British Association of General Paediatrics

1544 UNUSUAL SURGICAL EMERGENCIES ENCOUNTERED IN PAEDIATRIC PRACTICE, THEIR PRESENTATIONS, MANAGEMENT AND OUTCOME IN A TERTIARY CARE CENTRE IN GUWAHATI

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Background Pain abdomen in children is very common in paediatric practice. The cause of pain abdomen may be surgical or non surgical. We encountered three unusual cases of pain abdomen. Two of them had transection of pancreas following bicycle handle bar injury and one had an isolated fallopian tube torsion in a prepubertal girl.

Objectives All the three cases presented with severe pain abdomen. It was very difficult to find out the appropriate cause of pain abdomen and to do an emergency surgical procedure to save these children. Our aim of the study is to discuss the presentation, management and outcome of these surgical emergencies.

Methods Two cases of pain abdomen diagnosed to have transection of pancreas and one case of isolated fallopian tube torsion are discussed here.

The first case presented with severe pain abdomen on 5th day with a history of bicycle handle bar injury on day one. As this part of the country is resource limited these cases could not be diagnosed and managed in proper time. In an outside hospital CECT was done which revealed pancreatic transection at the junction of the head and the body with complete transection of the main pancreatic duct. Other investigations done showed high TC, CRP, amylase and Lipase. After stabilization and initial management, repair of the pancreatic laceration with debridement of pancreatic tissue with pancreatico gastrostomy and drainage of hematoma was done under GA.

2nd case presented with H/O fall from a bicycle followed by pain abdomen for 4 days. Outside CT report showed grade IV pancreatic injury. Investigation revealed high TC, CRP, amylase and lipase. Pancreatic jejunostomy with feeding jejunostomy was done on the day of admission.

3rd case an 11 year old prepubertal girl presented with left sided lower abdominal pain for one day. USG abdomen revealed minimal amount of linear collection in the periuterine area. CT abdomen revealed left adnexal complex cystic lesion. Diagnostic laparotomy revealed a twisted and gangrenous left sided fallopian tube with enlarged left ovary. Left sided Salpingectomy was done.

Results 1st case tolerated the procedure well. Post operative period was uneventful and he was discharged on 8th day of admission. On follow up there was no residual effect.

2nd case had few episodes of vomiting with pain abdomen on 2nd post operative day which was managed conservatively. As the vomiting decreases he was discharged on oral feeding.

3rd case had an uneventful post operative period. Histopathological examination revealed necrosis of the fallopian tube.

Conclusions In a resource limited area, cases with pancreatic transection are difficult to diagnose and manage in due time. Still the two boys could be saved by appropriate surgical interventions.

In case of lower abdominal pain in adolescent girls we should consider isolated fallopian tube torsion as a differential diagnosis. Although fallopian tube torsion is considered as a differential diagnosis and cases are being reported, still we are losing precious tubes in the majority of cases due to delayed diagnosis. So prompt diagnosis and intervention is mandatory to salvage the tubes.

British Society of Paediatric Gastroenterology, Hepatology and Nutrition

1546 JEJUNAL TUBE FEEDING IN CHILDREN: SAFETY AND EFFICACY

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Background Over the last decade, transpyloric devices have become a readily available alternative for patients who do not benefit from having their feeds delivered through gastric ports. At our institution, there is an increasing demand for jejunal tube feeding (JTF) due to the increasing prevalence of children with neurological impairment and significant comorbidities.

Objectives We aimed to evaluate the safety of JTF and its efficacy at maintaining adequate weight gain in patients reliant on JTF.

Methods A retrospective review of patients who underwent JTF between January 2014 and February 2021 was performed. Data collected included demographics, co-morbidities, indications for JTF, complications and mortality. The number and nature of complications, together with the mean weight Z-score change after JTF initiation, were used as an outcome measure. Institutional approval was received for this study.

Results A total of 32 patients were reviewed. They had a total of 230 jejunal tubes placed (mean of 7.2). Of the cohort, 20 were male (62.5%). The median age was 16.6 months (6.1–169.5) at JTF initiation. Neurological impairment was found in 62.5% of patients; 80% of which was cerebral palsy.

The most common indications for JTF were gastro-oesophageal reflux disease and vomiting (83.9% and 77.4%, respectively). Associated indications were a combination of dysphagia, aerodigestive birth defects and faltering growth despite gastric feeding, either by gastrostomy or nasogastric tube.

There were a total of 98 complications in 230 jejunal tubes. Of these, 88 were minor with dislodgment (36%) being the most common. Major complications (10) were identified among 8 patients: buried bumper (n=2), bowel ischemia (n=2), bowel perforation (n=2), upper GI bleed (n=2), peritonitis (n=1) and volvulus (n=1), of whom 2 required bowel resections. Two patients who were initiated on JTF underwent subsequent fundoplication. One mortality was noted in relation to co-morbidities rather than the feeding tube itself. The median device replacement interval was 5.1 months (1.8–11.4) and the median length of stay was 6.4 days (0 – 289).

At JTF initiation, the mean weight Z-score was -1.82 ± 1.42 (-4.41 – 1.10). The follow-up weight Z-scores could be

Abstract 1546 Table 1

Study time point	Initial mean $\pm$ SD weight Z-score	Mean $\pm$ SD weight Z-score at respective time point	Mean difference (95% CI)	P value
1 month (n=21)	-1.92 $\pm$ 1.50	-1.60 $\pm$ 1.46	0.32 (0.07-0.57)	0.01
3 months (n=27)	-1.80 $\pm$ 1.45	-1.28 $\pm$ 1.37	0.51 (0.18-0.85)	0.004
6 months (n=30)	-1.80 $\pm$ 1.41	-1.14 $\pm$ 1.40	0.66 (0.25-1.07)	0.002
1 year (n=32)	-1.82 $\pm$ 1.42	-0.99 $\pm$ 1.21	0.82 (0.35-1.30)	0.001
2 years (n=20)	-2.08 $\pm$ 1.46	-1.32 $\pm$ 1.05	0.76 (0.13-1.40)	0.02
3 years (n=13)	-2.17 $\pm$ 1.43	-1.15 $\pm$ 1.02	1.02 (0.22-1.83)	0.02

reached in a different number of patients at each study time point (table 1).

Conclusions JTF exposes patients to a relatively high risk of complications. At our institution, the vast majority were minor in nature (89.8%). The need for repeated admissions and the possibility of major complications should influence parental discussions and informed consent before the initiation of JTF. Significant improvement to weight Z-scores could be seen at 1 month after the initiation of transpyloric feeds and was maintained at 3 years. We conclude that this form of enteral nutrition can be a moderately safe and efficacious method of feed delivery.

Paediatricians with Expertise in Cardiology Special Interest Group

1548

IMPLEMENTATION OF ROUTINE NEWBORN PULSE OXIMETRY TO IMPROVE CONGENITAL HEART DISEASE DETECTION – A QUALITY IMPROVEMENT PROJECT

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Background Routine pulse oximetry screening for newborns is not currently recommended by the UK National Screening Committee (UKNSC), though the scheme is increasingly being adopted by maternity & neonatal units around the world. The antenatal detection rate of congenital heart disease (CHD) remains as low as 55% in the UK, with approximately 20–30% of CHD cases being undiagnosed at the time of post-natal discharge. Critical CHD affects 2 in 1000 births and accounts for 3–7.5% of infant mortality, with earlier diagnosis being associated with more-favourable outcomes. Furthermore, newborn pulse oximetry screening has been shown to detect cases of critical CHD, that would have otherwise been missed. **Objectives** Utilising quality improvement (QI) methodology, the primary aim of our project was to effectively implement a Routine Pulse Oximetry programme at a large, tertiary London maternity trust, which delivers approximately 9000 babies per year, such that every baby born across the two maternity units would have pre-ductal and post-ductal oxygen saturations recorded at the Newborn & Infant Physical Examination (NIPE) by paediatricians or midwives.

Methods Using electronic systems (Cerner, Smart4NIPE, BadgerNet), data was prospectively analysed for all babies born at the trust in a 2-week study period in May 2020 (*pre-*

intervention phase). Simultaneously, anonymised questionnaires were distributed to all staff trained in performing the NIPE, assessing their understanding and current practice of pulse oximetry (*surveillance phase*). A four-pronged intervention was subsequently carried out over a 1-month period (*intervention phase*). The results of the interventions were studied for all babies born in a 1-week period in August 2020, assessing the performance of pulse oximetry and its short-term outcomes (*post-intervention phase*).

Results During the 2-week pre-intervention phase, 32/298 babies (10.7%) had pulse oximetry recorded at the NIPE; approximately half of these were performed only due to clinical concerns (murmur, tachypnoea or abnormal fetal echocardiogram). Of all NIPEs performed by paediatricians, 6.9% (6/86) included pulse oximetry, compared with 12.2% (26/212) by midwives. This inconsistent performance correlated with the questionnaire results; 7/55 (12%) practitioners reported performing pre/post-ductal saturations routinely, with less than half correctly stating the acceptable saturation threshold and pre/post-ductal gap, according to local guidelines. Based on the responses, four key areas of improvement were postulated, and changes implemented altogether: these included upgrading ICT facilities for documentation, re-writing trust guidelines, widening multidisciplinary education, and improving the availability of neonatal pulse oximeters. In the 1-week post-intervention phase, 151/151 babies (100%) had routine pulse oximetry throughout the trust. One baby in this cohort was admitted to NICU for 48 hours because of post-ductal hypoxaemia; he was diagnosed with mild PPHN, required oxygen therapy and an echocardiogram showed a structurally normal heart.

Conclusions This project has demonstrated an effective implementation strategy for routine pulse oximetry at a large NHS maternity trust, through multi-disciplinary collaboration and careful QI planning. Future directions are to ensure this is maintained over a prolonged period of study, as well as assessing outcomes of babies with 'positive' pulse oximetry screening and its impacts on long-term CHD detection rates.

Children's Ethics and Law Special Interest Group

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VARIATION IN REFERRAL OF NEONATAL DEATHS TO CORONIAL SERVICES IN THE UK

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Background Previous, now somewhat historic, data have indicated variation in clinical practice with respect to whether or not a neonatal death is referred to the Coroner or Procurator Fiscal (PF)¹ and variation in how these referrals are managed by the Coroner/PF. From a legislative perspective the duty to refer cases is governed by the Notification of Deaths Regulation 2019.² However, anecdotally there remain concerns about on-going variation in practice. The implications of unnecessary referral include delays in funeral arrangements, family distress and increased workload to an already busy Coroners/PF service. Likewise, non-referral where necessary may have