fourteen year period. Data was collected on tumour site, histology, treatments used & endocrine complications.

70% of children underwent surgery, 87% received chemotherapy, 40% received cranial radiotherapy, 23% received craniospinal radiotherapy and 16% children received both cranial and craniospinal radiotherapy.

36% of survivors were diagnosed with growth hormone deficiency (all of these children had received radiotherapy). Impaired spinal growth was seen in all children who had received craniospinal radiotherapy, exacerbating short stature. 23% of children were found to have a suboptimal cortisol response; necessitating emergency hydrocortisone treatment. 20% of survivors developed hypothyroidism. Onset of hypothyroidism ranged from 1 to 5 years following treatment. 11% of survivors were diagnosed with precocious puberty; which in 1 case had masked a growth hormone deficiency.

In conclusion, this audit confirms the high prevalence of endocrine late effects in survivors of childhood brain tumours. Growth hormone deficiency was the most common, however there was a high percentage of multiple hormone deficiencies. Data support the establishment of a joint oncology and endocrinology late effects clinic; to ensure early identification and treatment of these serious complications.

G105(P) INTERPRETATION OF CORTISOL LEVELS IN INFANCY IS DEPENDENT ON CLINICAL HISTORY

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Aims To assess cortisol levels in infancy and to determine whether low cortisol levels are indicative of pathology.

Methods A retrospective study of cortisol requests in patients aged up to 64 days for 20 months until August 2012 was undertaken. Data was collected on indications for testing, subsequent results and final outcome. Cortisol was measured using the Abbott Architect Analyser.

Results 47 patients had cortisol measured. The clinical indications were assessment of hypoglycaemia (n = 16), adrenal insufficiency (n = 13), jaundice (n = 11) and hypopituitarism (n = 7).

Cortisol was <100nmol/l in 19 patients: 7 had no further investigation; 3 proceeded directly to standard short synacthen test [SSST]

and passed; 9 had repeat cortisol levels tested: 3 were above 100nmol/l and 5 out of the remaining 6 had further investigation (SSST or Corticotrophin Releasing Test [CRH]) which 3 passed.

For hypoglycaemia the median cortisol was 260nmol/l (range 42–793nmol/l). 1 patient with a random cortisol of 42nmol/l passed a SSST.

For investigation of adrenal insufficiency, the median cortisol was 182nmol/l (range 46–503nmol/l). 2 patients with random cortisols of 82 and 85nmol/l passed a SSST while a third with a level of 93nmol/l had a borderline SSST result.

For jaundice screen, the median cortisol was 132nmol/l (range <40–407nmol/l). One patient with a cortisol of 47nmol/l went on to pass a SSST.

For hypopituitarism, the median cortisol was 40nmol/l (range <40–146nmol/l). Four children in this group with baseline cortisol levels <40nmol/l proceeded to a SSST which 3 passed. A child with suspected septo-optic dysplasia and a baseline cortisol of 87nmol/l failed a CRH test. One infant with baseline of 69nmol/l underwent no further testing.

Results are illustrated in graph 1.

Conclusion Reviewing this cohort of 47 patients, 3 are now known to have cortisol deficiency. In 2, the random cortisol was less than 100nmol/l and they had additional clinical features. A 3rd patient has congenital adrenal hyperplasia, and the cortisol at presentation was 130nmol/l. Interpretation of a cortisol result must be undertaken with the clinical history and additional biochemical results and unless there are features indicating an underlying problem, a random low cortisol is not diagnostic.

Ethics and Law Forum/British Academy of Childhood Disability

G106 NON-THERAPEUTIC CIRCUMCISION IN 'HIGH-RISK' CHILDREN IN A CHILDREN'S HOSPITAL: CONSENT AND SAFETY

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Aims Non-therapeutic circumcision (NTC) is controversial. Religious freedoms and suggested health benefits are balanced against a non-medically indicated surgery in children who cannot consent.

Abstract G105(P) Graph 1

Many hospitals don't offer NTC, which is therefore done in the community – however certain underlying health conditions mean NTC with access to specialist services occurs.

Whilst neither condoning, nor criticising this, we wanted to ascertain NTC safety in 'high-risk' children, and to assess the quality of consent given by both parents as the BMA and BAPS suggest.

Methods Retrospective 2-year case-note review (2009–10) of circumcisions in a tertiary children's hospital. Hospital admissions/surgical databases searched and NTC medical notes interrogated for consent forms, notes entries and other indicators of explanations to parents/family together with medical and surgical complications and outcomes. Whilst demographic information, ethnic origin, religion and underlying medical condition recorded, only the last is reported here.

Results 199 circumcisions (all male) were performed. Exclusions: 181 part of larger procedure/medically indicated = 18 NTC. Age 4.5 +/- 4.0. Underlying conditions: Bleeding disorder 6, cardiac defect 5, respiratory problem 3, renal failure 1, leukaemia 1, vitamin B12 deficiency 1, megalocornea 1

Consent record: Risk documented: Generic bleeding (100%), infection (96%), <5% all others (serious haemorrhage, sepsis, fistula, penile loss, GA risks). No mention of risks re underlying disease. No record of both parents consenting.

Outcomes of procedure: Readmissions 0, Length of stay: mean 1.8 days (1–4), 60% day case. 4 stayed 3–4 days (3 bleeding disorders 2 tranexamic acid cover)

Complications 1) procedure: None 16, facial scratch 1, tooth lost 1; 2) post procedure: None 11, ooze/mild wound bleeding 3, moderate bleeding 1, bradycardic during recovery 2, mild swelling/moderate pain 1, fever/cough 1. All resolved without long-term effects.

Conclusion Whilst NTC in 'high-risk' children is relatively safe in our specialist centre, with only minor self-limiting complications, consent documentation is poor. Although verbal explanation might have been better than that recorded inadequate recording of those risks discussed and the absence of documented consent from both parents is medico-legally problematic.

Standardization of NTC risks explained to families and consent records from both parents must be ensured.

G107 ETHICAL DILEMMAS IN RESUSCITATION OF BORDERLINE VIABILITY INFANTS: DECISION-SUPPORT FOR CLINICIANS

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Infants born at the borderline of viability pose difficult ethical questions because of poor survival rates and the possibility of long-term disability¹.

The Nuffield Council guidelines for resuscitation practice² emphasise the need to consider each case individually.

The *four principles approach to medical ethics*³ provides a basis for individual case decision-making as follows:

The principle of **respect for autonomy** recognises the rights and responsibilities of parents as surrogate decision-makers, although this right is qualified by the need to act in the best interests of their child;

The principles of **beneficence** and **non-maleficence** prioritise the 'best interests' standard by incorporating quality-of-life assessments, and if necessary by limiting the authority of the parents;

The principle of **justice** addresses the wider result of decisions and the interests of the child within the family.

The role of the clinician within the clinician/parent partnership is twofold: firstly to inform the parents by communicating clinical

knowledge and experience, and secondly to provide support for the family through professional values and trust.

Conclusion Weighting the *four principles of medical ethics* with a focus on the best interests of the child provides a flexible and simple means to address each borderline viability infant case on an individual basis and reach the best ethical solution.

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G108 IMPACT OF SLEEP SYSTEMS (SS) ON POSTURE AND QUALITY OF LIFE (QOL) IN CHILDREN WITH NEUROLOGICAL DISABILITIES

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Aims Children with neurodisability and limited mobility are at an increased risk of postural deformity which impacts on their overall health and QOL. SS are used as part of an individualised posture management programme for children with restricted mobility. There is limited research evidence on the impact of SS on hip stability, body symmetry and QOL of the child and family. There are also financial implications associated with use of SS. We aim to assess the impact of SS in children seen in a single tertiary centre.

Methods Clinical data was retrospectively collated from all the children who had SS introduced between April 2010 to April 2011. Data collection included measurements of hip radiographs (HR), Goldsmiths indices for body symmetry (GI), hip abduction measurements (HAM) and QOL measure (CPChild questionnaire) at baseline and twelve months post-intervention. These evaluations are part of our routine care plans and trust hip surveillance protocol.

Results Of the 61 children offered SS, 58 agreed to use them. [M; F = 30:28; Median(range) age – 9.17(0.5 to 19.25) years]. The diagnosis was CP in 43(74.1%) children while 15/58(25.9%) were identified with non-CP causes including genetic (Retts, Lissencephaly,) and neurodegenerative condition (PEHO).

The clinical parameters improved or remained stable in the majority of children at twelve months (HR–92%; GI–65%, HAM–66%). In subgroup analysis the improvement/stability was analysed in CP vs. non-CP group in each of the clinical categories – HR [20/21(95.2%) v 5/6(83.3%), p = 0.33]; GI [18/22(81.8%) v 3/10(30%), p = 0.004], HAM [14/22(63.6%) v 4/5 (80%), p = 0.48]. Ten parents/carers completed serial QOL questionnaires. Overall scores were stable/improved in 66.7% children. Subcategory data showed improvement or stability in 5/5(100%), personal care/ADL, 3/5(60%) in positioning/transferring, 2/2(100%) in comfort/emotions, 7/10(70%) in health scores. No differences recorded between the two subgroups.

Conclusion In our patient group, we observed a trend towards improvement in clinical parameters and QOL following introduction of SS. The improvement was most significant in body symmetry (GI) in children with CP. Further research is required to assess long term benefits of SS.