AP10-1  MicroRNA (miRNA) expression analysis of whole genome of Wilms Tumours (WT)
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Aims: To evaluate the microRNA expression in wilms tumour samples and study the differential expression in various histological types (triphasic, biphasic and monophasic). Method: Samples were collected after nephrectomy from six WT patients (2 triphasic, 2 biphasic and two monophasic tumours) and two from normal adjacent renal tissue. Total RNA was extracted and quality and integrity of extracted RNA confirmed (RIN >8). Samples were then subjected to whole genome miRNA expression evaluation. The background was corrected and log transformation microarray were quantitively normalized using the Genespring software (Aglient Technology). Differential miRNA expression were identified by employing t-test and resulting p value of < 0.05 was considered significant. The resulting p values also confirmed by applying the Benjamini-hochberg (FDR). Results: Total of 2013 miRNA transcripts were screened in the six tumour samples. Among the triphasic, 98 miRNA transcripts were up-regulated and 257 were down-regulated. While among biphasic, 114 were up-regulated and 371 were down-regulated and in monophasic, 229 and 475 were up and down-regulated respectively. There was a significant difference in miRNA profiles in triphasic tumours. The most significantly up-regulated miRNA in triphasic tumours were mirR 494, hsa 4721, hsa 3122, hsa3117-3p, hsa-miR517-5p, hsa-miR-4502, hsa-miR-509-5p, hsa-mir-345-3p, 3591-3p, hsa-miR-451b. However, hsa-miR-223p was down-regulated in triphasic wilms tumour. These miRNA show overt differences in triphasic wilms tumour in comparison to biphasic, monophasic and controls. Conclusion: Thus overt miRNA expression in triphasic WT may provide a framework to integrate pathway of development of WT.

AP10-2  Glypican-3 mRNA Expression Levels Are A Novel Marker For Poor Outcome In Wilms Tumor
All India Institute of Medical Sciences, India
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Introduction: Glypican-3 (GPC3), a proteoglycan expressed in fetal tissues and some cancers, plays a role in cell growth, differentiation and tumorigenesis. Increased levels of GPC3 correlate with poor outcome in hepatocellular carcinoma and hepatoblastoma. The present study is the first to evaluate the expression of GPC3 in Wilms tumor and to correlate it with histopathology and outcome, and thereby establish its prognostic role.

Materials and methods: A prospective study on 75 cases of Wilms tumor from 2009 to 2012. Real time Polymerase chain reaction was performed on tumor and germline DNA samples for GPC3 mRNA expression in fold change against GAPDH control. GPC3 fold change >1.5 was considered elevated. Other known deranged molecular pathogenetic factors i.e. loss of heterozygosity (LOH) at 1p, 16q, 11p13 and 11p15 as well as loss of imprinting at IGF-2 using methylation specific PCR were also done.

Results: GPC3 was overexpressed in 37/75 (49.3%) cases. GPC 3 was found overexpressed in 82% cases with blastema predominant histology while it was overexpressed in 50% of the other histologies. All the 5 deaths among blastema predominant tumors and 4/5 deaths among triphasic tumor had overexpressed GPC3. The only death among the stroma and epithelial predominant tumors did not have GPC3 overexpression. The overall survival was 73% among those with GPC3 overexpression and 93% among those without overexpression (p= 0.016; HR 5.3; 95CI 1.1-24.8). GPC-3 levels did not correlate with LOH and LOI. Elevated GPC-3 levels helped to select patients with poorer outcome in triphasic histology and StageIII cases which had worse outcome. 1p and 16q LOH also correlated with poor outcome (p=0.008). Conclusion: Stage IV and Blastema predominant histology had worst outcome. Overexpression of GPC3 levels correlated with poor OS (p=0.016). GPC-3 helped to select out cases from better outcome histology and stage III who performed worse than expected. GPC-3 might serve as a molecule for targeted therapy in future.
AP10-3  EXTRARENAL WILMS’ TUMOR: Challenges in diagnosis, embryology, treatment and prognosis

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Wilms’ tumor is one of the most common childhood solid malignancies that classically arise from primitive metanephric cells but exceptionally it may locate in places other than kidneys. Extrarenal Wilms’ tumor is rare but challenging entity regarding its diagnosis, histopathology, Staging, treatment and prognosis. Diagnosis of Extrarenal Wilms’ tumor is always post-surgical that may jeopardize treatment planning and consulting with parents in the first step. Histopathology is very confusing. While most authors believe it arise from primitive ectopic nephrogenic rests, Teratoid Wilms’ tumor put the debate whether this tumor is neoplastic or embryonic. Staging of Extrarenal Wilms’ tumor is also a challenge while we consider the NWTS (National Wilms Tumor Study) recommendations, all these tumors should be considered as Stage II or higher as they are beyond the renal capsule. This will mandate Chemotherapy for all patients while most of reported cases were favorable in histology and long term tumor free survival have been reported even with exclusive surgery in some case reports. Treatment strategies are the same as renal Wilms’ Tumor while different locations and neighboring organs may cause special considerations and scenarios in planning for surgery and adjuvant therapies. Consulting with the parents is also a problem considering the rarity of disease and limited publications. In this chapter we discuss about all these topics in details after a systematic review of Extrarenal Wilms’ tumor cases up to date to suggest a clearer prospective while confronting with this rare disease.

AP10-4  Teratoma in Infants and Children

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Pediatric Anesthesiology Department, Shahid Beheshti University of Medical Sciences, Tehran, Iran
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Background: Teratomas are a unique group of tumors with variable behavior depending on the site, size, histology and age at diagnosis. This paper aims to highlight the clinical features, investigations and treatment of teratomas at different parts of the body, in our center.

Patients and Methods: The medical records of all infants and children with the diagnosis of teratoma treated between January 2004 and January 2014 were retrospectively reviewed for: age at diagnosis, sex, presenting symptoms, site of tumor, treatment, histology and outcome.

Results: Sixty seven patients consisted of 49 girls (73%) and 18 boys (27%) were treated with teratomas at various sites of the body. These included sacrococcygeal (32), ovarian (12), cervical (4), retroperitoneal (9), Nasopharyngeal (2), mediastinal (2) and testicular (5). All patients were treated surgically, and the most common procedure was total resection in 63 (94%) patients. Twenty eight (42%) received chemotherapy. In follow-up 52 (77%) patients were in complete remission, 8 (12%) had died, and 4 cases did not appear to follow-up visits.

Conclusions: Teratomas are an interesting group of tumors with similar histological picture but variable behavior. Sacrococcygeal teratoma is the commonest and the majorities are benign but the risk of malignant transformation increases with age. The patients with teratoma need combination of surgery and chemotherapy which lead them to a better prognosis.
AP10-5  Ten-year Evaluation of Ovarian Masses in Children

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Background: Ovarian masses represent a range of pathology from highly aggressive malignant tumors to benign cyst. It has been established that gynecologic malignant conditions account for approximately 2% of all types of cancer in children, 60-70% of these lesions arise in the ovary. The purpose of this study was evaluation of ovarian masses in children who admitted in Mofid Children’s Hospital from 2002 to 2012.

Methodology: This study was a cross-sectional study on 57 children with ovarian mass which were admitted for surgery in Mofid Children’s Hospital. Clinical variables such as age of children at diagnosis and operation time, gender, surgical outcomes and complications of operation extracted from medical records. All data were recorded in the questionnaire, then effectiveness of stenting evaluated by using SPSS version 18.

Results: Fifty seven girls (aged 40.2±57 months; range, 1 day to 15 years) underwent 64 separate ovarian operations (24 salpingo-oophorectomies, 10 oophorectomies, 21 ovarian cystectomies, and 2 ovarian biopsies). 50 children have unilateral ovarian mass (49.1% right and 38.6 left, respectively). In this study have been seen acute abdominal pain in 26 (6/45%), palpable abdominal mass 20 (1/35%), fever 3 (3/5%), nausea and vomiting 3 (3/5%) patients and 21 patients (33%) had ovarian torsion. 8 tumors (15%) was malignant and 4 patients (8%) had benign tumors. There was no age difference between those with benign disease (8.2±2.6 years) and those with malignant tumors (6.1±5.3 years).

Conclusion: Ovarian tumors are rare in children. Most are benign, though, in this study, the risk of malignancy increases with age. Workup should include careful history and physical examination, ultrasound, tumor markers, evaluation of the intra abdomen, and metastatic workup. Surgical treatment is conservative for both benign and malignant lesions; however, malignant lesions in most cases should be given postoperative chemotherapy.

AP10-6  Our Experience with Testicular Tumors in Children

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Objectives: To present the management of of Testicular tumors in children below the age of 18-years and their outcome.

Patients and Method: Retrospective review of 28 children with testicular tumors managed in our Centre, from 1991 to 2010. Data collected regarding age, past history, clinical features, diagnostic methods, treatment, histopathology and the outcome were evaluated.

Results: 24/28 occurred in normally descended testis. 24 were Germ cell tumors and 4 were non-germ cell tumors. The median age at presentation was 20 months. 19/21 germ cell tumors, were Yolk sac tumors & 2 were teratomas. Others were Mesothelioma, Rhabdomyosarcoma, Testicular and Para-testicular. In addition, 4 occurred in maldescended testes, 2 in Intrabdominal, one a Yolk sac tumor and another a Fetus-in-fetu. Femoral testis was a seminoma. 20/21 Germ cell tumor presented with a painless scrotal mass. 2 were initially diagnosed as hydrocele. One presented with a fungating mass after biopsy elsewhere. Ultrasonogram was the main diagnostic tool, computerized Tomography scan was used to stage the disease. Bone scan was performed in 4. Serum alpha-fetoprotein (age related), was elevated in all children with Yolk Sac tumors. 19/21 had high orchitectomy. 2 had high orchitectomy and hemiscrotal resection. In Yolk sac tumors, 12 were Stage I, 5 Stage II, 1 Stage III and 1 Stage IV. Stage I disease did not receive chemotherapy. 4/12 Stage I, had recurrence and two in the lungs. 2 had lymph node dissection. Stage II to IV received Chemotherapy. They were treated with, Bleomycin, Etoposide & Cisplatin. Child with RMS was stage IV at presentation and needed high radical orchitectomy & hemiscrotal resection, chemotherapy & radiotherapy. The follow up ranges from 3 to19 years. In germ cell tumor group, 5-year disease free survival rate for Stage I to III was 98.5% & in Stage IV (3) none are alive. Child with mesothelioma and Rhabdomyosarcoma were alive at 10 years and 4-years follow up. Of the 4 arising from maldescended testes, 3 are alive & one died of sepsis after chemotherapy.

Conclusion: Prepubertal Testicular tumors are rare. Benign tumors are uncommon here. Early diagnosis and treatment results in high cure rate.
AP10-8  Retroperitoneal lipoblastoma: a case report

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Lipoblastoma can arise almost anywhere within the soft tissues, especially in the extremities. It is rarely seen retroperitoneally. A previously healthy 3-year-old girl presented with a palpable abdominal mass noted on her well-child exam. Her parents reported gradually increasing abdominal distention for one year with no other symptoms. On physical examination, the child had a soft, grossly distended, non-tender abdomen with a large, firm palpable mass on the left side. Hemoglobin, alpha-fetoprotein, and beta-HCG levels were normal. An abdominal ultrasound showed a heterogeneous soft tissue mass with septal walls in the left lower quadrant measuring 13.5×10.5×17.5 cm. The mass appeared to be intraperitoneal and to be causing mass effect on the spleen, left kidney, small intestine, and pancreas. MRI confirmed a multilobulated mass suggestive of a lipomatous tumor of retroperitoneal origin, and a laparotomy was planned for both diagnosis and therapy. Preoperative diagnosis of this case was retroperitoneal teratoma. An exploratory laparotomy with resection of the retroperitoneal mass was performed under general anesthesia. A well encapsulated mass was loosely attached to the retroperitoneum. A thorough exploration of the abdomen was carried out without identifying other abnormalities. On the superior pole of the tumor, the left diaphragm was adherent and carefully dissected free from the mass. The tumor was easily dissected free from the retroperitoneal space without injury to adjacent structures. Grossly, the tumor weighed 1015 g and was well-circumscribed with a thin fibrous capsule. The specimen had a yellow, lobulated fatty parenchyma separated by thin fibrous septae. Histologically, the lipomatous tumor consisted of mature adipocytes mixed with numerous lipoblasts in a focal myxoid background. No evidence of cellular atypia, mitotic activity, necrosis, or hemorrhage was seen within the mass. Based on histopathologic and cytogenetic features, a final diagnosis of myxoid lipoblastoma was rendered. The patient tolerated the surgical procedure well without complication and was discharged home on post-operative day six. At 3-months follow-up, she had no evidence of recurrence by abdominal ultrasound.
AP10-10 Clinical experience of hybrid operation in treatment of vascular anomalies in children

Hei Yi Wong, Sze Wai Liu, Wai Yip Leung

Objective: Vascular anomalies encompass a broad spectrum of pathologies which are categorized under vascular tumours or vascular malformations. Interventional management including sclerotherapy/embolization and surgical excision are complementary. Traditionally, patients may need multiple interventions in radiological suites and operating rooms. With the innovation of endovascular operating room (EVOR), these patients can be treated with different modalities in one single general anaesthesia session. In this study, we report our initial experience of hybrid approach of combined interventional radiology and surgical treatment in children with vascular anomalies.

Patients & Methods: Five cases of head and neck vascular anomalies had hybrid operation from 2012 to 2015. Three children had venous malformations (VM) of lips and two had facial non-involuting congenital haemangioma (NICH). The median age at operation was 13 years old. The VM patients had fluoroscopic guided percutaneous embolization of lesion by N-butyl cyanoacrylate (NBCA) glue, followed by excision. In NICH patients, digital-subtracted angiography (DSA) guided transarterial NBCA glue embolization was performed, followed by excision. NBCA embolization not only clearly defined the anatomy of vascular anomalies, but also decreased the vascularity of lesions, enabling complete excision with minimal blood loss.

Results: Mean operative time and blood loss were 138 minutes and 115mL respectively. No patient required perioperative blood transfusion. Post-operative buccal mucosal ulcer was encountered in two patients that were successfully managed conservatively. One patient received revision surgery for redundant lip mucosa. Median follow-up time was 9 months. All patients had complete removal of vascular anomalies and no residual lesion was noted at the most recent follow-up.

Conclusion: The hybrid procedure is a novel approach in management of vascular anomalies in children. Our series suggested that it is a safe and effective option in selected cases. Further studies are required to validate the effectiveness of this treatment.
AP10-11  Outcome of splenectomy in chronic childhood ITP

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Background: Chronic idiopathic thrombocytopenic purpura (ITP) is defined as thrombocytopenia persisting beyond 6 months that may be seen almost 15% of children with ITP. Splenectomy may be considered for those with complications of persistent thrombocytopenia or severe side effects of medical treatment.

Method and materials: 37 chronic ITP cases who underwent splenectomy due to persistent thrombocytopenia or medications' side effects followed for 6 months to evaluate the rate of surgical complications, infectious events, platelet count profile and clinical course.

Results: Mean age was 10.3 years and male to female ratio was 0.7. Splenectomy was performed in 9 patients with medication side effects and 28 cases of refractory thrombocytopenia. Platelet count raising was observed in 75% of refractory ITP group and in 88.9% of medication side effect group at the end of first post-operative week while raised platelet count was persistent in 53.6% and 77.7% respectively at the end of six months follow up. Acceptable clinical response as uneventful period in the absence of hemorrhagic episodes was observed in 78.6% and 100% during follow up.

Conclusion: Para-clinical outcome of splenectomy in chronic pediatric ITP is good during short-term follow up however this may become fair during long-term observation especially among patients who were unresponsive to medical treatments while clinical outcome of splenectomy remains acceptable even during long-term follow up.

AP10-12  Spectrum of presentation of Urethral duplication and management of four consecutive cases

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Background: Urethral duplication and accessory urethra is an extremely uncommon lower urinary tract anomaly. Currently Effman's classification is the most accepted classification. We are presenting our experience in managing four such cases presenting with wide spectrum of presentation.

Study design: Prospective study

Methods: Four consecutive cases of urethral duplication presented during the duration from June 2014 to March 2015. All of them presented with the history of two streams during micturition and occasional dribbling. All of them were evaluated clinically and a preoperative MCU and RGU was done to document and classify the type of duplication according to Effman's Classification. The symptoms were evaluated and excision of the accessory tract or incision of the common wall was performed. Post operatively they were followed up for wound healing and symptoms.

Results: Four consecutive cases of urethral duplication presented during the study duration. There were three males and one female child. All of them were Effman's type IIA2 type. Out of three males two presented with suprapubic fistula while other presented with complete duplication with two openings in the Glans. Female child presented with two urethras in the vestibule. Male patients were managed by excision of the accessory urethral tracts while female child was managed by incision of the common wall. All of them were asymptomatic in last follow up (Range: 9-18 months).

Conclusions: Urethral duplication is an uncommon entity and presents in a wide spectrum. Management options depend upon the presentation and type of anomaly.
AP10-13  Incomplete duplication of urethra & complete duplication of clitoris in a baby girl with associated covered exstrophy: Rare variant congenital anomaly

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A case presented of a 1 year 2 months old girl with coexisting anomalies consisting of incomplete duplication of urethra, complete duplication of clitoris and covered exstrophy. There was double stream urinary flow with no urinary difficulty and an oval shaped scar-like lesion over the lower central abdomen. The underlying bladder was bulging through the lesion. Radiology reveals divarication of recti & diastasis of symphysis pubis. There was single bladder with single out flowing urethra. Both kidneys were normal with neither urinary tract infection, nor upper genital tract abnormality. MCU & Cystoscopy results incomplete duplication of urethra. Preliminary surgical management consisted of excision of extra clitoris and urethra. Covered exstrophy was planned to be corrected by surgical reconstruction of bladder & abdominoplasty coupled with muscle strengthening in later setting.

AP10-14  Complete Urethral duplication in children: A case report

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Urethral Duplication (UD) is a rare congenital anomaly, which has multiple anatomical variants. In this article we present a four year-old child with complete UD. The patient admitted for hypospadiac repair, but in evaluation we found type IIA1 UD according to Effmann classification. Patient underwent hypospadiac repair with saving complete UD, and he has normal and continent urination after one year follow-up.
AP11-1  Incidentally detected anterior urethral Diverticula: Delima and experience in managing three consecutive cases
Pt JNM Medical College, Raipur, India1, CM Hospital and Associated Medical College, Bhilai2
Mini Sharma1, Nitin Sharma2, Basant Chourasiya2, Tarun Naik2, Sevak R Verma2

Background: Anterior urethral diverticulum is an uncommon urethral anomaly. This usually present late with a history of swelling at the base of penis, stone or recurrent infection. We are presenting our experience in managing three such cases presenting only with poor stream.

Study design: Prospective study

Methods: Three consecutives cases of anterior urethral diverticulum presented during the duration from June 2014 to November 2015. All of them presented with the history of poor streams during micturition and occasional dribbling. All of them were evaluated clinically and a preoperative MCU and RGU was done. The symptoms were evaluated and excision and repair by double breasting was performed. Post operatively they were followed up for wound healing and symptoms.

Results: Three consecutive cases of anterior urethral diverticulum presented during the study duration. All of them were males. There was a history of poor stream in all and previous catheterization in one. None of them had any history of urinary tract infection. None of them noticed a swelling at the base of penis by their own. However on examination clinically evident swelling at the base could be seen. All of them were managed by excision and double breasting. The age range was 3-7 years. Mean duration of surgery was 1.30 hours (Range 1-3 hours). Mean stay was 4 days (Range 2-6 days).

Conclusions: Anterior urethral diverticula are uncommon. They generally present with complications. However if properly evaluated they could be picked early and managed on time.

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AP10-15  Urethral duplication in a female child presenting with double stream: A rare entity managed by incision of common wall
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Mini Sharma1, Nitin Sharma2, Basant Chourasiya2, Sudhakar Chidambaram2, Sevak R Verma2

Background: Urethral duplication and accessory urethra is an extremely uncommon lower urinary tract anomaly in females. Currently Effman’s classification is the most accepted classification. We are presenting one such case managed by incision of common wall between the two urethras.

Case report: A Four year old female child presented with us with fever and culture proven Urinary tract infection. There was history of occasional incontinence. On perineal inspection it was recognized that child had two urethral openings in the midline lying in the same sagittal plane. When asked mother gave the definite history of passage of urine in two streams. After management of urinary tract infection MCU was done which showed no VUR and was inconclusive regarding urethral anatomy owing to patient’s non-cooperation and short female urethra. CT cystogram was also done which was too non-suggestive. Accordingly a diagnostic cystoscopy was planned which revealed urethral duplication with ventral urethra opening just below the bladder neck. The common wall between the two urethras was divided to make the two urethras a common tract. Post-operative period was uneventful and child was passing urine normally with no incontinence in last follow up.

Conclusions: Urethral duplication is an uncommon entity and division of common wall can be considered as a safe alternative in these cases in females due to short length of urethra. The diagnosis of these cases is mainly clinical and imaging generally is non-suggestive in females.
AP11-3 Chromosomal abnormalities in hypospadias and cryptorchidism

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Introduction: Hypospadias and cryptorchidism are common congenital anomalies. There are many possible causes of hypospadias such as testosterone biosynthesis defects, including chromosomal anomalies. This study aimed to find the prevalence and types of chromosome defects in hypospadias and cryptorchidism in Songklanagarind Hospital.

Methods: 842 hypospadias and cryptorchidism patients were included in this retrospective analysis study. Medical records from Songklanagarind Hospital during 1 January 2005-31 December 2014 were reviewed. Data regarding perineum abnormality, age, nationality, and chromosomal study results were collected.

Results: 90 of 842 patients (10.7%) had had a blood chromosomal study. 20 of 89 patients (22.5%), one was missing, has abnormal chromosome. From 89 patients can divide into 3 groups; 21 hypospadias with cryptorchidism, 43 cryptorchidism, 25 hypospadias; 8 of 21 patients (38.1%) were hypospadias together with cryptorchidism which were reported as the majority of chromosomal abnormalities, followed by either cryptorchidism or hypospadias alone, found in 9 of 43 (20.9%) and 3 of 25 patients (12%), respectively (P value = 0.008). Among the abnormal chromosome group, most patients, 10 (50%), had posterior urethral opening but none was found in anterior and middle hypospadias. Abnormal chromosomes included 47,XY+21 (Down syndrome) (30%), mosaicism (25%), abnormal autosomal and sex karyotype and 46,XX ovotesticular disorders of sexual development.

Conclusions: These results suggest that chromosomal studies in hypospadias and cryptorchidism or both together patients are appropriate especially patients with associated anomalies.
AP11-4  Delayed presenting case of extrophy bladder with bilateral hydroureteronephrosis an unusual association
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Mini Sharma$^1$, Nitin Sharma$^2$, Basant Chourasiya$^2$, Tarun Naik$^2$, Sevak Verma$^2$
Bladder extrophy is an uncommon congenital anomaly of lower abdominal wall. As the bladder is open there is usually no upper tract involvement in these cases. Upper tract dilatation may be seen after successful bladder neck repair due to associated anatomical vesicooureteric reflux. In this case report we are presenting an unusual association of bladder extrophy with bilateral upper tract involvement prior to bladder neck repair.
A 12 year old female child presented to us with an obvious extrophy baldder. She had undergone an attempt of primary bladder closure without bladder neck repair at new-born period which dehisced on the third day of surgery. Ultrasound and IVP revealed bilateral hydroureteronephrosis. In operating table it was found that there was a small defect in the lower anterior abdominal wall with dense scarring through which the bladder plate was protruding. There was an obvious kinking of both the ureters at this ring of fibrosis which was possibly causing the proximal dilatation. As soon as the ring was released both the ureters could easily be cannulated with number 6 infant feeding tube. The external opening of both the ureters in the bladder plate was wide. It was thus decided to do primary bladder closure with bladder neck repair on Bhatnagar’s principle. Post-operative period was uneventful.

AP11-5  Treatment of urinary incontinence due to ectopic ureter associated with dysplastic kidney
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Purpose: We reviewed 11 girls with refractory urinary incontinence (RUI) we treated between 2001-2015. Three (27.3%) had been managed elsewhere by specialists.
Methods: Vaginal ectopic ureter (EU) was identified on perineal inspection and confirmed by vagino-cystoscopy. Dysplastic kidney (DK) was diagnosed on radiologic imaging (right=8; left=3). EU/DK were treated by subcostal incision (SI), laparoscopy (LP), or retroperitoneoscopy (RET) following preoperative catheterization of the EU in 9/11 cases.
Results: Mean onset of RUI was 3.27 (range: 2-8) years. Surgery performed was SI (n=3), LP (n=3), and RET (n=5). Mean age at surgery was 6.93 (range: 2.8-14) years. Indications for surgery were upper pole DK with duplex systems (n=3) treated by SI (n=1) or RET (n=2); non-pelvic DK (n=6) treated by SI (n=2), LP (n=1), or RET (n=3); and pelvic DK (n=2) treated by LP (n=2). Mean operative times for each type of surgery were 171 minutes for SI, 241.7 minutes for LP, and 211.5 minutes for RET. Mean duration of hospitalization with respect to type of surgery performed was 9.0 days for SI, 5.3 days for LP, and 4.8 days for RET. No intraoperative complications were encountered. Currently, all are asymptomatic and wound cosmesis is good in cases treated by LP or RET.
Conclusions: Perineal inspection is simple and crucial for diagnosing EU in RUI. We recommend LP or RET for treating DK.
AP11-6 Aberrant vessels as cause of PUJ obstruction in children: How often it is the cause?
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Introduction: Foetal hydronephrosis is commonly caused by congenital pelviureteric Junction (PUJ) obstruction. It is either due to nerve deficiency or due to intrinsic muscular defect at PUJ or it may be due to lower polar aberrant crossing vessel just compressing the PUJ. The purpose of this study is to see the contribution of crossing vessels in causing the PUJ obstruction in children.
Patients and methods: 52 cases of Congenital PUJ obstruction were taken during three year period who were candidates for operation. 42 underwent Laparoscopic Anderson Hynes Pyeloplasty and 10 underwent open. None of the patient was diagnosed to have aberrant crossing vessel preoperatively.
Results: 8 cases of aberrant crossing vessels were identified in laparoscopy group and two in open group with total of 10 cases (19.20%). Mean age in the aberrant crossing vessel group was 4.5 yrs.
Conclusion: The incidence of crossing vessel is between 18-60% in literature. This series has aberrant crossing vessel as cause of PUJO in 19.20% cases. Laparoscopy is advantageous in identification and reconstruction.

AP11-7 High incidence of undescended testes in infants with abdominal wall or diaphragmatic defects
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Background: It was recently reported that testicular descent is affected by intra-abdominal pressure during the fetal period. The aim of this study is to investigate the incidence of undescended testes (UDT) associated with low fetal intra-abdominal pressure defects, including congenital abdominal wall or diaphragmatic defects.
Methods: Male gastroschisis, omphalocele, and congenital diaphragmatic hernia patients who were born from 2000 to 2014 and operated on at our institution because of any of the primary diseases were enrolled in this study. Patients who died before the age of 1 year were excluded from this study. Hospital records of the patients were retrospectively reviewed. The data analyzed were the existence of UDT at birth, spontaneous testicular descent after birth, necessity of orchiopexy, and the timing of orchiopexy. We divided patients with each disease into two groups, associated and non-associated UDT, to investigate the impact of fetal maturity or severity of primary diseases (e.g., gestational week, birth weight, Apgar score, and the incidence of liver herniation) on the association of UDT.
Results: A total of 34 patients were identified; 11 of them were boys with gastroschisis, and 4 (36%) had UDT involving six testes. In a group of four boys with omphalocele, one (25%) had UDT involving two testes. Nineteen boys were diagnosed with congenital diaphragmatic hernia; four of them (21%) had UDTs involving seven testes. Spontaneous testicular descent was observed in two (50%) gastroschisis patients with UDT; therefore, they did not need to undergo orchiopexy. On the other hand, none of the omphalocele or congenital diaphragmatic hernia patients with UDT exhibited spontaneous testicular descent, and consequently, they all underwent orchiopexy. Gestational week, birth weight, Apgar score, and the incidence of liver herniation did not affect the association of UDTs.
Conclusions: The incidence of UDT in infants with congenital abdominal wall or diaphragmatic defect was high. Fetal maturity or the severity any of the primary diseases did not affect the association of UDT. Low intra-abdominal pressure before birth might be associated with the occurrence of UDT.
AP11-9 Outcome of one trocar retroperitoneoscopic assisted dismembered pyeloplasty in children under 5 years with ureteropelvic junction obstruction
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Purpose: Postoperative outcome of one trocar retroperitoneoscopic assisted dismembered pyeloplasty in children under 5 years with ureteropelvic junction obstruction.

Patients and Methods: From 1/2011 to 6/2013 seventy children (65 males; 5 females) from 1 months to 5 years olds underwent surgical treatment for unilateral ureteropelvic junction obstruction. Ultrasound, intravenous urography (IVU), magnetic resonance imaging (MRI), renal nuclear scan, were done before operation. Hydronephrosis was judged by anterior posterior pelvic diameter greater than 25mm and caliectasis. Renal fuction was judged by intravenous urography or renal nuclear scan (DTPA). Technique: through a 15 mm skin incision under the 12th rib, a 10mm trocar is inserted for retroperitoneoscopy. The ureteropelvic junction was isolated and exteriorized though the operative trocar. Pyeloplasty was performed in open surgery with Double J stenting. Operative time, surgical complications, hospital stay were evaluated.

Postoperative outcome was analyzed by clinical symptoms and imaging investigation (ultrasound and renal nuclear scan) after 6 months.

Results: Mean age 22.9 months. 65.7% children are under 2 years old. Mean diameter of pelvic is 34.3mm. In 2 cases the conversion to open surgery were required due to peritoneal tears. 68/70 (97.2%) patients were done by one trocar assisted retroperitoneoscopic. Mean operative time was 74.8 minutes (45-100 minutes). No intraoperative complication and postoperative urinary leakage occurred. Patients have follow-up for 6-12 months (mean time 8.6 months). 17/68 (25%) patients have lost follow-up. Mean diameter of pelvic is 14.3mm. 45/51 (88.3%) patients were classified as good result with anterior posterior pelvic diameter decreased and renal nuclear scan (DTPA) showed improved hyndronephrosis. 2/51 (3.9%) patients were redone because of anastomose stenosis with increasing hydronephrosis. The redo-pyeloplasty by open surgery was done. Discussion and Conclusion: One trocar retroperitoneoscopic assisted dismembered pyeloplasty represents a safe and effective minimally invasive technique to treat ureteropelvic junction obstruction and could be the treatment of choice in children under 5 years. The procedure does not require laparoscopic suturing skills and combines the advantages of open and laparoscopic pyeloplasty.
AP11-10 Comparing Natural Fill and Conventional Fill Urodynamic Study in Paediatric Patients: A Prospective Study

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Background: Urodynamic study (UDS) is a common investigation in evaluating the lower urinary tract function in the children. Studies have shown that conventional fill (CF) detect less bladder dysfunction pathology than natural fill (NF). We aim to compare the study findings from natural fill (NF) and conventional fill (CF) in the paediatric population.

Methods: From September 2011 to August 2015, consecutive patients with age of 4 months to 18 years old admitted for UDS were enrolled. Indications for UDS mainly included neurogenic bladders, bilateral vesico-ureteric reflux and primary nocturnal enuresis. All patients were admitted one day prior to UDS with double lumen suprapubic catheter inserted under general anaesthesia. UDS is subsequently performed at least 24 hours after insertion. Bladder filling is carried out with preliminary drainage of residual urine. NF was performed with patients given bolus intravenous normal saline at a rate of 10-20ml per kilogram. Regarding CF, body warm normal saline was used as filling medium through the suprapubic catheter at a rate of 5% of expected bladder capacity (ml per minute). Detrusor overactivity, voided volume, residual volume, emptying efficiency, end-fill and voiding detrusor pressure were obtained and compared between the two filling methods.

Results: 41 patients were recruited in this study. 34 patients (82.9%) revealed identical findings regarding the presence or absence of detrusor overactivity (p < 0.001). The mean bladder capacity, emptying efficiency, end-fill and voiding detrusor pressure calculated from both methods were also similar (p > 0.05).

Conclusions: Both NF and slow fill CF are reliable filling methods which show similar findings in UDS.