Chronic intussusception

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Abstract

Chronic intussusception is a rare but completely correctable cause of failure to thrive in infants and children. The presenting features differ from acute intussusception. We present the case of a 16 month old boy presenting with a three week history of anorexia, diarrhoea, and weight loss with subsequent delayed diagnosis.

Chronic intussusception, classified as intussusception of chronic onset with a history of greater than 14 days, is more often associated with a predisposing lesion than acute intussusception. Rarely chronic intussusception may present as failure to thrive.¹ The boy presented here, who was investigated for failure to thrive, had an unsuspected chronic intussusception.

Case report

A 16 month old boy presented with a three week history of anorexia, slight cough, diarrhoea, and weight loss. His abdomen was soft and not distended; rectal examination showed yellow stools that did not contain blood. Cultures of the stools, urine, and blood were sterile. A blood count, concentrations of serum ferritin, folate and vitamin B₁₂, electrolytes, urea, and immunoglobulins, activities of liver enzymes, thyroid function, and sweat sodium were normal.

The total serum protein (48 g/l) and serum albumin (28 g/l) concentrations were abnormally low. There was no serological evidence of cytomegalovirus or toxoplasma infection. No autoantibodies or antigliadin antibodies were detected in the blood. A chest radiograph, and a barium meal with examination of the proximal small bowel, showed no abnormality. A cows' milk protein exclusion diet produced only very transient improvement.

Over the next six weeks he continued to lose weight. Despite an estimated intake of 0.42 MJ/day his weight fell from the 50th to below the 3rd centile. He became anaemic (haemoglobin concentration 9.3 g/l), the total serum protein dropped further to 40 g/l and the albumin to 20 g/l.

He was admitted to hospital for further investigation. Occasional vomiting was observed but there was always negligible nasogastric aspirate. A jejunal biopsy specimen was normal. When he was examined under sedation at the time the biopsy was performed, however, an ill defined mass was palpated in the right upper quadrant of the abdomen.

Ultrasound examination of the abdomen demonstrated a subhepatic mass of mixed reflectivity (figure). This was interpreted as a possible duodenal haematoma or a tumour of

Ultrasound examination in the (3.5 MHz probe) showing a longitudinal section in the right upper quadrant. An echogenic mass (marked by crosses) is shown inferior to the liver (arrow).

bowel origin. Free abdominal fluid was seen.

A contrast small bowel examination was conducted to evaluate this suspected bowel associated mass and to determine its site of origin. This showed an intussusception, probably ileocolic coinciding with the mass seen on ultrasound.

At surgery a partially reducible ileocolic chronic intussusception was found extending to the splenic flexure. A 24 cm length of bowel consisting of terminal ileum, appendix, and caecum was resected. The terminal ileum had become invaginated into the caecum to produce an ileocolic intussusception, the apex of which was ulcerated and haemorrhagic.

Histology of the apex showed severe inflammation and ulcerated and partly necrotic lymphoid tissue with follicular hyperplasia. This suggests that an enlarged Peyer's patch may have been the cause of the intussusception.

Postoperatively progress was uncomplicated and six months later the child's weight had returned to the 50th percentile.

Discussion

Chronic intussusception is a rare but treatable cause of failure to thrive. Rafinesque in 1878 recognised a group of children with intussusception who survived greater than 14 days.² He described these as having chronic intussusception. Chronic intussusception now describes cases who present with a history of greater than 14 days at diagnosis. Chronic intussusception defined in this way occurs in approximately 3% of cases under 1 year and 10% over 1 year of age.³ The triad of abdominal pain, vomiting, and bloody stool often associated with an abdominal mass is described as characteristic of acute intussusception but is rare in chronic intussusception.

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Failure to thrive has been described in association with chronic intussusception in one previous report.¹ The authors described three children, aged 10 months to 2.5 years, with clinical histories of seven to 18 weeks' duration. Weight loss and emaciation were described together with abdominal pain and vomiting. Vomiting was a late symptom in our case, and abdominal pain absent.

An unusually high incidence of chronic intussusception and subacute intussusception was described in a study of 62 children from Nigeria.⁴ A high incidence of 'painless intussusception (41%)' was reported. Seven patients with an average age of 5.5 years had a chronic history with a symptom duration of three weeks to three years illustrating the increased incidence of chronic intussusception in the older child.¹ Anorexia, weight loss, and frequent mucoid or bloody stools were the prominent symptoms. This contrasts with our case in which the stools were never mucoid and always occult blood negative.

Incomplete intussusception may be associated with diarrhoea,⁵ and it is possible that the diarrhoea in our case was related to a developing intussusception.

Ultrasound has a recognised place in the diagnosis of intussusception. Although the

identified mass appeared to be related to bowel in our patient, the echo pattern was not characteristic enough to allow a specific diagnosis. In view of the chronic history a bowel associated malignancy was considered more likely.

Barium enema is the investigation of choice in the diagnosis of intussusception and in acute intussusception attempted barium reduction is advocated if the patient is clinically fit.⁶ In the child with failure to thrive and no specific features to suggest intussusception, however, a barium meal and follow through will probably be chosen. The diagnosis will be missed if a barium follow through is not performed.

Chronic intussusception is more commonly associated with a predisposing lesion and operative reduction is the appropriate treatment.¹

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White noise and sleep induction

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Abstract

We studied two groups of 20 neonates, between 2 and 7 days old, in a randomised trial. Sixteen (80%) fell asleep within five minutes in response to white noise compared with only five (25%) who fell asleep spontaneously in the control group. White noise may help mothers settle difficult babies.

Records of intrauterine sounds calm babies and one study found that four out of five infants fell asleep,¹ although the effectiveness of such noise has often been judged solely by the mother.² Quiet sleep in 4 day old neonates was reached significantly sooner and its duration was prolonged by 20% when exposed to continuous white noise.³ We assessed a white noise device, suitable for domestic use and designed to calm babies and promote sleep, by performing a study in which normal neonates were exposed, at random, to a short period of white noise.

Methods

The acoustic output of the commercially available, self contained, battery operated white

noise generator (Babyshh, Egnell-Ameda Ltd) was measured in the acoustic laboratory, Department of Health Supplies Technology Division, Russell Square, London, using the Bruel and Kjoer generating and measuring equipment normally used for assessing deaf aids.

Permission to perform a clinical trial was obtained from the local ethics committee and 40 healthy neonates, born at full term and between 2 and 7 days old, were studied after informed consent had been obtained from the mothers. The white noise device was placed in the cot, between 12 and 20 inches from the baby's head, and either switched on or left off at random according to allocation cards concealed in envelopes. The baby's state was observed continuously for five minutes by a single investigator who noted whether or not the baby was asleep after the four and a half minutes of white noise. Sleep was defined as a state of quiescence with eyes closed and regular breathing.⁴

The first 20 babies had a continuous record of heart rate made during their studies using electrocardiogram electrodes on the chest and an FM7 monitor (Oxford Sonicaid Ltd).

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