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Paediatric intussusception in Benin City, Nigeria

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Abstract

Background: Intussusception is one of the leading causes of intestinal obstruction in children. This study reports our experience in the management of intussusception in Benin City, Nigeria.

Patients and Methods: This was a 10-year retrospective review of intussusception in children at the University of Benin Teaching Hospital from January, 1997 to December, 2006.

Results: Twenty four children were admitted with intussusception (M: F = 1:1.4) within the period. Only three patients (12.5%) presented within 24 hours of onset of illness. Ten (41.6%) presented between one and four days; seven (29.2%) between five and10 days, while four (16.6%) presented between 11and14 days. Abdominal pain, irritability, blood in stools, vomiting, abdominal distension and palpable mass in various combinations were the clinical features. All the patients, except one (4%), were below the age of one year.

Conclusion: There was much delay before presentation of infants with intussusception, with high attendant mortality.

Key words: paediatric, intussusception.

Introduction

Intussusception is the telescoping of a part of bowel, usually the proximal into a distal segment; it could be idiopathic (the most common in children[1,2]), secondary or post operative. Intussusception is one of the leading causes of intestinal obstruction in children[1,2]. The incidence and mode of presentation of paediatric intussusception vary from one country to another[3,4]. All age groups can be affected, but according to previous reports from Nigeria children above 5 years are the most vulnerable[1,2,5]. This contrasts with the report from the developed countries, infants below one year are mostly affected[6-7]. The reason for this variation is unclear.

The aim of this study was to report our experience with intussusception at the University of Benin Teaching Hospital; factors responsible for the delay in presentation are also highlighted.

Materials and Methods

All children who were treated for intussusception at the University of Benin Teaching Hospital between January, 1997 and December, 2006 were retrospectively studied. The data extracted from the case notes and analysed included patient's age, sex, clinical features, duration of symptoms before presentation, month of presentation, mode of diagnosis, treatment method, findings at operation, definitive surgical procedure, length of hospitalization, and outcome of treatment.

Results

There were 10 males and 14 females with a male:

Table 1: Age Distribution of the Patients with Intussusception

Age Group	Number of the Patients (%)
0 - 3 months	3 (12.5)
4 - 6 months	15 (62.5)
7 - 9 months	3 (12.5)
10 - 12 months	2 (8.3)
1 - 2 years	0 (0)
3 - 4 years	1 (4.2)
Above 4 years	0 (0)
Total	24 (100)

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Table 2: Clinical Features of Patients with Intussusception

Clinical Features	Number of the Patients (%)
Abdominal Pain	22 (91.6)
Blood in stool	16 (66.6)
Vomiting	15 (62.5)
Abdominal Distension	12 (50.0)
Diarrhea	12 (50.0)
Palpable Mass	8 (33.3)
Fever	7 (29.1)
Constipation	7 (29.1)
Dysuria	4 (16.6)

female ratio of 1:1.4. Table 1 shows the age distribution of the 24 children. All the children except one were below the age of 1 year with a peak age incidence between 46 months (62.5%). No patient was seen with intussusception after the age of 4 years. Abdominal pain/irritability 22 (91.6%), blood in stools 16 (66.6%), vomiting15 (62.5%) were common (table 2). Recent history of upper respiratory tract infection could be extracted from six case files.

The duration of symptoms before presentation in hospital is shown in table 3. Only three patients (12.5%) presented to the hospital within 24 hours of onset of symptoms. Ten children (41.6%), presented between 1 and 4 days of onset of symptoms. Seven (29.2%) presented between 5 and10 days, while a total of four (16.6%) presented between 11and14 days. Eight patients (33.3%) presented late because they were wrongly diagnosed and treated for bacillary dysentery. Two (8.3%) were delayed by "ultrasonographers" who insisted there was no intussusception. They were referred for surgical consultation when their clinical condition continued to deteriorate.

Exploratory laparotomy was done on twenty three (96%), one patient died during resuscitation before surgery. A right lower transverse access was used in ten children (43.5%) without features of peritonitis while the remaining thirteen (56.5%) were accessed through an upper transverse abdominal incision. Successful manual reduction was achieved in sixteen (69.6%) while seven (30.4%) had resection and anastomosis because of gangrenous bowel. Except for hyperplastic lymphoid patches seen in the terminal ileum of ten children, there was no obvious bowel

Table 3: Duration of Illness before presentation, findings at operation, procedure carried out and outcome

Duration of Illness	No: of Patients	%	Findings at Operation	Definitive Procedure	Outcome
Within 24 hours	3	12.5	Ileocolic, apex at ascending colon, nil gangrene	Manual reduction	Discharged home 5DPO
1 - 4 days	10	41.6	4 Ileocolic 6 ileocaecocolic 1 gangrene	9 manual reduction 1 resection and anastomosis	All discharged home 1 week PO
5 - 10 days	7	29.2	4 Ileocolic 3 ileosigmoid gangrenous mass	4 manual reduction 3 resection and anastomosis	1 burst abdomen 1 died 5DPO 6 discharged on 10DPO
11 - 14 days	4	16.6	3 ileosigmoid gangrenous mass 1 nil op	Resection and anastomosis	1 burst abdomen 1 died 2 DPO 1 died during resuscitation
Total	24	100	-	16 manual reduction 7 resection and anastomosis	21 survived 3 died

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lesion that could be implicated in the aetiology. Six patients had post operative morbidity including burst abdomen in 2 (8.7%), wound infection in 4 (17.4%), and protracted electrolyte and nutritional problems in the six (26.1%). The overall mortality was three (12.5%); 21 (87.5%) were successfully treated and discharged. Length of hospitalization ranged from 5 days to 14 days (mean 8 ± 1.4 days).

Discussion

The incidence and pattern of presentation of intussusception varies in different parts of the world[7]. Although the incidence of intussusception in Nigeria is unknown, the 24 patients seen over the 10 years reviewed in this study appeared to be low compared with reports from other parts of this country and different parts of the world[7-10]. The age of occurrence once reported from Nigeria to be higher than five years appeared to be changing because only one (4%) of our patients was more than 1 year of age. Our finding is in agreement with those of Adejuyigbe[1], Nmadu[9], Adebamowo[10]. Even then, the ages of incidence in their reports were still much higher than those in the present report. Available literatures agreed that male children are more affected than female and that prog-nosis depended on time lag before presentation[1-15]. Mortality is quite high in this subregion perhaps due to lack of awareness, delay in presentation and shortage of well trained personnel[1,2,5,9,11].

It has been suggested that the use of infant formulae makes the colonization of the gastro-intestinal tract by various organisms easier with attendant enlargement of the Peyer's patches in the terminal ileum, which triggers off intussusception. We neither noticed significant enlargement of Peyer's patches nor any lead point even though the majority of the intussusceptions were ileocaecal.

Until recently, diagnosis was mainly based on clinical features, but is now supplemented with ultrasound scan and or CT scan[7]. Barium enema was not done in this study because there was no functioning fluoroscopy at the centre within the period of study. The near equal sex ratio in this report contrasted with previous reports in which males predominated[1,8,9].

Many of the patients in this report presented late with consequent morbidity on arrival and mortality (12.5%). Only three patients (12.5%) presented to us within 24 hours of symptoms. This is not different from reports from other parts of Nigeria. In a retrospective comparative analysis of 176 patients with intus-susception in 1999, Van Heek et al[7] compared the findings in a primary care rural hospital in Indonesia, a secondary care urban hospital in Indonesia and a tertiary care urban hospital in the Netherlands. He reported that children in the rural community hospital in Indonesia were more severely ill on arrival and had a

L'intussusception Pediatrique Dans La Ville De Bénin Au Nigeria

Résumé

Arrière-plan: L'intussusception est une des principales causes de l'occlusion intestinale chez les enfants. Cette étude rapporte notre expérience de la gestion de l'intussusception dans la ville de Bénin au Nigeria. ***Malades et méthodes:*** Il s'agit d'une révision rétrospective de l'intussusception chez les enfants pendant dix ans au centre hospitalo-universitaire de Bénin de janvier 1997 à décembre 2006. ***Résultats:*** Vingt-quatre enfants (M : F = 1 :1,4) atteints d'intussusception ont été hospitalisés pendant la période. Seuls trois malades (12,5%) se sont présentés dans les 24 heures suivant le début de la maladie. Dix malades (41,6%) se sont présentés entre un et quatre jours plus tard; sept malades (29,2%), entre cinq et 10 jours, alors que quatre malades (16,6%) se sont présentés entre 11 et 14 jours. Les traits cliniques étaient la douleur abdominale, l'irritabilité, des selles ensanglantées, le vomissement, la distension abdominale et une masse palpable dans plusieurs combinaisons. Tous les malades, sauf un (4%), avaient moins d'un an. ***Conclusion:*** Il y avait beaucoup de retard avant l'hospitalisation des enfants atteints d'intussusception, d'où la mortalité élevée. ***Mots-clés:*** pédiatrie, intussusception.

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