Original Article

Acute Intussusception in childhood: Aspects of Epidemiology, Clinical Features and Management at Children's Hospital, Donka, Guinea Conakry

Invagination Infantile Aiguë: Aspects Épidémiologiques, Caractéristiques Cliniques Et Gestion À L'hôpital Pédiatrique, Donka, Guinée Conakry

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Abstract

Background: Intussusception is a common cause of acute intestinal obstruction in children. This study reports our experience in the management of childhood intussusception at children's hospital, Donka, in Conakary.

Patients and Methods: This was a retrospective study of children treated for intussusception at children's hospital, Donka, in Conakary from January 1993 to June 2003.

Results: There were 37 children in this study (M:F= 1.3: 1). Intussusception accounted for 4.60% of all abdominal emergencies in the paediatric surgery arm of the children hospital Donka in Conakry within the period. There was 56.76% male preponderance. Majority (86.48%) presented late, resulting in delayed intervention. Fifteen out of the 37 children presented after one week of onset of illness. All the patients presented with abdominal pain. Abdominal mass was palpable in 12 (32.4%) patients while four (10.8%) patients presented with prolapsed intussusception through the rectum. Majority of the intussusceptions in this study were of idiopathic origin. Seventy three percent (27) of the intussusceptions were of ileo-cæco-colic type. The average length of the intussuscepiens was estimated at 20 cm. The mortality rate was high (35.13%); the mortality was higher before the age of one year.

Conclusion: Children with intussusception presented late in our hospital, with a high mortality rate especially in infants. Ignorance and poverty may be contributory factors.

Key words: Intussusception, children, classification, mortality

Resume

Arrière-plan: L'invagination est une cause commune de l'obstruction intestinale aiguë chez les enfants. Cette étude rapporte notre expérience dans la gestion infantile invagination à l'hôpital pédiatrique, Donka, Conakary. ***Patients et méthodes:*** Il s'agit d'une étude rétrospective des enfants traités pour l'invagination à l'hôpital pédiatrique, Donka, à Conakary de janvier 1993 à juin 2003. ***Résultats:*** Il y avait 37 enfants dans cette étude (M:F = 1,3: 1). Pendant la période, l'invagination était la cause de 4,60% de toutes les urgences abdominales traitées à la section de chirurgie pédiatrique de l'hôpital pédiatrique de Donka à Conakry. Les mâles étaient majoritaires à 56,76%. La majorité (86,48%) des malades se sont présentés tardivement, d'où l'intervention tardive. Sur les 37 enfants, quinze se sont présentés une semaine après le début de la maladie. Tous les patients se sont présentés avec une douleur abdominale. La masse abdominale était palpable chez 12 (32,4%) patients tandis que 4 (10,8%) patients se sont présentés avec une invagination affaissée par le rectum. La majorité des cas d'invagination dans cette étude étaient d'une origine idiopathique. Soixante-treize pourcent (27) des cas d'invagination étaient du type iléo-cæco-colique. La longueur moyenne de l'invagination était évaluée à 20 cm. Le taux de mortalité était élevé (35,13%); la mortalité était plus élevée avant l'âge d'un an. ***Conclusion:*** Les enfants atteints d'invagination se sont présentés tardivement à notre hôpital, d'où un taux de mortalité élevé surtout chez les nourrissons. L'ignorance et la pauvreté pourraient être des facteurs importants à cet égard. ***Mots-clés:*** Invagination, enfants, classification, mortalité.

Introduction

Intussusception is one of the most common causes of acute intestinal obstruction in children[1]. Early diagnosis has improved the prognosis in the developed countries[2,3];but in the developing countries like ours, the prognosis remains poor largely because of late presentation, which often encourages surgical complication requiring bowel resection with its consequences in the poor infants[1,4,5]. This study reports our experience in the management of acute intussusception in children and draws attention to the gravity of this condition in our country.

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Patients and Methods

This is a ten and half-year retrospective study (from January 1993 to June 2003) of all infants and children managed for acute intussusception at the paediatric surgery unit of the Children Hospital of Donka. The patients were referred to us from peripheral health centres and hospitals. Data were collected from patients' case files and operation registers, and analyzed for age, sex, aetiology, time at presentation, clinical features, operative findings, complications and duration of hospitalization.

Results

There were 37 patients in this study, 21(56.8%) were males and 16 (43.2%) were females (M: F= 1.3: 1). The median age of the patients was eight months (range: 3 months to 15 years). Intussusception ranked second among surgical emergencies in infants after inguinal hernias with a frequency of 27.82%. The 0-1 year age bracket was the most frequently affected with a rate of 70.3%. The disease was most frequent during the dry season (April-March period) with a frequency of 35.1%.

Majority of the patients presented late leading to widely varied time interval before intervention from onset of illness. All the patients presented with abdominal pain. Abdominal mass was palpable in 12 (32.4%) patients while four (10.8%) patients presented with prolapsed intussusception through the rectum. The right iliac fossa was empty in six (16.2%) cases. In the remaining patients, abdominal findings were masked by gross distension of the abdomen.

Plain radiography of the abdomen was diagnostic of intestinal obstruction in 22 (59.5%) patients, with multiple air-fluid levels. Abdominal ultrasonography was carried out only in 11 (29.7%) patients and was diagnostic, showing bowel-in-bowel sign.

All our patients were operated under general anaesthesia. Thirty two (86.5%) patients were operated after 72 hours of onset; only five (13.5%) were operated within the first 72 hours of onset of disease. The average time interval before operation was 120.5 hours (range: 24 hours-264 hours). Intra-operative findings included 27 cases of ileo-cæco-colic intussusception (Fig. 1), six cases of ileo-ileal intussusception, three cases of colo-colic intussusception and one case of jejuno-jejunal intussusception. Majority of the intussusceptions were of idiopathic origin. Two cases were secondary to Meckel's diverticulum. A polyp was the lead point in a child aged 14 years old. Twenty three (61.2%) patients who had bowel necrosis had intestinal resections. The average length of the intussuscepiens was estimated at 20 cm. The remaining 14 (37.8%) patients had successful manual reduction. We have no experience with hydrostatic reduction under fluoroscopy.



Fig. 1: showing ileo-caeco-colic intussusception

Nine (24.3%) patients had postoperative complications: three patients (8.1%) had burst abdomen on the 3rd, 4th and 6th post-operative day, respectively; two (5.4%) patients each had faecal fistula from anastomotic dehiscence, post-operative adhesive obstruction and recurrent intussusception.

The total postoperative mortality rate was 35.1% (13 out of 37). The mortality was highest before the age of one year (11 out of the 13 deaths, or 84.6%). Two patients died intraoperatively, eight in the first 24 post-operative hours and one from ileostomy-related complications.

Discussion

The clinical findings in this study agree in details with established reports. The male preponderance in this report concurs with previous studies[6-9]. The prevalence of intussusception during the dry season in this study may relate to the hyperplasia of the Peyer's patches caused by viral infection of upper respiratory tract which is prevalent during this period.

The average onset-intervention interval of 120.5

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hours in this study is far greater than the 35.5 hours and 44.1hours reported by Carcassone[6] and Rakotoarisoa[10], respectively. The delay in presentation could be attributed to poverty and ignorance of our populations: ignorance on the part of the medical personnel in the peripheral health facilities who may wrongly blame all gastrointestinal symptoms on gastro-enteritis, dysentery or haemorrhoids on one hand, and lack of collaboration between paediatricians and paediatric surgeons in our centre on the other hand.

Hydrostatic reduction of intussusception in infants has gained popularity in recent times. None of our patients benefitted from this method because of late presentation and their poor clinical state, as well as due to technical constraints. Surgery remains the only treatment option at our centre. Twenty three (62.16%) of our patients underwent intestinal resection with primary anastomosis. Compared with the data in the literature these figure was too high. Rakotoarisoa and colleagues in Madagascar reported a resection rate of 23.68%[11]. This high rate of resection in our series is a dramatic consequence of late presentation and diagnostic delay.

The mortality rate was high in our series, especially among the infants. This mortality is ascribable on the one hand to the late presentation of our patients and to the burden of open surgery on these very sick children, on the other hand. Open surgery is a major procedure in a child who is already in a poor clinical state with little physiologic reserve, and often portends catastrophic outcome.

In conclusion, most of our children with intussusception presented late to centres where they could be treated. Early referral and presentation of these children to specialized hospitals equipped to adequately handle these patients would greatly reduce the high mortality and the morbidity associated with childhood intussusception.

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