

apnoea, earlier chest tube removal, earlier hospital discharge and better response to antibiotherapy. Thoracoscopy prior to thoracic drainage can be indicated as first line treatment of loculated empyema for children.

### 1590 INGUINAL HERNIA IN "GIRLS" RARELY REVEALS COMPLETE ANDROGEN INSENSITIVITY SYNDROME

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**Background Aim** According to literature, the incidence of complete androgen insensitivity syndrome (CAIS) revealed by inguinal hernia in "girls" is variable due to the clinical heterogeneity of the series. The aim of this study is to estimate the percentage of CAIS in children with female phenotype who presented with various forms of hernias.

**Material and Methods** This is a retrospective study based on a population of 129 "girls" treated for bilateral hernia repair. The gonads were assessed either by preoperative US or by intra operative direct examination. In case of CAIS suspicion, gonadic tissue was sampled, karyotyping and hormonal analysis were performed. Diagnosis of CAIS was confirmed by direct AR gene sequencing (exons 1–8).

**Results** We identified 2 cases of CAIS (mutations pS204N+delR615 and del F584). The percentage of CAIS depends on the population involved. On the entire series (including simple permeability of the peritoneo-vaginal channel, n=129), the rate of CAIS is low, 1.6%. In case of clinical bilateral hernia whatever the content, digestive or gonadal, the rate of CAIS climbs at 6.9%. For the bilateral gonadic hernias (n=7), the rate of CAIS is 28.6%.

**Conclusions** The incidence of CAIS among "girls" undergoing bilateral hernia repair is low and varies according to the involved population. The simple permeability of the contralateral channel is not a significant risk factor for CAIS. Systematic research of CAIS may be justified in a small number of patients, especially those with bilateral gonadal content. Visualization of the gonads remains mandatory in these particular patients.

### 1591 DETECTION OF HERPES VIRUSES IN CHILDREN WITH ACUTE APPENDICITIS

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**Objective** This study aimed to investigate the incidence of HSV types-1 and -2, VZV, CMV, EBV, HHV-6 and HHV-7 in childhood acute appendicitis.

**Study Design** Polymerase chain reaction (PCR) assays were applied to detect herpes virus DNA in 38 children [11 girls and 27 boys, mean age 9 years (STD±2.59), range 6–14 years], who underwent an appendectomy within a 2.5-year period. Appendix, omentum and peripheral blood mononuclear cells (PBMCs) were available from each case. Of the 38 children with acute appendicitis, 20 (52.6%) had advanced (phlegmonous) acute appendicitis and 18 (47.4%) had perforated appendicitis and local peritonitis. Forty-one blood specimens from age-matched healthy children (25 female and 16 male), with clinical manifestations unrelated to viral infections served as negative controls.

**Results** CMV was the most frequently detected virus (8/38.21%), followed by HHV-6 (3/38.7.9%). EBV and HSV-1 were detected, though not in all three different types of tissue specimens tested. None of the samples examined were HSV-2, VZV or HHV-7 positive.

Of all the specimens, the omentum was the most commonly infected tissue (63.0%) while the appendix and peripheral blood specimens were found to be positive for viral infection in 60.5% and 50% of cases, respectively. The CMV IgG+ antibodies were positive in 54% of the control cases while 86% of the same group presented HHV-6 IgG+ antibodies.

**Conclusion** To the best of our knowledge, this is the first study documenting the presence of herpes virus DNA in children with acute appendicitis, suggesting that possible viral infection or reactivation is associated with childhood appendicitis.

### 1592 SACROCOCCYGEAL TERATOMA: 10 YEARS EXPERIENCE IN UPPER EGYPT

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**Purpose** To evaluate our experience of 45 patients with SCT (in Upper Egypt) over a period of 10 years (2001–2011), and to determine of the outcome of the management and recommendations for treatment's strategies.

**Patients and Methods** The records were reviewed for age at presentation, clinical manifestations and investigations, time of surgical approach, histopathology, recurrences, bladder and anorectal function, and cosmetic outcome.

**Results** The time of referral was immediately after birth in 5 patients, at the 1<sup>st</sup> week in 17, later in infancy in 22, and at age of 1.5 years in one child. Excision of the lesion was done for 41 patients. Teratomas were type I (n=9), type II (n=20), type III (n=11), type IV (n=1) (Altman's classification). The age of operation ranged from 2 days to 1.5 years. Histology of results were: mature teratoma (n=27), immature teratoma (n=9), malignant teratoma (n=5). Coccyx remained in two cases of early period of study.

FU ranged from 3 months to 10 years. Recurrence rate in 13 (31.7%), wound infection occurred in 4 (9.7%), diarrhea occurred in 2 (4.8%). AFP was high in 35 and normal in two patients, it decreased after excision. Fetal diagnosis was made in 5 cases by prenatal sonography.

**Conclusion** Prenatal diagnosis of SCT is important and recommended to save the baby from obstructed labor. Early diagnosis allows early surgical intervention avoids malignant transformation. The coccyx should be excised to decrease the risk of recurrence. Skin flap modification is feasible for large teratomas with healthy skin.

### 1593 ANTENATALLY DIAGNOSED OVARIAN CYSTS: MANAGEMENT AND FOLLOW-UP PROTOCOL

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**Objectives** Abdominal cysts are frequently detected in fetuses through routine prenatal ultrasound.

In female fetuses such cysts are most often originated from ovaries under the stimulus of maternal hormones, and can grow to a rather large size.

We present our survey of prenatally detected ovarian cysts (OC) and we propose a management and follow-up protocol.

**Methods** A retrospective review of all cases of abdominal cysts in female fetuses detected in our institution from jan. 2007 to jan. 2012 was conducted.

Among all cases of abdominal cystic formations, 28 were originated from the ovary, and resulted at antenatal US scan ranging in

diameter from 15 to 90 mm. 17 cases showed spontaneous regression up to a complete remission, 13 of them measuring < 50 mm, while all other cases were managed surgically with a laparoscopic approach. When ovarian parenchyma was macroscopically evident it has been preserved. In 4 cases pathologic examination showed absence of any trace of ovarian parenchyma.

**Results** 11 cysts, all showing associated fluid corpuscular content were treated surgically, 8 of them larger than 50mm and. Among these, 5 presented torsion and one auto-amputation. In one case anaphylactic shock occurred during surgery. In all cases in which ovarian parenchyma was preserved, US follow-up at three months after surgery showed vital ovarian tissue.

**Conclusions** Ovarian cysts with size exceeding 50 mm are related to high risk of torsion. Cysts with corpuscular content show almost no tendency to regression after depletion of maternal hormones stimulation: surgery appears to be indicated after proper clinical observation.

#### 1594 LAPROSCOPIC CHOLECYSTECTOMY IN THE PEDIATRIC POPULATION: A SINGLE CENTER EXPERIENCE

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**Background and Aims** As the preferred technique for cholecystectomy in children, we aim to review our experience with laparoscopic cholecystectomy in the pediatric population to better understand the associated complications and outcomes.

**Methods** We performed an IRB approved, retrospective chart review of children ≤ 18 years who underwent cholecystectomy at a single academic institution between the years 1990 and 2010.

**Results** Of the 325 cases of cholecystectomy, 202 (62.2%) were performed laparoscopically. The primary indication for surgery was symptomatic cholelithiasis (45.5%, n=92). Preoperative endoscopic retrograde cholangiopancreatography (ERCP) was performed in 25 (12.4%) of cases. Variations in anatomy and technical difficulties (e.g. presence of adhesions) were found in 45 (22.3%) of patients. Intraoperative cholangiogram was performed in 20 (9.9%) and concomitant splenectomy was undertaken in 16 (7.9%) cases. Only 8 (4%) of cases were converted to an open fashion, all due to a lack of anatomical clarity. There were zero common bile duct injuries; however spillage of bile was present in 12 (5.9%) patients. Postoperative complications including wound infection 4, retained stones 4, abdominal abscess 1, and biloma 0, totalled 9 patients (4.5%). Median operative time was 117.5 minutes. Median postoperative hospital stay was 1 day and 19 (9.4%) patients had recurrence of abdominal pain without associated pathology. Three patients (1.5%) required postoperative ERCP. In this cohort, average follow-up was 54 months.

Abstract 1594 Table 1 Patient Characteristics

	n	%	Mean	Range
Age (months)			163.2	6–216
BMI (kg/m <sup>2</sup> )			23.4	12.9–47.6
Gender (Male)	56	27.7		
Gender (Female)	146	72.3		
Presence of Comorbidities	52	25.7		
Previous Surgical History (Abdominal)	25	12.4		
Previous Surgical History (Other)	32	15.8		
Admission Total Bilirubin (mg/dL)			1.5	0.2–22.8
Admission Amylase (U/L)			94.4	18–1184

**Conclusion** Laparoscopic cholecystectomy in pediatric population results in short postoperative hospital stays and has low complication rates. In our experience, it also leads to relatively high symptom relief.

#### 1595 POSTNATAL MANAGEMENT FOR PRENATALLY DIAGNOSED BILIARY CYSTIC MALFORMATIONS (BCM)

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**Background and Aims** The aim of this study was to determine an appropriate postnatal management plan for prenatally diagnosed BCM including cystic biliary atresia (BA) and choledochal cyst (CC).

**Methods** From 2002 to 2011, a total of 27 consecutive children with CC were treated at our institute. Eight of our 27 patients with CC were diagnosed prenatally and examined clinically. Of these 8 patients, 2 (Group A) underwent delayed primary definitive surgery after percutaneous transhepatic cholangiodrainage (PTCD), 2 (Group B) underwent early definitive surgery in the neonatal period, and 4 (Group C) underwent delayed primary definitive surgery without PTCD in early infancy. Prenatally diagnosed cystic BA was consisted with 2 of patients with type 1 cystic BA (Group D).

**Results** The operation was difficult for adhesion in Group A. The diameter of the anastomosis in the hepaticojejunostomy was small and anastomotic leakage occurred in one of Group B. In all 2 patients, BA was recognized as final diagnosis at laparotomy and a hepaticojejunostomy was carried out because of correctable type. The pathological findings of liver biopsy revealed slight fibrosis of Glisson's sheath in 6 of 8 CC patients. Severe liver fibrosis presented in one of two in cystic BA patients.

**Conclusion** In symptomatic CC patients, PTCD appears to be indicated only under certain circumstances, and delayed primary definitive surgery should be performed as early as possible thereafter. Clinicians need to be aware of cystic BA and how to distinguish it from CC to avoid inadequate primary surgical intervention.

#### 1596 OUTCOME OF COCHLEAR IMPLANTATION IN POST-MENINGITIS DEAF CHILDREN

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**Background** Bacterial meningitis is the most common cause of secondary sensori-neural hearing loss in pediatrics. Due to concomitant neurological sequel such as seizure, visual impairment and hydrocephalus the successful outcome of cochlear implantation is doubtful. The aim of this survey is assessment of cochlear implantation outcomes in post meningitis deaf children.

**Methods** Patients who were implanted at Baqiyatallah Cochlear Implant Center, during the years 2008–2010 due to post meningitis deaf children were enrolled. The intraoperatively and Postoperative auditory and speech abilities were explored and compared.

**Results** Two hundred eighty-four children with hearing loss were evaluated and eight children who were diagnosed as Post Meningitis Deafness were enrolled. The mean age of children at the meningitis diagnosis was 15.75±6.77 months and the mean age at cochlear implantation was 31.12±1.27 months. Electrode insertion in 6 out of eight patients was complete but 2 children required cochlear drill-out and in one child short electrode was used. The survey shows that auditory and language skills improved as well as expected. Improvement of auditory and speech abilities after 6 months was statistically significant (P.value< 0.05).

**Conclusions** It seems that cochlear implantation outcome in post meningitis deaf children is not the same as non meningitis deaf children but the cochlear implantation is the only and in most cases the best way of helping these children, particularly if the gap time between deafness and surgery is minimized and the ossification is