

T01

## LONGITUDINAL STUDY OF LAPAROSCOPIC VERSUS OPEN APPROACH IN PEDIATRIC APPENDICITIS: TRENDS IN THE LAST DECADE

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**Introduction and Aim:** In adult surgery it is generally accepted that Laparoscopic appendicectomy (LA) as the default pathway confers advantages over open appendicectomy (OA) with quicker discharge, return to normal functioning and lower wound infection rates. Initial higher intra-abdominal abscess (IAA) rate with LA was thought to be learning-curve related. The case for LA in children is less clear.

To investigate utility, trends and complications after LA in children in a single centre over 12-years with contemporaneous adults as controls.

**Methods:** A retrospective cohort study was conducted from January 2003 - December 2015. Patients who underwent appendicectomy were included, the pediatric cohort (<16 years) was divided into age-groups based on quartiles. Demographics, length of stay (LOS) and IAA rates were obtained.

**Results:** Out of 5784 appendicectomy patients, 2960 were children with a LA rate of 65%. Trends in LA reached a steady state in both groups after 2010 ( $\Delta$  0-1%/year). Rates of LA and LA IAA (respectively) differed significantly between age-groups: 60% & 3% (0-9 years), 65% & 1% (10-13 years), 71% & 2% (14-16 years) and 93% & 3% (>16 years) ( $p=0.001$  &  $0.02$ ). LA IAA rate in children (2%) was slightly lower than age-matched OA IAA cohort (3%) ( $p=0.13$ ). Median LOS in LA patients was 3 days across all age-groups.

**Conclusion:** Selected use of LA appears safe in children in all age-groups, comparable or favourable to Adult rates of postoperative complications. The reasons for lower rates of adoption of LA as the default pathway do not appear to be efficacy related.

## T02

### **OPTEPT (ONE STAGE PROLAPSING TRANSANAL ENDORECTAL PULL THROUGH) - A SIMPLE PROCEDURE FOR THE TREATMENT OF HIRSCHSPRUNG'S DISEASE**

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**Aim of the study:** Transanal endorectal pull through (TEPT) is the latest development in the treatment of Hirschsprung's disease but perianal excoriation and anal incontinence is very common and trouble some complications. It may be due to extensive anorectal dissection during the procedure. To avoid this dissection we try to prolapsed in the sigmoid colon by gradual traction of the anorectal mucosa and sub mucosa transanally.

**Methods:** Fifty children (30 male and 20 female) age range from 1 month to 10 years underwent OPTEPT over the last 7 years. Each patients were evaluated with regards to age, sex, length of aganglionic segment, operating time, per operative bleeding, tearing of the colonic wall, postoperative anastomoic leakage, retraction, perianal infection, excoriation, soiling and incontinence in details.

**Main Results:** Mean operating time was 60 minutes (range 45 to 90 minutes), average length of the resected bowel segment was 30 cm (range 20 to 50 cm). Peroperative bleeding, retraction and tearing of the dissecting colon is not a significant problem. On early postoperative follow up no anastomotic leakage, disruption, retraction, perianal infection and excoriation. On subsequent follow up two female patients (5%) develop fecal leakage through the vagina, three patients (7.5%) develop constipation, one patient (2.5%) develop anal stricture and 2 patients (5%) noticed perineal soiling. All these patients was managed by regular anal dilatation, dietary manipulation, oral purgatives and hipbath.

**Conclusion:** One stage prolapsing trans anal endorectal pull through (OPTEPT) is technically easy, time saving, safe and effective procedure in properly selected patients with recto-sigmoid Hirschsprung's disease in all age. This procedure can easily learn and practice by the junior surgeons with less chance of peroperative bleeding and sphincter injury. This procedure offers the excellent clinical results in our hand.

T03

**LONG TERM EFFICACY OF A TONGUE TIE SERVICE IN IMPROVED BREAST FEEDING RATES: A PROSPECTIVE STUDY**

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**Aims:** BF rates in England at 3 months of age are 17% for exclusive breast feeding (BF) and 55% for BF supplemented with formula feeds. Tongue tie (TT) in infants is cited as a significant cause of difficulty with maintaining BF. Early treatment and support can improve BF. Our aim was to determine BF rates in infants 3 months after attending our tongue tie clinic (TTC).

**Methods:** This study was given institutional ethical approval. Patients attending the TTC from May to July 2016, were prospectively included. They had telephone contact 3 months post-procedure to collect data on resolution of their initial symptoms and feeding pattern. Symptom resolution was recorded as complete (CR), moderate (MoR) or minimal (MiR). Feeding pattern was exclusively BF or combined breast and formula feeds or exclusively formula fed. Data were collected by a clinician not working in the TTC to avoid bias. Chi square test was used for statistical analysis ( $p < 0.01$ , significant).

**Results:** Complete data was obtained from 87 patients (87% response rate). Median age of release of TT was 17 days (range 2 – 88 days) and there were no recurrences. At 3 months, CR of symptoms was reported in 80%, MoR in 15% and MiR in 5%. 49% were exclusively BF. 41% were supplementing BF with some formula milk (2/3 by choice and 1/3 due to insufficient milk production). 10% were using only formula milk (7 by choice and 2 due to on-going feeding difficulties). Of the 17 mothers still experiencing symptoms, 5 were exclusively BF and 8 were persisting with some BF.

Our mothers achieved significantly higher exclusive BF (49% vs 17%) and combined BF and formula feeding rates (90% vs 55%),  $p=0.0001$  in both.

**Conclusion:** Our TTC was achieving long-term health benefits by improving long term breast feeding rates.

T04

## SHOULD WE PERFORM APPENDICECTOMY DURING LADD'S PROCEDURE?

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**Aim:** Appendicectomy is traditionally performed during Ladd's procedure due to the potential for complex appendicitis in an abnormally sited organ. Inversion appendicectomy is recommended by some on the basis that this may reduce peritoneal contamination in an otherwise clean operation. We compared outcomes of inversion vs standard vs no appendicectomy performed during Ladd's procedure, particularly investigating incidence of post-operative infection.

**Method:** All patients diagnosed with malrotation between December 2006-November 2016 at a single paediatric surgery centre were identified. Post-operative infection was defined as requirement for antibiotics beyond the prophylactic regimen and clinical signs of infection.

**Results:** 121 patients were identified. Of these, 6 (5%) had appendicectomies as part of a bowel resection and were therefore excluded. Notes were unavailable in 3 cases (2%). Data for the remaining 112 patients are summarised in the table. Median age at presentation was 2.2 years (1 day-16 years). Mean follow-up was 7 years (28 days-13 years). No patient who retained their appendix has presented subsequently to our centre with appendicitis. Both patients with enterococcal sepsis presented unwell with volvulus. There was no significant difference in incidence of infection between appendicectomy vs no appendicectomy (3/98 vs 0/14,  $p=1.0$  (chi2)).

**Conclusion:** Performing excision of a normal appendix (thereby changing a clean procedure to clean-contaminated) is not associated with a significantly increased risk of wound infection and avoids the potential for complex appendicitis in the future.

T05

## A RETROSPECTIVE ANALYSIS OF FACTORS ASSOCIATED WITH NEONATAL SPONTANEOUS INTESTINAL PERFORATION

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**Aims:** The true aetiology of spontaneous intestinal perforation (SIP) is unknown with many postulated factors within the literature. After a series of cases, we reviewed our patient cohort to identify any common factors that may elucidate preventable features.

**Method:** The national program (BadgerNet) and surgical database were used to identify all local neonatal patients with SIP over a 5year period (2010-2015). Histology results excluded necrotising enterocolitis (NEC) perforations. Patient records were reviewed regarding multiple pre-operative factors including maternal (demographics, medical history, medications, smoking), foetal (steroid maturity, antenatally detected anomalies) and postnatal (condition at birth, ventilation requirements, circulation compromise, co-morbidities, septic events, feeding history). Long-term outcomes observed as secondary measure included length of NICU stay (LOS) and mortality.

**Results:** 28 neonatal patients were identified over the 5year period: with varied ethnicity (64% non-caucasian); a male preponderance (1.15M:1F); median gestational age was 26weeks and birth weight 875g. Maternal factors: median age 31.0years, non-smoking (89%), intrapartum antibiotic use 32% with 2cases of chorioamnitis. Median time of surgical intervention was Day four of life and 89% small bowel perforations. 86% were not fully fed (with breast milk in 89%) and no fortifier. 86% showed signs of sepsis, with preceding circulatory compromise requiring fluid bolus identified in 71% cases (42% requiring inotropic support). Patent ductus arteriosus found in 54%, but only 3patients (11%) treated with non-steroidal medications. 39% had non-invasive ventilation prior to perforation and 79% ventilated. LOS median 90days (9-230d) and mortality 21%.

**Conclusion:** Our data corroborates previously published evidence regarding NSAIDs, age at onset of disease and lack of feeding as compared to the NEC cohort. At present factors such as maternal age, medications and smoking, as well as anti-fungal showed no correlation. However the association with sepsis and hypoperfusion prior to abdominal signs may indicate a pathway for disease for further investigation.

**GLOBAL INITIATIVE IN CHILDREN'S SURGERY (GICS): PRIORITISING NEEDS IN LOW AND MIDDLE INCOME COUNTRIES (LMIC)**

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**Background:** GICS is a collaboration of surgical providers from all the different specialties within children's surgery working together towards the unified goal of providing safe, affordable surgical care to all children across the world.

**Aim:** To identify specific needs requiring priority within the centres and countries represented within GICS.

**Methods:** Prior to GICS second global meeting in Washington, October 2016, delegates were asked to complete a needs assessment on the infrastructure, services, supplies and consumables, human resources, training and research available at their centre and within their country. They were asked to identify their greatest needs and priorities. Results are represented as mean (range).

**Results:** 15 countries completed the assessment from Africa, Asia, South East Asia and the Pacific Islands. All were LMIC countries. These countries represent a population of 3 billion, of which 40-56% are children. Two countries had no children's hospital; the others had 1 children's hospital/ 41million population. There were 0.05 paediatric surgeons/ 100,000 population (0.006 – 0.1).

Infrastructure to provide children's surgery varied widely; 5 centres reported most areas as partially equipped, 4 centres had no paediatric surgery infra-structure. 11 centres had no paediatric or neonatal intensive care, 10 had no access to parental nutrition. Lack of specialised burns treatment, radiology, and pathology and paediatric sub-specialty services including neurosurgery, orthopaedics, ENT and cardiac surgery was an overriding theme. Only 8 centres had complete paediatric surgery instrument sets; all but one had incomplete or no sets for paediatric sub-specialty operations. 10 centres had variable access to anaesthetic and resuscitation equipment for children.

**Conclusion:** Four key priorities were highlighted across all settings: increased human resources for paediatric surgery with appropriate training, designated paediatric surgery facilities and dedicated children's hospitals, free treatment for children and research capacity building.

**BAPS INTERNATIONAL AFFAIRS COMMITTEE: A REPORT OF INTERNATIONAL FELLOWSHIPS**

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**Aims:** The International Affairs Committee (IAC) has, since 2005, offered international fellowships to trainee paediatric surgeons from around the world. The fellowships offer attendance to the annual BAPS conference and facilitates senior trainees who wish to travel to the UK to have exposure to paediatric surgery in a tertiary centre. We report the IACs fellowship experience since inception in 2005.

**Methods:** Recipients of the fellowship between 2005 - 2016 were contacted and asked to complete an electronic questionnaire. Fellows are described as per their home institution. Quantitative analysis was conducted and outcomes reported in emergent themes: (1) benefits to the fellow's professional development; (2) benefits to their hospital and (3) benefits to their local community.

**Main Results:** 39 fellowships were awarded over the 11-year period to trainees from 22 low income countries (LIC): Africa (n=10), Asia (n=3), South-East Asia (n=4) and the Middle East (n=5).

Two trainees are yet to commence the fellowship (awarded in 2016), and four have been unable to carry it out as they have not been granted a visa (countries of origin: Afghanistan, Pakistan, Iran, Syria). 11 had several attempts before a visa was granted. Table 1 reports emergent core themes.

Of those who completed the fellowship (n=37), all are now consultants. 25/37 (67%) are heads of department, 5 (14%) are leading on laparoscopic training, one in paediatric urology (Sudan) and one in trauma (India). Two developed children's hospitals (India and Tanzania).

One is editor of the African Journal of Paediatric Surgery and one is secretary of the Pan African Association of Paediatric Surgeons (PAPSA). Two were commissioners on the Lancet Commission of Global Surgery (2015).

**Conclusion:** The IAC fellowships are well received and are succeeding in the IAC's aims of promoting international collaboration, facilitating regional and national development of paediatric surgery and personal development.