Primary peptic ulcer disease in childhood

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Summary

In a retrospective survey, the clinical details of all children with primary peptic ulcer seen at Red Cross War Memorial Children's Hospital over a 12-year period were analysed. The diagnosis was confirmed in 31 cases, 22 of whom had a duodenal ulcer. Gastro-intestinal bleeding was the presenting symptom in 19 patients. In 7 of these there were no preceding symptoms, rendering earlier diagnosis impossible. Those presenting with abdominal pain had a mean interval of 2.8 years between onset of symptoms and diagnosis. Useful clinical clues in these children were epigastric tenderness and anaemia. To avoid diagnostic delays, peptic ulcer disease should be considered more often in children with abdominopelvic pain. When available, gastro-intestinal tract endoscopy should be the diagnostic investigation of choice.

The incidence of peptic ulcers in childhood is not known but they may be more common than previously recognised. Recently an increase in the number of children diagnosed as having a peptic ulcer has been noted at the Gastro-enterology Clinic of Red Cross War Memorial Children's Hospital. In many, the diagnosis was made only after the child presented with either gastro-intestinal haemorrhage or with duodenal perforation — recognised complications of the disease. In a previous report on duodenal ulcers in childhood, a third of the cases had haematemeses or melaena and half of these had symptoms consistent with peptic ulcer disease for at least 1 year before the episode of bleeding. This suggests that the diagnosis of peptic ulcer in the paediatric age group is often delayed and complications in some children could be avoided with earlier treatment.

To investigate this possibility, the experience of the Gastro-enterology Clinic over a 12-year period (1976 - 1988) was reviewed. The annual incidence, clinical details, mode of presentation, management and outcome of all patients with primary peptic ulcer are reported. Upper gastro-intestinal endoscopy became readily available during the latter half of this period and the impact of this method of diagnosis is also assessed.

Patients and methods

The records of all patients diagnosed as having a gastric or duodenal ulcer at Red Cross War Memorial Children's Hospital during the period January 1976 - December 1987 were reviewed. Those with an ulcer confirmed endoscopically or at laparotomy or with a definite ulcer crater on barium meal examination were selected. Patients were excluded if the ulcer was thought to be secondary to a systemic disease, such as septicaemia, shock and severe burns, or associated with the use of a known ulcerogenic drug. One child with the Zollinger-Ellison syndrome was also excluded.

The number of cases presenting annually and the method of diagnosis was determined. The patient's sex, age, mode of presentation and clinical findings on examination were noted. If recorded, the duration of symptoms before diagnosis and the presence of a positive family history of peptic ulcer was also noted. Because endoscopy was only available for part of the review period, endoscopic confirmation of healing was not performed in all cases. In those not undergoing follow-up, healing of the ulcer that would be visible on endoscopy was deemed to have occurred if the patient had received appropriate medical treatment for a minimum of 6 weeks and had been symptom-free for at least 1 month while on medication. Relapse was considered to have occurred if the patient subsequently developed symptoms similar to those experienced before initial diagnosis and provided these responded to further medical treatment. Whenever possible, recurrence of the peptic ulcer was confirmed on repeat endoscopy. The number of patients with a symptomatic relapse within 36 months after apparent healing was determined.

Results

There were 31 patients diagnosed as having primary peptic ulcer during the period under review. The ulcer was duodenal in 22, gastric in 8 and 1 patient had both a duodenal and a gastric ulcer. The number of patients diagnosed annually and the method of diagnosis is shown in Fig. 1. In the first 5 years of the study, before the introduction of endoscopy, 6 cases were diagnosed. During the last 7 years 25 cases were diagnosed, 19 by means of endoscopy. A male predominance of 3,6:1 was found in those with a duodenal ulcer whereas in those with gastric ulcers the sex ratio was equal. The mean age at diagnosis was 9.5 years (range 1.8 - 13.5 years). In Fig. 2 the mode of presentation in children < 8 years of age is compared with that of older children. Six children were diagnosed before 8 years of age and of these 5 presented with...
frank haematemeses and/or melaena and 1 child presented with severe anaemia from occult blood loss. Of the 25 children > 8 years of age at diagnosis, 13 (52%) presented with symptoms related to intestinal blood loss (11 with haematemeses and/or melaena and 2 with anaemia) and the remaining 12 patients presented with abdominal pain. These included 2 children with an acute abdomen caused by duodenal ulcer perforation. Excluding the 2 children with perforation, pain had been experienced intermittently for a mean of 2,8 years (range 1 month - 7 years) before diagnosis.

Of the 19 children presenting with intestinal blood loss, 12 also had a history of abdominal pain. The mean duration of pain before diagnosis in these patients was 6,5 days (range 1 day - 2 months).

Altogether 24 of the 31 patients (77%) in this series experienced abdominal pain. The pain was localised to the epigastrium in 11 children (46%), peri-umbilical region in 2 (8%) and the right iliac fossa in 1 (4%). In 10 children (42%) the pain was poorly localised and recorded as diffuse. The character of the pain was recorded in only 12 children and was described in equal numbers as colicky or burning in nature. Five patients gave a history of nocturnal pain of sufficient severity to wake them from sleep. Ingestion of food aggravated or relieved the pain with equal frequency in 13 cases. Clinical examination revealed abdominal tenderness in 18 patients (56%). In 15 of these the tenderness was localised to the epigastrium.

Enquiry about a family history of peptic ulcer disease was recorded in only 19 patients. Five children with duodenal ulcers and 1 with a gastric ulcer had a first-degree relative who had previously had peptic ulcer disease. Anaemia (haemoglobin (Hb) < 10 g/dl) was present in 22 patients (70%). Sixteen of these presented with haematemesis and/or melaena and had a mean Hb of 8,4 g/dl with a mean corpuscular volume (MCV) of 80. Blood loss was occult in the remaining 6 patients; of these the anaemia per se was the presenting feature in 3 patients (2 presenting with extreme palor and 1 with reduced effort tolerance and tiredness), and they had profound iron deficiency anaemia with a mean Hb of 4,7 g/dl and an MCV of 67.

Three children presented with abdominal pain and were found incidentally to be anaemic (mean Hb 8,2 g/dl; MCV 72) with occult blood-positive stools.

The majority of patients were treated medically. Seventeen patients received sucralfate, 12 antacids only and 2 cimetidine. Three children underwent surgery, 2 for repair of duodenal perforation and 1 for the control of persistent bleeding from a duodenal ulcer. Fourteen children (45%) relapsed within 3 years of diagnosis, 13 had a duodenal ulcer and 1 a gastric ulcer. In 7 of these the relapse was confirmed at repeat endoscopy.

Discussion

It would appear that primary peptic ulcers in childhood are relatively uncommon, since only 31 cases were diagnosed over a 12-year period. On the other hand, this study supports the suggestion that the condition is more common than many realise. During the first 5 years included in the survey only 6 cases were diagnosed compared with 25 cases over the next 7 years. The increase in incidence of diagnosis at the Red Cross War Memorial Children's Hospital coincided with the introduction of a flexible fibre-optic endoscopy service. In 19 of the 25 patients in the latter period of the study the ulcers were diagnosed by means of upper gastro-intestinal tract endoscopy. The availability of the service increased awareness of the disease in the paediatric gastro-enterology clinic. The increasing numbers diagnosed may, in turn, have encouraged practitioners to consider the possibility of peptic ulcer being the cause of symptoms and resulted in more referrals for investigation.

In keeping with previous reports, duodenal ulcers were more common than gastric ulcers and in the former, boys were more often affected than girls. A disturbing finding is the high proportion of children (19/31 or 63%) who were diagnosed only after they had sustained significant intestinal blood loss. This was particularly true in the young child and all 6 children < 8 years of age presented in this fashion. Even in those > 8 years of age more than half presented with symptoms related to intestinal blood loss. Analysis of these 19 cases shows that 7 had no preceding symptoms precluding diagnosis before the development of this complication. In the remaining 12 there was a previous history of abdominal pain but the duration of pain in this group was generally short (mean 6,5 days) and not typical of the intermittent pain described by adults with peptic ulcers.

Abdominal pain was the presenting feature in slightly more than one-third of all children in this study and in just under half of those > 8 years. In these children there was often a considerable delay between the onset of pain and diagnosis. This suggests a lack of awareness of the possibility that peptic ulcers may be a cause of abdominal pain in the paediatric age group. In 2 cases the diagnosis was made only after the child had developed an acute abdomen because of perforation of a duodenal ulcer. A history of previous abdominal pain was not recorded in the notes of 1 of these patients and it is not known whether this was sought. The other child had experienced abdominal pain for 3 weeks before perforation and if the diagnosis of peptic ulcer had been considered earlier this complication might have been avoided.

The character of abdominal pain in children with peptic ulcers appears to differ from the classic description in adults with the disease. Less than half the children in this study described the pain as localised to the epigastrium and very few had nocturnal pain or a relationship of pain to ingestion of food. Similarly, relatively few had a positive family history of peptic ulceration. This should not discourage routine enquiry about these features, since their presence could alert the clinician to the possibility of the diagnosis in a child.

Abdominal tenderness was found in over half the patients and when present it was almost always localised to the epigastrium. This might be a valuable clinical clue to the diagnosis. Anaemia was a common finding, even in those children who did not have haematemeses or melaena. Anaemia in a child with abdominal pain, particularly if the stools are shown to be occult blood-positive, should always raise the possibility of primary peptic ulcer.

Symptomatic response to medical treatment was always initially satisfactory regardless of the form of therapy used. The relapse rate of 45% in 36 months is lower than that reported in children elsewhere and much lower than that for...
Human chorionic gonadotrophin and weight loss

A double-blind, placebo-controlled trial

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Summary

Low-dose human chorionic gonadotrophin (HCG) combined with a severe diet remains a popular treatment for obesity, despite equivocal evidence of its effectiveness. In a double-blind, placebo-controlled study, the effects of HCG on weight loss were compared with placebo injections. Forty obese women (body mass index > 30 kg/m²) were placed on the same diet supplying 5000 kJ per day and received daily intramuscular injections of saline or HCG, 6 days a week for 6 weeks. A psychological profile, hunger level, body circumference, a fasting blood sample and food records were obtained at the start and end of the study, while body weight was measured weekly. Subjects receiving HCG injections showed no advantages over those on placebo in respect of any of the variables recorded. Furthermore, weight loss on our diet was similar to that on severely restricted intake. We conclude that there is no rationale for the use of HCG injections in the treatment of obesity.

REFERENCES