chimerism, T-cell chimerism and transplant outcomes was also investigated in those patients with lineage-specific analysis.

Results In total, 186 patients exhibited CC while 98 patients exhibited MC. Mean age at transplant and conditioning were identified as significant predictors of MC. Year of transplant and chimerism status were identified as significant predictors of graft failure. In 29 out of 49 patients with high-level MC, graft failure was developed. Early myeloid complete donor chimerism was identified as a useful predictor of long-term engraftment and a rising donor T-cell chimerism. Subsequently, an algorithm was created for the clinical management of chimerism in non-malignant disease.

Conclusions High-level MC is a better predictor of graft failure than low-level MC. Myeloid chimerism can be used as a reliable indicator of the transplant outcome. T-cell chimerism monitoring can be important in patients with T-cell immunodeficiencies. The algorithm suggested is used to inform and predict graft outcomes as well as the need for specific interventions in patients with a non-malignant disease, whilst utilising lineage-specific (myeloid and T-cell) chimerism.

G364(P) DELAYS TO DIAGNOSIS OF CHILDHOOD CANCER: A QUALITATIVE STUDY OF SPECIALIST HEALTH CARE PROFESSIONALS' VIEWS

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10.1136/archdischild-2018-rcpch.354

Aims Specialist health care professionals (SHCPs) working in Paediatric Oncology Principle Treatment Centres (PCTs) can provide invaluable insights into diagnostic pathways and the consequences of delays in diagnosis of childhood cancer. This study is the first to explore their views on the significance of delays in diagnosis of childhood cancer and reports their suggestions of how delays could be reduced.

Methods Semi-structured interviews were conducted with 20 SHCPs working in a variety of paediatric oncology specialist roles within PCTs throughout the UK. SHCPs included clinicians, nurses and allied healthcare professionals. Interviews were audio-recorded, transcribed verbatim and analysed using thematic analysis.

Results SHCPs believe that delays in diagnosis childhood cancer can have important psychological and physical consequences. They believe there are many barriers to an efficient childhood cancer diagnosis within the UK, but especially within the primary-care setting. They recognise that the rarity of childhood cancer and the variability of presenting symptoms may make raising awareness a challenge. SHCPs instead would like to see changes to how community paediatric healthcare is delivered, suggesting the UK re-consider the introduction of primary-care paediatricians and routine surveillance of children.

Conclusion SHCPs believe that considerable changes to how paediatric healthcare is delivered in the UK could improve overall childhood health, but could also reduce delays in diagnosis of many conditions including cancer.

Acknowledgement This study was fully funded by Cancer Research UK and was supported by Children's Cancer and Leukaemia Group (CCLG).

G365(P) RETROSPECTIVE COHORT STUDY OF (P)IOR REVERSIBLE ENCEPHALOPATHY SYNDROME (PRES) IN PAEDIATRIC ONCOLOGY PATIENTS OVER A 10 YEAR PERIOD

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10.1136/archdischild-2018-rcpch.355

Aims Literature regarding (P)ior reversible encephalopathy syndrome (PRES) in paediatric oncology is limited. Clinical symptoms of PRES include seizures, headaches, altered consciousness, and visual disturbances. We describe the seizures in PRES, outcomes and need for anti-epileptic medication of this clinical syndrome.

Methods A retrospective cohort study using data from the East Anglia paediatric oncology database for suspected adverse events (SAE) from chemotherapy was conducted. Oncology patients aged 16 and below, from 1 January 2007 until 15 June 2017 who had developed seizures while undergoing chemotherapy, were included. We identified the chemotherapy administered before onset of seizures, magnetic resonance imaging (MRI) reports, and patient outcomes based on anti-epileptic drugs (AED) requirement at 6, 12, 24 months or more after seizure occurrence.

Results 38/420 (9.0%) paediatric patients undergoing chemotherapy developed seizures. 14/38 (36.8%) were confirmed to have had PRES. The mean age for PRES-associated seizures was 10.1 years ($\pm$ SD 3.7 years). The mean interval between administration of chemotherapy and onset of seizures in PRES was 7 days $\pm$ SD 5 days (Median 5 days, range 1–17 days). Chemotherapy agents associated with seizure occurrence in PRES were methotrexate in 10/14 (71.4%), ifosfamide in 3/14 (21.4%) and vincristine 1/14 (7.1%). High signal abnormalities seen on MRI changes due to PRES was seen in occipital-parietal lobe (43%), frontal lobe (43%), centrum semiovale (14%), caudate nucleus (14%), deep white matter (14%) and temporal lobe (7%). Only 1/14 (7%) of PRES patients remained on AED for 11 months, compared to 3/24 (12%) of non-PRES patients who remained on AED at 5 years follow-up.

Conclusion PRES is an important differential to consider in paediatric oncology population developing seizures. The chemotherapeutic agents associated with PRES are often Methotrexate, Vincristine and Ifosfamide. The outcome for seizures associated with PRES is good as only 7% require anti-epileptic medication for the first 11 months post-PRES. Further studies should be carried out in identifying prognostic markers, e.g. blood pressure, which may aid early identification of patients at risk of PRES and who may benefit from proactive preventative measures.

G366(P) SYSTEMATIC REVIEW ON THE USE OF HYDROXYCARBAMIDE IN REDUCING TRANSCRANIAL DOPPLER VELOCITIES IN CHILDREN WITH SICKLE CELL ANAEMIA AND WHETHER THIS RESULTS IN STROKE PREVENTION

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10.1136/archdischild-2018-rcpch.356

Introduction Sickle cell anaemia is a common inherited haemoglobinopathy in which distorted red blood cells cause vaso-occlusion and ischaemic-reperfusion injury in various organs.

Strokes are a severe complication of sickle cell anaemia in children and results in significant morbidity. The mainstay treatment for stroke prevention is chronic blood transfusions, however this is not without its risks and complications. By measuring transcranial Doppler velocity, at-risk patients can be identified and preventative treatment initiated. Hydroxycarbamide has been shown to reduce transcranial doppler velocities in sickle cell patients and therefore Hydroxycarbamide has been considered a potential alternative candidate to blood transfusions with less adverse effects.

Aim To assess whether hydroxycarbamide was effective in reducing transcranial doppler velocities and if this translated into efficient stroke prevention in children with sickle cell anaemia.

Search criteria The Cochrane database, PUBMED and Google scholar were searched. Prospective, Randomised Control and Observational trials were included.

Results Searches identified 6 eligible studies (n=365). All studies unanimously showed an initial reduction in TCD velocities. One trial was able to show non-inferiority ($p=8.82 \times 10^{-16}$) of hydroxycarbamide to chronic blood transfusions. Nevertheless, another study identified a reversion to abnormal TCD velocities after a mean follow up period of 1.1 years.

Conclusions In conclusion, Hydroxyurea appears to be useful in reducing TCD velocities in both abnormal (defined as TCD velocity >200 cm/s) and conditional (>180 cm/s) TCD velocities. In terms of stroke prevention, there is no significant decrease in occurrence or at least non-superiority. There is no consensus on the role of hydroxycarbamide as a prophylaxis of stroke.

G367(P) COAGULATION SCREENS: INDICATIONS, ABNORMALITIES, MANAGEMENT AND FOLLOW UP IN A GENERAL PAEDAITRIC UNIT

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10.1136/archdischild-2018-rcpch.357

Aims To identify:

- Clinical indications for performing coagulation screens.
- Abnormalities found in coagulation screens.
- Management and follow up of abnormal coagulation screens.

Method A retrospective case note review of patients aged 0–16 years who had a coagulation screen during a 6 month period from 1 st January until 30th June 2017.

Results 219 samples were analysed. 45% (n=99) were male and 55% (n=120) female, aged 4 days to 16 years. The most common indication for performing a coagulation screen was presence of a non-blanching rash 32% (n=71). Bloody diarrhoea 7% (n=19), paracetamol overdose 7% (n=15) and child protection medicals 5% (n=12) were the next most common indications.

66.7% (n=146) of samples had at least one abnormality. 29% (n=64) of prothrombin times (PT), 25% (n=55) of activated partial thromboplastin time (APTT) and 35% (n=81) thrombin times (TT) were outwith the normal values for age. 62% (n=91) had mildly abnormal results. Abnormal results were commonest in the 1 to 5 year old group 32% (n=47).

In those with mildly abnormal results repeat samples were arranged in 16% (n=15), whereas in coagulation screens with greater abnormalities repeat sampling was arranged in 55% (n=30). Repeat samples were carried out at a median of 7 days from the original sample (range 0–129 days).

One patient received i.v. vitamin K for prolonged PT and 3 patients were referred to haematology. Two of who had family members with a clotting disorder and one had a new diagnosis of haemophilia B.

Conclusions

- The commonest reason for performing a coagulation screen was a non-blanching rash.
- The commonest abnormality is a prolonged TT, followed by PT then APTT.
- There is wide variability in follow up and timing of follow up of abnormal coagulation screens.
- Children with mildly abnormal screens are least likely to have repeat sampling.

Recommendation 1. To develop a guideline to unify the follow up of abnormal coagulation screens.

G368(P) CHILD WITH G6PD DEFICIENCY PRESENTED AS CONVULSION DUE TO ACQUIRED METHEMOGLOBINEMIA: CASE PRESENTATION

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10.1136/archdischild-2018-rcpch.358

Introduction G6PD is an important enzyme in red blood cells and its deficiency renders erythrocytes susceptible to haemolysis under conditions of oxidative stress induced by oxidant drugs, ingestion of fava beans or its constituents, exposure to naphthalene, henna application, diabetic ketoacidosis and infection. It is an X-linked recessive condition, but homozygous females may also be affected. It is a common problem in some countries such the Arabian Peninsula, Turkey and the Middle-East; particularly in the Sultanate of Oman it affects 20% of male population.

The main presentation is acute intravascular hemolytic anaemia and neonatal jaundice. Other nonspecific features are of chronic anaemia when there is low-grade hemolysis.

Aim Raise awareness in the recognition of uncommon precipitants of hemolysis and explore further updated discussion on the efficient management of acute intravascular haemolysis due to G6PD deficiency and its sequel as well as prevention.

Case report An 8-year-old child presented with generalised tonic clonic convulsion lasting about 20 min. On examination, he was pale and cyanosed with mild dehydration. Cardiac examination revealed a functional murmur. Abdominal examination was normal. Oxygen saturation was (SpO₂) at admission (78%) which did not improve significantly with the administration of 10 L/min oxygen via non-rebreather mask. Urine colour was red-brown. Acute hemolytic anaemia was suspected with the association of acquired methemoglobinemia based on clinical presentation and failure of oxygen therapy to improve SpO₂. Initial investigations showed Hb 4.2 g/dL, high LDH, reticulocytes 16%, Serum ferritin 3840 ug/L and blood gases showed PaO₂92 mm Hg and methaemoglobin 17%. Urine was strongly positive for haemoglobinuria.

Careful history revealed that the day before presentation, the child was exposed to naphthalene at home. Naphthalene, available as small balls of different colours, is very attractive to children to play with and even putting the mouth as sweet and this precipitated hemolysis in this case.

Outcome The child received oxygen, forced alkaline diuresis and ascorbic acid therapy, and made full recovery after 5 days hospitalisation.