coronary artery stenosis.² In 2017, the American Heart Association published an updated scientific statement on the diagnosis and management of Kawasaki Disease.¹

Objectives This audit will assess the initial management of patients with suspected Kawasaki Disease.

The objectives are as follows:

1. Identify the duration of time between onset of fever and administration of intravenous immunoglobulin
2. Identify the duration of time between the administration of intravenous immunoglobulin and the initial echocardiogram

Methods The sampling unit was the Paediatric Cardiology department at Great Ormond Street Hospital. The population sample were all patients who were referred to the outpatient clinic for suspected Kawasaki Disease from August 2018 to August 2019. Data was retrospectively collected from eligible patients by reviewing the patient database. Data was analysed by calculating percentages. Data was collected between 18/08/19 – 19/08/19.

Results The results of this audit did not meet the audit standard that all patients with suspected Kawasaki Disease should receive intravenous immunoglobulin within 10 days of the onset of fever. Twenty-two of the twenty-five patients did receive intravenous immunoglobulins within 10 days of fever onset, however four patients did not. Of these four patients, one patient received it one day after admission to hospital, on day 11 after fever onset. One patient received it on the same day as admission to hospital, on day 12 after fever onset. One patient received it one day after admission to hospital, on day 14 after fever onset. One patient did not receive intravenous immunoglobulin.

The results of this audit found that twenty of the twenty-five received an initial ECHO within 7 days of intravenous immunoglobulin administration, however 5 patients did not.

Conclusions The results of this audit did not meet the audit standard that all patients with suspected Kawasaki Disease should receive intravenous immunoglobulin within 10 days of the onset of fever.

This audit has a number of limitations. First, it has a relatively small population sample. Second, six patients were not included in the results because either the date of fever onset or the date of intravenous immunoglobulin administration was not recorded.

52 QUALITATIVE ANALYSIS OF A PAEDIATRIC SPECIALTY ATTACHMENT

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Background Students at Swansea University Medical School undertake one 5-week placement in paediatrics. Students are required to give feedback and can write free text on what they enjoyed and what could be better. This qualitative feedback allows more insight and detail into student's ideas about their placement. Qualitative feedback can be provide deep insights into student satisfaction and provide themes for improvement. Improving student experiences during such placements may improve paediatric workforce recruitment.

Objectives To analyse the qualitative feedback for the child health attachments between 2016 and 2018 with an aim to identify areas of improvement and areas of good practice. To

identify ways to improve areas students feel could be better. This will enable a final thematic analysis for overall areas of good practice and areas of further improvement.

Methods Qualitative analysis was completed through inductive thematic analysis using NVivo, to find the themes that was in the feedback to see what was good and what could be improved

Results The analysis found four main themes. Students appreciated feeling like part of the team, but sometimes felt that they were being ignored rather than being involved with the team. Feedback was crucial for students, they appreciated receiving structured feedback, but would like their weaknesses to be more clearly identified to show how they can improve. Students appreciate a well organised placement and particularly being well supported. Supportive teaching is very important to students, they appreciate the time taken by clinicians to teach them and appreciate the opportunity to teach each other.

Conclusions Students desire to be a part of a learning environment that provides structured learning opportunities. Mutual respect with targeted timetabling for formative and summative feedback is highly desired. Near peer teaching, organisation and supportive teaching with methods for retrieval practice were seen as excellent initiatives. Feedback also provided areas of improvement especially with need for active learning in some weeks. This has led to further changes and we would like to share our good practice with fellow educators.

55 MODIFIED SELDINGER TECHNIQUE FOR NEONATAL PERIPHERALLY INSERTED CENTRAL CATHETER PLACEMENT

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Background Peripherally inserted central catheters (PICCs) are critical for good neonatal care, no previous studies have evaluated which insertion method is most appropriate. Split needle technique (SNT), which uses a 20-gauge peelable introducer, is commonly used for PICC insertion. However, the large bore needle can precipitate vein rupture, leading to early expenditure of larger veins and difficulty accessing smaller vessels. Modified Seldinger Technique (MST) is widely used in adult and paediatric practice and is available for neonatal PICC placement.

Objectives The objectives of this study were to compare: 1] Success rates of MST and SNT; 2] First-pass successful PICC placement for MST and SNT; 3] Material cost of MST and SNT per successfully inserted PICC.

Methods MST, using Vygon Microsite® Insertion Kits, was introduced to St Michael's neonatal unit. SNT was already in use. Practitioners were able to use their preferred insertion method. The following data were collected for all PICC insertions: weight and gestational age at birth and PICC insertion; number of skin breaks; insertion technique; successful or unsuccessful placement, PICC size and grade of inserting practitioner.

Proportions were compared using the χ^2 . Success rates with increasing numbers of skin breaks were compared using the log rank test and demonstrated with a Kaplan-Meier curve. P-

values <0.05 were considered significant. Due to between group baseline differences, a post-hoc subgroup analysis of neonates born at ≥ 35 weeks gestation was performed.

Results The MST group had significantly lower birth weights and gestational ages at birth than the SNT group. Baseline characteristics were similar between the ≥ 35 weeks gestation MST and SNT sub-groups.

MST had a higher successful insertion rate (72% vs 40%; 95% CI for difference 10–50%; $p=0.0046$) and first pass success rate (53% vs 26%; 95% CI for difference 6–46%; $p=0.014$) than SNT. MST required significantly fewer skin breaks on average for every successful PICC than SNT (2.5 vs 5.6; 95% CI for difference 1.15–4.90; $p=0.002$). The logrank test (figure 1) demonstrated a significantly higher successful insertion rates with MST than SNT as the numbers of skin breaks increased (Logrank test $p=0.003$).

Whilst there was a higher successful insertion and first pass success rate with MST in the ≥ 35 weeks gestation sub-group, these did not reach statistical significance. However, the log-ranks test reached statistical significance in favour of MST ($p=0.015$).

The cost of the disposables for one MST attempt was £86.50 for 1Fr ($n=10$) and £103.90 for 2Fr ($n=33$) PICCs and for SNT was £38.50 for 1Fr ($n=4$) and £55.90 for 2Fr ($n=31$) PICCs. The total cost per successful PICC (or cost of all attempts divided by the number of successful attempts) in the study period were therefore £138.51 for MST and £134.78 for SNT.

Conclusions MST is likely superior to SNT for PICC insertion regardless of weight and gestational age at birth. The costs per successful PICC for MST and SNT in this study were similar.

57 EPIDEMIOLOGICAL AND CLINICAL PROFILE OF CONGENITAL MALFORMATIONS IN BENGHAZI PEDIATRIC HOSPITAL

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Background According to WHO, the term congenital malformations can be defined as structural or functional anomalies that occur during intrauterine life and can be identified prenatally, at birth, or sometimes may only be detected later in infancy, such as hearing defects (WHO, 2016). Congenital malformations may be minor or major. The minor malformation is defined as structural abnormality present at birth, which has minimal effect on clinical function but has a cosmetic effect e.g. preauricular tag. Major malformation has significant effects on function or social acceptability e.g. CHD, CNS anomalies (NTD, hydrocephalus), digestive anomalies (abdominal wall defect and diaphragmatic hernia), (American College of Medical Genetics, 2013). The pattern and prevalence of congenital malformations vary over time and geographical location. This could be related to different detection and recording methods. The true difference in frequency may be caused by a complex interaction of known and unknown genetic and environmental factors including sociocultural, racial variables (Singh et al., 2009, Sekhobo, 2001). European Surveillance of Congenital Anomalies (EUROCAT, 2014) is a WHO collaborating center for the surveillance of congenital malformations.

Objectives The objectives were to assess the nature and the frequency of congenital malformations among infants and children who were admitted to Benghazi pediatric hospital and to study the associated maternal and neonatal risk factors.

Methods A cross-sectional study design was used for this study. It included infants and children aged (0–16 yrs.) who were admitted to Benghazi Children Hospital and who were following the genetic clinic, during the period of March 2016 to March 2017. These cases had dysmorphic features and multiple congenital malformations. A record sheet was used to collect the required data from cases.

Results The total number of patients was 81 children, 51.85% were females, 48.15% were males and infants represented 62%. Cases with a history of consanguineous marriage represented 28.40%. Equal proportions of mothers (1.23%) had a history of diabetes, epilepsy and cardiomyopathy. Nearly a quarter of cases, (24.69%) were low birth weight. Prevalence of congenital malformations (CMs) according to organs were; CVS (50.62%), musculoskeletal (44.44%), eye (24.7%), limb defect (17.3%), GIT (14.8%), ear (14.8%), CNS (11.11%), urogenital (external & internal)(11%), cleft lip & palate (9.9%) and Trisomy 21 syndrome (48.1%). Trisomy 21 syndrome have a high frequency of CHD compared to other syndromes; 67.9% had CHD, $P=0.01$. Most cases (90%) died within the first year of life, $p=0.002$. Twenty-six percent of the studied population died during the study period.

Conclusions Most children with CMs and chromosomal abnormalities died within the first year of life. There is a limitation of screening tools, which could lead to imprecise genetic counseling. CM is a significant cause of morbidity and admission. The highest prevalence of CMs was CVS. Trisomy 21 syndrome was the most prevalent chromosomal abnormalities; these cases were at more risk to have CHD compared to other syndromes. There is a shortage of medical services, which applied as segmental services.

58 DO MEDICAL APPLICATIONS HELP MEDICAL STUDENT DEVELOPMENT AND ENHANCE THEIR LEARNING DURING A PAEDIATRIC PLACEMENT?

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Background Medical apps are being increasingly used by students and doctors as an education and reference tool during their medical placements. However, it is unclear whether these apps are successful in helping student learning and development on a Paediatric placement.

Objectives To evaluate the success of medical apps currently used during Paediatric rotations and identify from the literature whether they are successful in helping student learning. Recommendations can then be made for what a future Paediatric medical app should include to be successfully implemented for medical student attachments.

Methods PubMed, Medline and Cochrane were searched using Major MeSH terms to identify papers relevant to the question. Inclusion of studies was based on whether papers included evidence of medical app usage by participants whilst on a medical placement. A survey was produced to gain insight into what medical apps were used by students and what would be expected on any future Paediatric app. These