Adult intussusception in Trinidad

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A review of 10 cases of adult intussusception seen over 6 years in Trinidad shows that most patients have underlying gut pathology as the aetiologic factor; this is significantly different from the pattern seen in Nigeria, where adult intussusception is very common and usually idiopathic. Because of its rarity, there is often considerable delay in making the diagnosis, but variation in the size and site of the mass should signal the possibility of the condition. Routine resection of the apex is recommended, for small tumours could be missed due to oedema of the bowel wall if the intussusception is simply reduced.

Intussusception in the adult is relatively uncommon Only 36 cases were found in 5 major hospitals in New Orleans during the 25-year period from 1946 to 1971[1]. Only 10 cases were encountered at the Peter Bent Brigham Hospital, Boston, in the 55-year period from 1913 to 1968[2]. There is, however, wide variation in the incidence of the disease. In Western Nigeria, for example, it is one of the commonest causes of adult intestinal obstruction and accounts for 42% of all intussusceptions[3,4]. A similar pattern has been found in South Africa[5,6]. In Trinidad, adult intussusception is very uncommon, and our recent encounter with a few cases prompted this review.

Material and method

The Port of Spain General Hospital is a 1100-bed institution with an annual admission rate of about 55,000 cases; it serves about 60% of Trinidad's 1.2 million population. The operation register and surgical ward records for the 6 year period 1980–1985 were reviewed, and all cases of adult intussusception were analysed.

Results

10 cases of adult intussusception were encountered during the study period. During the same period there were 256 cases of adult intestinal obstruction, 75 cases of childhood intussusception and 228 cases of intestinal tumours (218 large and 10 small intestine). Of the 10 cases of adult intussusception 2 were jejuno-jejunal, 3 ileo-ileal, 1 ileo-caecal and 4 colo-colic.

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Aetiology

9 of the cases had a discrete pathological lesion at the apex of the intussusception; in one case, originating from the caecum, there was no underlying gut pathology. 3 of the tumours were malignant (2 adenocarcinoma and 1 carcinoid) while 5 were benign (3 adenomatous polyps, 1 submucosal lipoma and 1 leiomyoma). In one case, a Meckel's diverticulum was the causative lesion. In spite of the histological variation among the lesions, most (7) were polypoidal on gross inspection. In one case, although no lesion could be palpated through the oedematous bowel wall, pathological examination revealed a small adenomatous polyp in the resected right colon.

Age and sex

At diagnosis the patients ranged from 19 to 71 years of age with a mean age of 36 years. 7 were below the age of 40. There were 5 males and 5 females.

Clinical features

All 9 patients with secondary intussusception had had recurrent episodes of colicky abdominal pain over periods ranging in duration from 4 weeks to 8 years. Associated with these episodes, at one time or another, were symptoms of vomiting (8 patients), constipation (7), diarrhoea (3), and weight loss (3). Rectal bleeding was noticed in 3 patients who also had abdominal distension and, at laparotomy, free fluid in the peritoneal cavity.

On examination, the most frequent finding was an abdominal mass (9 patients). In 6 cases there was a remarkable variation in size and site of the mass with time, varying from hour to hour or day to day; on several occasions the mass disappeared and reappeared spontaneously. Other findings were abdominal tenderness (7 patients) and distension (6).

Investigations

Plain abdominal X-rays, done in all cases, showed features of intestinal obstruction in only 4. Barium enema, performed in 5 cases, showed pathological lesions in 3 but demonstrated intussusception in only one case. Stool examination, done in only 6 of the 10 cases, showed no parasites.

Management and outcome

In all 10 cases, laparotomy was performed. 9 had a manual reduction of the intussusception followed by resection of the apex of the intussusceptum. In 2 of these (one large and one small bowel) later histological

examination revealed an adenocarcinomatous lesion. One had resection without prior reduction due to the presence of a gangrenous, malignant-looking ileal mass at laparotomy; histology revealed a malignant carcinoid. 3 cases had gangrenous gut at laparotomy; in all 3 there was a delay of 3–21 days in hospital before the diagnosis was made or laparotomy performed.

3 patients had postoperative diarrhoea lasting from 1 to 4 weeks. There was one death in a 58-year-old female who had resection of a gangrenous ileo-ileal intussusception. She developed overwhelming sepsis, respiratory and renal failure and died on the 21st day after operation.

Discussion

There is an interesting variation in the incidence of this condition in various parts of the world. In Trinidad, as in most of the Western world, adult intussusception is quite uncommon[1,2] and accounts for only 4% of all intestinal obstruction over the age of 12 years. This is in contrast to reports from Africa, where it is one of the commonest causes of adult intestinal obstruction[4].

There is also a geographic variation in the aetiology of adult intussusception, resulting in different approaches to therapy. In Western Nigeria, for example, 92.5% of adult intussusceptions are considered to be of the primary or idiopathic type[4]. In contrast, an underlying cause was found in 90% of our cases, 85% of Bond's cases from the United Kingdom[7], and 80% and 83% from Massachusetts and Minnesota[2,8]. While it is acceptable to perform reduction without resection in situations where the idiopathic type predominates, resection should be done routinely where an underlying cause is usually present—as in our environment, the United Kingdom and United States—since small tumours may otherwise be missed.

In one of our cases, because the bowel wall was oedematous after reduction, it was not possible to feel the small adenomatous polyp which was later found in the resected specimen. In one of the cases reported by Smith and Gillespie[9] the intussusception was reduced and thought to be idiopathic in type because no tumour could be felt; only when their patient developed recurrent intussusception 2 months later was a carcinoma of the caecum discovered to be the underlying cause. Some authors have advocated resection without reduction[1] because excessive manipulation of a malignant tumour could increase the risk of venous, lymphatic and intraluminal spread. However, Nagorey *et al*[8], after reviewing 48 cases from the Mayo Clinic, found malignant tumours to be very uncommonly associated with small intestinal intussusception, and therefore advocated resection with reduction for colo-colic intussusceptions only.

In many of our cases the diagnosis was made late or at laparotomy. This is because of the rarity of the condition as well as the frequent absence of the classical triad of colicky abdominal pain, abdominal mass and rectal bleeding which characterises childhood intussusception. The one feature we found that strongly suggests the diagnosis is variation in the mass (if palpable). The mass varies in size and site from hour to hour or day to day and is sometimes absent. Thus, frequent examination of the patient serves to distinguish this from most other abdominal masses, and this characteristic variability permitted us to make the diagnosis pre-operatively in 6 cases.

Eklot *et al* assessed the diagnostic accuracy of plain radiographs in the diagnosis of intussusception and found that a positive diagnosis was possible in 89 of 100 cases[10]. White and Blane could identify a soft tissue mass in 60% of cases[11]. However, these studies were done in children, and the diagnosis could not be made on plain film in any of our 10 adults. In our study, the failure to make the diagnosis by barium enema in most cases was probably due to the large number of small intestinal intussusceptions, as well as to the variable nature of the condition and the difficulty in performing a barium enema when the intussusception was actually present.

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