Adult intussusception: The Jos experience

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Summary

Twenty two consecutive cases of adult intussusception managed between January 1990 and December 1998 at Jos University Teaching Hospital formed the basis of this study. Thirteen (59.1%) of the patients were males and 9(40.9%) females, with a male to female ratio of 1:4:1 and a mean age of 49.6 years. Most patients were referred late to our service as a result of poor index of suspicion and misdiagnosis. Laparotomy was done in all the cases and in 5(22.7%) patients no cause could be found, but in the remaining 17(77.3%) definite causes were identified which were mainly polyps in 7(31.8%) patients and colonic malignancies in 4(18%). The ileocolic intussusception was the commonest variety. Sixteen (72.7%) patients had bowel resection for colonic carcinoma, gangrenous bowel and irreducibility of the intussusception while manual reduction was successful in the other 6(27.3%) patients. The morbidity rate was 22.7% and the complications were wound infection and adhesive intestinal obstruction. Two deaths were recorded with a mortality rate of 9.1%. The pattern of adult intussusception as seen in the western world was observed in this tropical highland.

Keywords: ***Adult intussusception; Missed diagnosis; Diagnosis at laparotomy; Bowel tumours.***

Résumé

Vingt-deux cas consécutifs d'invagination adultes gérés entre Janvier 1990 et Décembre 1998 au Centre Universitaire de Santé de Jos ont formé la base de cette étude. Treize (59,1%) des patients étaient des mâles et 9 (40,9%) des femelles, avec un ratio mâle–femelle de 1,4: 1 et une moyenne d'âge de 49,6 ans. La plupart des patients ont été référé tard à notre service à cause du résultat d'un index pauvre de soupçon et de Omauvais diagnostic. La laparotomie a été faite dans tous les cas et chez 5 patients (22,7%) aucune cause n'a été trouvée, mais chez les 17 restants (77,3%), des causes certaines ont été identifiées qui étaient surtout des<<polyps>> chez 7 patients (31,8%) et des malignités liées au colon chez 4 (18%). L'invigination coligue droite était la varieté la plus répandue. Seize patients (72,7%) ont eu une résection des intestins pour l'epithélioma de la colonne, des intestins gangréneux et une réduction manuelle a été réussie chez les 6 autres (27,3%) patients. Le taux de morbidité était de 22,7% et les complications étaient une infection de la plaie et une obstruction intestinale adhésive.

Deux décès ont été enregistres avec un taux de mortalité de 9,1%. Le modéle d'invagination adulte tel qu'il a été vu dans le monde occidental a été observé dans les plateaux tropicaux.

Introduction

Intussusception, the invagination of a segment of the bowel into an immediately adjoining portion, occurs commonly in babies and infants, though it is not restricted to this age group. When the disease occurs in adults, there is often an associated pathology unlike in children where most cases are idiopathic[1,2]. Most adult intussusceptions are secondary to papilliferous carcinoma of the colon. Consequently, the colo-colic type is frequent. Some other cases have been associated with small bowel tumours, intestinal parasites, as well as plantain (Musa paradisiaca) consumption[1,2,3].

Male preponderance is generally reported for the disease since the first description of intussusception by Barbette of Amsterdam in 16744. Clinically, the disease presents as intestinal obstruction. Ancillary investigations such as plain abdominal x-ray[3], endoscopy[5], ultrasonography[6,7] contrast radiography[1,2] and CT scan[5,8] could be used to establish diagnosis. Therapeutic options include enema reduction[1,2,8] laparoscopic procedures[9] and laparotomy for manual reduction or resection[1,2,3].

This work aims at reviewing our experience in the management of 22 consecutive cases of adult Intussusception seen at Jos University Teaching Hospital between

Table 1 Clinical features

Clinical features	Number of patients	Percentage (%)
i. Abdominal pain	7	31.8
ii Abdominal distention	6	27.3
iii Dehydration	6	27.3
iv. Vomiting	4	18.2
v. Bloody Mucoid stool	3	13.4
vi. Constipation	3	13.4
vii. Abdominal mass	1	14.5

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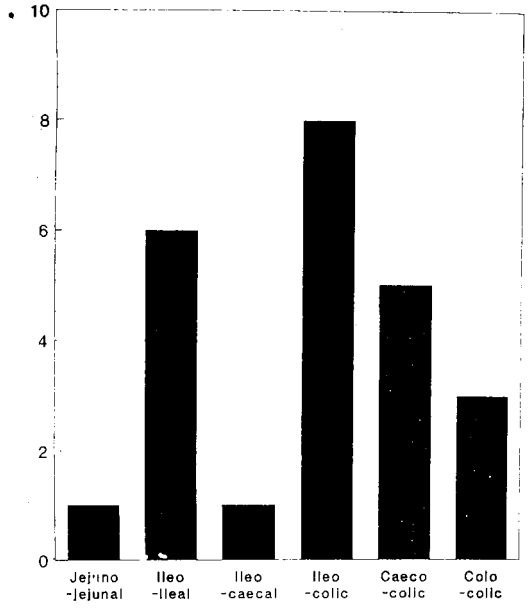

Fig. 1 ***Types of Intussusception***

January 1990 and December 1998 in order to determine the pattern and factors that influenced outcome in the management of Intussusception in comparison with findings elsewhere.

Materials and methods

The hospital case files of all the 22 consecutive adult patients who were above 15 years of age and managed for confirmed Intussusception at the surgical services of the Jos University Teaching Hospital between January 1990 and December 1998 were retrieved.

The demographic and clinical data as well as management options and outcome were entered into a proforma and analysed using the EPI-INFO version 6 computer software and the Harvard Graphics was used to make the Bar charts.

Results

Within the 9-year period of this study, 22 consecutive cases of intussusception were managed at the Jos University Teaching Hospital and they formed the basis of this study. The age ranged between 30 and 76 years with a mean of 49.6 years. Thirteen of the patients were males while nine were females with male to female ratio of 1:4:1.

The duration of symptoms prior to presentation ranged from 7 to 90 days. The main clinical features were abdominal pain and distention as shown in Table 1.

In only one (4.6%) patient was a palpable abdominal mass felt. The associated pathologies are as shown in Table 2. All the patients had surgery and the definitive diagnosis was only made at surgery. The types of intussusception in this series are as shown in figure 1, with the ileo-colic variety being the commonest. One patient with Peutz-jegher's syndrome presented with tripple intussusception (jejuno-jejunal, ileo-colic and colo-colic varieties which were intact at surgery) and was the only patient with multiple intussusception. In 2(9.1%) patients, buried appendicectomy stump formed the lead point of the intussusception. In 6(27.3%) patients, manual reduction was successful while in 16(72.7%) resection was done for: tumours in 11 (50%) patients, gangrenous bowel in 2(9.1%) and bowel irreducibility in 3(13.6%).

The duration of hospitalisation ranged between 8 and 35 days with a mean of 20 days. Five (22.7%) patients had post operative complications which were severe wound infection and adhesive intestinal obstruction. There were 2 deaths with a mortality rate of 9.1% and they were patients with large bowel carcinoma. Fol-

Table 2 Associate pathology

Associated pathology	Number of patients	Percentage(%)
i. Polyps	7	31.8
ii Mesenteric lymphadenopathy + Inflamed peyer's patches	4	18.2
iii Carcinoma -caecum	2	9.1
–ascending colon	1	4.5
– transverse colon	1	4.5
iv Buried Appendicectomy stump	2	9.1
v Idiopathic	5	22.8
Total	22	100.0

Table 3 Treatment offered

Treatment offered	Indication	Number of patients	Percentage (%)
1. Manual Reducation	Viable Healthy Bowel	6	27.3
ii. Resection and Anastomosis	Tumors	11	50
iii. Resection and Anastomosis	Bowel Gangrene	2	9.1
iv. Resection and Anastomosis	Bowel Irreducibility	3	13.6
Total		22	100.0

low up period ranged between one to four years and no recurrences were recorded.

Discussion

Over the 9 years of this study, 22 consecutive cases of adult intussusception were managed in this institution representing 25.6% in contrast with 48(55.8%) infants and 16(18.6%) older children who were managed for the same disease within the same period. The finding is consistent with the works of others in the western world where the incidence of intussusception was reported to be higher in the infants than in adults[1,8,10,11]. However, our pattern is at variance with many other previous reviews in Africa where adult intussusception exceeded those in childhood[11-15]. The mean age of 49.6 years in this study is also similar to the mean age of 50 years and above reported in the developed countries[10] and much higher than the mean age of 25 years reported in another centre in the savannah region of this country[16]. This shows that the age incidence of adult intussusception could carry widely even in different parts of similar geographical region. No significant gender preference was observed contrary to the reports of some others where there was marked male preponderance[1,8,11-13]. The most common symptom recorded was colicky abdominal pain, a feature corroborated in the findings of others [3,16]. In one patient, an abdominal mass was felt while none of the patients presented with a rectal mass. This may account for the delay in diagnosis in this series, an experience shared by others[17]. This is in contrast to childhood intussusception where an abdominal and/or a rectal mass is often felt[8] – features which significantly improve clinical diagnostic accuracy in childhood intussusception.[18]

Adult intussusception is usually associated with an identifiable pathologic lesion and in this study, they were mainly polyps and malignant tumours. Also the ileocolic variety was the commonest, a finding which was consistent with another work on adult intussusception[19] but at variance with the study from South-Western Nigeria where the caeco-colic variety was commonest[3]. The preponderance of the caeco-colic intussusception in South-Western Nigeria has been attributed to the consumption of plantain (Musa paradisiaca), a staple diet in the area rich in *5-Hydroxytryptamine* (Serotonin)[3].

Fewer (22.7%) patient in this study had idiopathic intussusception, while the majority (77.3%) had a definite causative pathologic process as the lead point. This observation is in keeping with the works of Dean and associates, Coleman *et al*, and Resjnen *et al*[20-22] but at variance with the works done in Zaria by Garg *et al*, and lately by Nmadu[15-16] where majority of the intussusception were idiopathic.

All the patients in this review had laparotomy for diagnosis and treatment and the histological findings were as shown in Table 2. In this study, the colonic malignancies were all on the right side of the colon and were treated by right hemicolectomy. Should tumors be located on the left colon, on table lavage is recommended to obviate the need for staged surgery[23,24]. The postoperative complications noted were wound infection and adhesive intestinal obstruction. Two patients who died had colonic carcinoma with liver metastasis and they both died of sepsis from severe wound infection and cellulitis of the anterior abdominal wall on the 9th and 12 post operative days respectively.

The delay in offering patients with adult intussusception appropriate treatment is usually as a result of missed or delayed diagnosis. There is therefore the need for awareness to suspect intussusception in adult patients with ill-defined features of bowels obstruction. High index of suspicion on the part of the primary and secondary health workers will improve the future outlook of intussusception in developing countries.

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