.ac.in                  |
| 52. | Kentaro Fujiwara              | k-fujiwara@juntendo.ac.jp               |
| 53. | Niyaz Khan                    | khanniyaz82@yahoo.in                    |
| 54. | Kishore Panjwani              | kishorepanjw@rediffmail.com             |
| 55. | Krishna Kumar Govindarajan    | kkpeds@gmail.com                        |
| 56. | Laura Judd Glossy             | laura.judd-glossy@childrenscolorado.org |
| 57. | Lea A. Wehrli                 | leaawehrli@gmail.com                    |
| 58. | Luis De La Torre              | luis.delatorre@childrenscolorado.org    |
| 59. | Richa Misra                   | m.richa.9@gmail.com                     |
| 60. | Apoorva Pradeep Makan         | makan.apoorva@gmail.com                 |
| 61. | Manal Dhaiban                 | manaldhaiban1985@gmail.com              |
| 62. | Maria Zornoza Moreno          | mariazornoza@gmail.com                  |
| 63. | Maricarmen Olivos             | maricarmen.olivos@gmail.com             |
| 64. | Michael Höllwarth             | michael@hoellwarth.at                   |
| 65. | Mohan Abraham                 | mohanabraham@hotmail.com                |
| 66. | Dr. Mukul Kothari             | mukulkothari@gmail.com                  |
| 67. | Hiroki Nakamura               | nakamhir@hirakata.kmu.ac.jp             |
| 68. | Prem Puri                     | prof.prempuri@gmail.com                 |
| 69. | Nandini Kaul Bedi             | nandinikbedi@gmail.com                  |
| 70. | Napasorn Phutong              | napasorn.pht@hotmail.com                |
| 71. | Nehal Shah                    | nehalshah8311@gmail.com                 |
| 72. | Nitin James Peters            | nitinjamespeters@yahoo.com              |
| 73. | Parthiv M Shah                | parthiv111@yahoo.com                    |
| 74. | S Chooramani Gopal            | sarojchooramani@gmail.com               |
| 75. | Rafael Ayuso.Velasco          | rafael.ayuso@salud-juntaex.es           |
| 76. | S Roy Choudhury               | roychouin@yahoo.co.in                   |
| 77. | Ruta Dagilyte                 | ruta.vilija@gmail.com                   |
| 78. | Karla Alejandra Santos Jasso  | santosjasso@hotmail.com                 |
| 79. | Sharon Mohan Kunnath          | sharon_mohan@rediffmail.com             |
| 80. | Shishir Kumar                 | shishirjha1610@gmail.com                |
| 81. | Shreyas Dudhani               | shreyas.dudhani45@gmail.com             |
| 82. | Shyamendra Pratap Sharma      | shyambrd07@gmail.com                    |
| 83. | Satoshi Ieiri                 | sieiri@m.kufm.kagoshima-u.ac.jp         |
| 84. | Shun Onishi                   | sonishi@m3.kufm.kagoshima-u.ac.jp       |
| 85. | Syamantak Basu                | syamantak.basu@gmail.com                |
| 86. | Taejin Park                   | taejin6393@gmail.com                    |
| 87. | Suresh Kumar Thanneeru        | tanirsuresh@yahoo.in                    |
| 88. | Toshio Harumatsu              | t-haru@m.kufm.kagoshima-u.ac.jp         |
| 89. | Takanori Ochi                 | tochi@juntendo.ac.jp                    |
| 90. | T Vittal Mohan                | vittalmch@gmail.com                     |
| 91. | Usha Kini                     | drushakini@gmail.com                    |
| 92. | Veronica Arriaga              | veroarriaga1804@gmail.com               |
| 93. | Veronica Alaniz               | veronica.alaniz@cuanschutz.edu          |
| 94. | Vijay Kumar Kundal            | vijayraksha@yahoo.com                   |
| 95. | Sravanthi Vutukuru            | vutukuru.sravanthi@gmail.com            |

|      |                    |                            |
|------|--------------------|----------------------------|
| 96.  | Yuichiro Miyake    | ymiyake@juntendo.ac.jp     |
| 97.  | Soundharya         | soundharya.s@gmail.com     |
| 98.  | Kuntal Bhaumik     | kuntalbhaumik@gmail.com    |
| 99.  | Abhishek anand     | pandeyabhi13@live.com      |
| 100. | Karthik            | rouxenyapple@gmail.com     |
| 101. | Manish Kumar Gupta | kaju.manishgupta@gmail.com |
| 102. | Kamal Kant Sharma  | kmlknt.shrm@gmail.com      |
| 103. | Anjan Kumar Dhua   | dhuaanjan@gmail.com        |
| 104. | Rakesh Kumar       | drnkumar2611@gmail.com     |
| 105. | Tomas Wester       | tomas.wester@karolinska.se |
| 106. | Arnold Coran       | acoran@med.unich.edu       |
| 107. | Risto Rintala      | risto.rintala@huch.fi      |
| 108. | Ram Samujh         | rsamujh@gmail.com          |
| 109. | Rajendra Saoji     | rajsaoji@gmail.com         |

