

for cerebrovascular, metabolic and thrombotic risk factors. This is expensive and it is unclear how often a positive result alters clinical management.

**Aim** To investigate the (i) diagnostic yield and (ii) impact on treatment of a extensive panel of investigations for childhood AIS risk factors in patients seen in a single tertiary paediatric neurology unit.

**Methods** Children (>28 days old) with radiologically confirmed AIS seen at our centre 2000 – 2011 were eligible. Since 2000 local guidelines have recommended a standard panel of investigations<sup>1</sup> and patients have been managed according to national clinical guidelines. Results and impact on treatment were abstracted from case notes.

**Results** Data from 51 children was reviewed (24 male, age 6 months – 16 years, median 5 years). Cerebrovascular imaging and screening for prothrombotic disorders was most comprehensive; metabolic and infection investigations were largely incomplete.

8/51 patients had prothrombotic risk factors (4 MTHFR homozygous, 1 positive lupus anticoagulant, 2 protein S deficient, 1 Factor V Leiden heterozygous) but these did not alter clinical management. 1 patient was anaemic (requiring blood transfusion) and another had hypercholesterolaemia (treated with statins). Evidence of past infection was frequently identified but did not alter management. In contrast, magnetic resonance angiography (of the circle of Willis and cervical vasculature) was abnormal in 41/51, and influenced onward management in 43 cases. Echocardiography was abnormal in 11/35 available reports. 1 patient had infective endocarditis to which their stroke was attributed and 8 patients had congenital structural abnormalities of varying significance.

**Conclusions** Laboratory investigations for paediatric AIS patients have a low diagnostic yield and rarely alter treatment decisions. Cerebrovascular imaging is often fruitful and is key to management. These data may contribute to prioritisation of health care spending related to the investigation of childhood AIS. Wider laboratory evaluation may, however, be indicated in individual cases, dependent on the clinical circumstances.

## REFERENCE

1. Kirkham FJ. Stroke in childhood. *Arch Dis Child*. 1999; 81: 85–89.

## G189 15 YEAR EXPERIENCE OF CLINICAL PRESENTATION OF INTESTINAL VOLVULUS AT A QUARTERNARY GASTROENTEROLOGY CENTRE

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**Introduction** Intestinal volvulus can cause potentially fatal bowel ischaemia and/or obstruction. Diagnosis can be difficult and easily missed. Presenting symptoms are variable and there are no published studies describing the clinical presentation in children. Earlier diagnosis may reduce morbidity and mortality. Malrotation is a common underlying cause of volvulus and can be asymptomatic, or present with varied gastrointestinal symptoms at all ages[i].

**Aims** To describe our experience over 15 years of the presenting symptoms, age and past history of children presenting with volvulus.

**Methods** This study is based on a case notes review of: All children on the gastroenterology data base presenting with volvulus over the past 15 years.

**Results** 30 cases were reviewed. The age at presentation was variable with 24/30 (80%) presenting by 11 years, leaving a significant minority not presenting until adolescence. The majority of children (90%) presented with vomiting but in a third of cases it was non-bilious. Only 6/30 (20%) of children presented with all the classic symptoms and signs of volvulus: bilious vomiting, abdominal pain,

abdominal distension, and constipation. The majority of children (18/30) had a past history of recurrent abdominal pain for which medical attention had been sought. 11/30 (37%) had a past history of unexplained vomiting and 8/30 (27%) had previous isolated nausea. The minority of children (6/30) had no gastrointestinal symptoms prior to their acute presentation with volvulus.

**Conclusion** Presenting features of acute volvulus are variable and can be confusing. An awareness of the possibility that symptoms and signs may not be classic could be life saving for children and prevent a tragic missed diagnosis. Malrotation is a possible cause of highly non-specific symptoms and should remain part of the differential diagnosis in patients for whom a clear cause of chronic gastrointestinal symptoms cannot be identified.

## REFERENCE

1. NehraD, Goldstein AM. Intestinal malrotation: varied clinical presentation from infancy through adulthood *Surgery* 2011 Mar; 149(3):386–93

## G190 COELIAC DISEASE AND RELATIONSHIP TO SOCIO-ECONOMIC STATUS

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**Background and aims** Coeliac Disease (CD) comprises an autoimmune enteropathy triggered by gluten. Population screening studies suggest a prevalence of 1% although many remain clinically undetected. It is a genetically determined disease but environment may play a role. The Aim of this study was to establish whether there is a relationship between socio-economic status and diagnosis of CD in childhood.

**Methods** Bristol Children's Hospital is the single regional centre where children from Bristol and SW of England with suspected CD are referred. Prospective data on all children undergoing diagnostic endoscopy is kept and includes postcode of residence. Data on children between 1997 and 2011 and aged 16 years or younger at diagnosis has been analysed. The post code was used to determine index of multiple deprivation (IMD IO) score and rank. The score is a nationally consistent measure of how deprived an area is, pulling together individual indicators chosen to cover a range of economic, social and housing issues to provide an overall measure of socio-economic deprivation.

**Results** 467 children (293 females and 174 males) were diagnosed with endoscopy proven CD. The mean age at diagnosis was 89 months. 73 had a postcode within Bristol City. The study found a strong independent graded association between the incidence rate of CD and socio-economic status. The incidence rate of CD in SW of England was twice as high in the least deprived quintile compared to the most deprived, and in Bristol City it was three times as high.

**Conclusion** There is a strong association between the incidence rate of CD in children and socio economic status with a higher incidence in those who are least deprived suggesting environmental factors may be important.

## G191 THE MOZART EFFECT IN CHILDREN WITH EPILEPTIC EEGS

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**Background** Listening to Mozart's Sonata for two pianos in D major (K448) has been found to enhance higher brain function such as spatial temporal reasoning and to have an anti-epileptic effect, demonstrated on EEGs (electroencephalograms).