Acute intestinal obstruction in Nnewi Nigeria: a five-year review

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ABSTRACT

Background: Acute intestinal obstruction is still one of the commonest causes of acute abdomen in the country and the patterns and causes have kept changing over time within various parts of the country. We undertook this study to determine data on presentation and management in our environment as well as highlight these changing patterns.
Methods: A retrospective study of all patients managed for acute intestinal obstruction from 1993 to 1997.
Results: Seventy-six patients fulfilled the inclusion criteria; 51 males and 25 females. Peak age incidence was in the first decade of life while the major complaint was abdominal pain. Commonest clinical finding was abdominal tenderness. Seventy-five (98.68%) had surgery and 42(55.26^) had resection. The commonest causes were; strangulated hernia (18) intussusception (18) and adhesion (15). The commonest postoperative complication was burst abdomen (4%) and mortality was (9.2%).
Conclusion: High clinical acumen, aggressive resuscitation and prompt surgical intervention are the key to achieving good results in both pediatric and adult acute intestinal, obstruction.

Key words: Intestinal obstruction

Introduction

Acute intestinal obstruction is still one of the commonest causes of acute abdomen in the country as reported by several writers from different parts of the country. [1,2]The patterns and causes have kept changing over time within various parts of the country. [3,4] Nnamdi Azikiwe University Teaching Hospital (N.A.U.T.H) a new generation hospital situated in a semi-urban community is in competition with a large number of private hospitals of various levels of competence. We undertook a study to determine data on presentation and management in our environment. Peculiarities in the adult and paediatric age groups are also highlighted.

Materials and Methods

The records of all patients with the diagnosis of acute intestinal obstruction operated upon from 1st

January 1993 to 31st December 1997 were analyzed in terms of age, sex, presenting complaints; cause of the obstruction and operative findings. The postoperative complications as well as the mortality were analyzed. The criteria for inclusion into the series were clinical and operative findings. Patient with clinical diagnosis of intestinal of obstruction, treated conservatively and unconfirmed by surgery or who died without surgery were excluded from further analysis. For neonates, infants and children who cannot give their own history; the symptoms documented were those obtained from the informant.

Results

Seventy-six cases fulfilled our inclusion criteria. Fifty-one males and twenty-five females giving a male: female ratio of 2:1. Peak age incidence was in the fist decade of life (33.7%) with equal distribution between the 3rd and 7th decades. (Table 1).

The major complaints were abdominal pain (90%), distension (85%). Vomiting was present in 71.2% cases while constipation was found in 65%. Abdominal tenderness was found in 97% of cases; abdominal distention 82%; 68% showed evidence of dehydration while 43% showed evidence of systemic toxicity. Seventy-five (98.68%) had surgery and 42 (55.26%) had resection and anastomosis due to gangrenous bowel. The commonest causes of acute obstruction in our adult patients were strangulated hernia (12 indirect inguinal and 2 femoral) and adhesive bands (8 post operatively and 5 following intra abdominal sepsis) while in our paediatric age group it was intussusception.

We had one case of Meckel's diverticulum causing illeal volvulus; one case of mesenteric thrombosis in an adult sickler and a case of fecal impaction with no organic cause. All our duodenal and small bowel tumuors were adenocarcinomas (Tables 1 and 2).

The commonest postoperative complication was burst abdomen (4%). There was one anastomotic leakage; one fecal fistula; two transfusion reactions. Two had prolonged paralytic ileus. On the whole there were due to conditions not directly related to the primary condition, one had advanced lymphoma; one had anaesthetic death; one had cerebrovascular accident while recovering from surgery and died from it. All our cases except one case of fecal impaction (which was removed manually) received antibiotics pre and post-operatively. Autopsy was not carried out on any of the dead patients.

Table 1: Age and cause of acute intestinal obstruction in adults.

Aetiology	Age (yrs)						
	>15	20-29	30-39	40-49	50-59	60+	Total (%)
Strangulated hernias	1	5	2	1	2	3	14(18.4)
Adhesions	-	-	4	3	5	1	13(17.1)
Colonic carcinoma	-	-	-	-	2	6	8(10.4)
Sigmoid volvulus	-	-	-	1	1	-	2 (2.6)
Ca head of pancreas	-	-	-	1	1	-	2 (2.6)
Duodenal tumour	-	1	1	-	-	-	2 (2.6)
Small bowel tumour	-	-	1	1	-	-	2 (2.6)
Retroperitoneal tumour	1	-	-	-	-	-	1 (1.3)
Mesenteric thrombosis	-	1	-	-	-	-	1 (1.3)
Total (%)	2 (2.6)	7 (9.2)	8 (10.5)	7 (9.2)	11 (14.5)	10 (13.1)	45 (59.2)

Table 2: Age and cause of acute intestinal obstruction in children

Aetiology	Age (yrs.)					Total (%)
	< 1 Month	1-11 Months	1 - 4	5 - 9	10 - 14	
Strangulated hernia	-	-	1	1	2	4(5.3)
Intussusception	-	18	-	-	-	18(23.7)
Peritoneal adhesions	-	-	-	1	-	1(1.3)
Imperforate anus	3	-	-	-	-	3(3.9)
Jejunal atresia	2	-	-	-	-	2(2.6)
Meckel's diverticulum	-	-	-	1	-	1(1.3)
Midgut volvulus	1	-	-	-	-	1(1.3)
Fecal impaction	-	1	-	-	-	1(1.3)
Total (%)	6 (7.8)	19 (25)	1 (1.3)	3 (3.9)	2 (2.6)	31(40.8)

Table 3: Mortality by age and duration before presentation

Diagnosis	Age (Yrs)	Resection?	Duration before presentation	Comments
Mesenteric thrombosis	60	Yes	3 Days	-
Carcinoma of the colon	55	No	15 Days	Inoperable
Disseminated lymphoma	22	Yes	7 Days	Died from metastasis
Sigmoid volvulus	59	Yes	5 Days	Died without recovering from anesthasia
Intussusception	5	Yes	S Days	-
Intussusception	7	Manual Reduction	4 Days	Had leakage Later had reexploration
Carcinoma of the colon	62	Yes	6 Days	Had CVA

Discussion

Acute intestinal obstruction is a global problem consuming much in terms of surgical services. [1-] Various studies locally and internationally have determined the magnitude of the problems [1-6,] the pattern and symptomatology which have differed over time [7-10] Diagnosis [11] and treatment [12] modalities reflect a lot of local factors and peculiarities (facilities available and the propensities of the managing teams). However, most agree that the key to achieving good results is aggressive resuscitation and prompt surgical intervention to relieve the obstruction. Our studies highlight the peculiarities in a tertiary institution located in a semi-urban town of a typical tropical country.

Seventy six cases in 5 years may look small but when juxtaposed with frequent crises in the health sector and large numbers of competing health institution it could be seen that this number is highly selective which reflects the time, period and peculiarities of the environment where the study was carried out.

Patients now accept operation for uncomplicated hernias more than before. Also, there are more specialists private hospital around than before. Also, there are more specialist private

hospital around than before and the cases that are likely to be located in a semi-urban town than rural community and our studies was carried out in a semi-urban setting.

Whereas some studies have quoted a sex ratio of 4 males to 1 female, [1] the male to female ratio of 2:1 in the present report is similar to a previous study in the same ethnic community [13]. Before, the commonest cause of acute intestinal obstruction is obstructed inguinal hernia mainly found in peasant male farmers. Today the situation is different as seen from our studies whose target population is manly traders and artisans. The peak age incidence of the first decade of life is quite understandable because most of the congenital causes of acute intestinal obstruction as well as intussusception (a major cause in this series) take their toll at this age and surrounding private hospital are not enthusiastic in taking pediatric surgical cases.

It is noteworthy to observe that adhesive bands from a major causative agent in our adult series. This is quite understandable and reflects the increase volume of surgery performed in the environment. In more advanced communities adhesive obstruction has overtaken external hernias. This new trend in our environment must be seriously looked into, as unnecessary delays with the hope that the bands will be lysed may prove fatal. This is even more important as the society gets more sophisticated.

Due to antibiotics abuse where any abdominal pain is treated by taking of antibiotic capsules most often in an inadequate dose, inra-abdominal sepsis are therefore bound to resolve inadequately. Unlike in neighboring Calabar [3] we did not record any worm infestation probably because of the propensity of the population to consume a lot of 'worm medicine' as routine. Like wise our record of childhood intussusception is high because we have a paediatric surgical interest and referral to the centre is high and nearby general practitioners are still not bold enough to take on pediatric surgery. However 43% of our cases of intussusception showed signs of systemic toxicity emphasizing the fact that most of our patients present late. This of course affects outcome. A lot of medical education is still required. The resection rate of over 50% also reflects the lateness in referral. We agree with others [11-14] that aggressive resuscitation which includes adequate intravenous fluid infusion and antibiotic exposure as well as prompt surgical intervention is required to reduce post-operative complications as well as mortality. Some authors [14] also emphasize the use of modern imaging technique in arriving at an accurate pre-operative diagnosis, which lead to early surgical intervention.

We depend mainly on clinical evaluation as facilities are often lacking. Once a patient has been resuscitated to a level where he can take general anaesthesia, operative treatment offers the best result in our environment. Although the causes and symptomalogy differs in both the adult and pediatric age group; we advocate that for the management of acute intestinal obstruction at any age group in a typical African tropical setting like ours; aggressive pre-operative resuscitation with adequate antibiotic exposure as well as timely operative intervention should be the rule.

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