

Profile of Paediatric Umbilical Hernias Managed at Federal Medical Centre Umuahia

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ABSTRACT:

BACKGROUND: Umbilical hernias are common in children but many resolve spontaneously within the first five years of life. Most umbilical herniorrhaphies in our environment are due to symptomatic hernias which constitute a small percentage of all umbilical hernias.

PATIENTS AND METHODS: A retrospective review of all pediatric patients with UH treated at Federal Medical Centre Umuahia, Abia State from February 2001 to February 2011.

RESULTS: There were 22 patients but only 20 of the folders were found and analyzed. They were made up of 11 males and 9 females with a mean age of 6.19±0.83 years and median age of 6 years. Nine (7 males and 2 females) had acute incarcerations, nine (3 males and 6 females) had recurrent umbilical pains without incarceration and two (1 male and 1 female) had recurrent incarcerations. Age range for acute incarceration was 2-8 years (mean: 4.69 years, median: 4 years); recurrent umbilical pains was 4 months - 15 years (mean: 7.7 years, median: 8 years) and for recurrent incarceration 2-10 years (mean: 6 years). All had standard umbilical hernia repairs except one whose parents declined surgery after reduction of acute incarceration. One patient with acute incarceration had gangrenous bowel with hernia sac abscess and was offered bowel resection with end-to-end anastomosis. On short-term follow-up, the symptoms resolved in all the patients following surgery. Five patients had six complications: 1 exuberant granulation tissue, 2 stitch reactions, 2 superficial wound dehiscence and one superficial wound infection. There were no mortalities and no recurrence on short-term follow-up. Only one patient (5%) registered under the National Health Insurance Scheme (NHIS).

CONCLUSIONS: Active observation of all umbilical hernias at all ages will ensure early detection of complications and prompt treatment. Elective repair of umbilical hernias in patients above five years with fascia defect greater than 1.5 cm is encouraged. Comprehensive NHIS will ensure early presentation and reduced complications.

KEY WORDS: Pediatric; Umbilical; Hernia

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INTRODUCTION

Umbilical hernia (UH) is a common anomaly in pediatric age group^{1,2,3}. The prevalence range from 1.9%-18.5% in

white children⁴ to 19.4% in black children⁵. Complications are generally not common^{1,2,5}, incidence of complication being about 1 in every 1500 UHs⁶. Most resolve spontaneously by third to fifth year of life^{2,4,7}, as the anterior abdominal wall develops. Some do not resolve and may be carried into adolescence⁵. UH may get complicated at a variable point in this natural history, thus close observation to ensure early detection and treatment of complications is encouraged. Treatment usually involves closure of the fascia defect and inversion umbilicoplasty. The notable complications may include acute incarceration, recurrent incarceration, strangulation, perforation with bowel evisceration¹ and cutaneous fistulation³. Surgery may also be needed for cosmetic reasons and in those which fail to obliterate after 3-5 years of age^{2,4}. We present a profile of UH in the pediatric age group managed at the federal medical centre Umuahia from February 2001 to February 2011.

PATIENTS AND METHODS

This is a retrospective study highlighting the profile of umbilical hernias in federal medical centre Umuahia, Abia state, Nigeria from February 2001 to February 2011. The information on patients who presented for umbilical herniorrhaphy from February 2001 to February 2011 were retrieved from ward admission records, theatre records and patient folders. The following data, where available, were retrieved: age, sex, weight, major symptoms, duration of symptoms before presentation, hemoglobin level, surgery done, findings at surgery, type of anaesthesia, duration of hospital stay, complications, outcome, duration of follow-up, any recurrence or need for blood transfusion and registration or otherwise with national health insurance scheme. These were entered into and analyzed using Statistical Package for Social Sciences (SPSS) version 15. The results are presented as means, ratios and percentages.

RESULTS

Out of the 22 cases gotten from the hospital records, only 20 folders were retrieved for analysis (90.9% retrieval rate). The ages ranged from 4 months to 15 years, with a mean age of 6.19±0.83 years and median age of 6.00 years. Mean age for acute incarcerations was 4.72 years. There were 11 males and 9 females (male:female ratio of 1.2:1), while those with acute incarcerations comprised 7 males and 2 females (male:female ratio of 3.5:1). The weights ranged from 6.4 kg to 44 kg. All patients had symptomatic umbilical hernias: 9 had recurrent umbilical pains without incarceration (45%), 2 had recurrent

incarceration(10%),9 had acute incarceration(45%).Four of the acute incarcerations have had at least one episode of previous incarceration before presenting in emergency with acute incarceration(44.4% of acute incarcerations).Of the nine acute incarcerations ,three(33.3%) reduced in hospital and surgeries were done on the next available operation day ,while six(66.7%) did not reduce and required emergency exploration .Of the six that did not reduce, only one had gangrenous content(bowel) necessitating bowel resection and anastomosis .Intestinal obstruction occurred in three patients .Duration of symptoms before presentation in acute incarceration ranged from 1-3days with a mean of 1.63days.Average hemoglobin estimation was 11.32g/dl with a range of 9-13g/dl .All had umbilical herniorrhaphies using standard open suture repair technique, under general anesthesia , except for one patient who declined surgery after reduction of acute incarceration .The umbilical fascia defect ranged from 2cm-6cm,with a mean of 4cm.Only one patient(the one who had bowel resection) required whole blood transfusion .Mean postoperative hospital stay was 4.52±0.95days with a range of 2-20days.There was no mortality ,but five patients had six post-operative complications:1 exuberant granulation tissue,2 stitch reactions,2 superficial wound breakdown and one superficial surgical site infection .With follow-up ranging from 1 week to 12 weeks and a modal duration of 1 week ,no recurrence was noted .Only one patient was registered under the NHIS.

DISCUSSION

Umbilical hernias are commoner in children than in adults .In children it occurs more in those of Afro-Caribbean descent⁶ than those of Caucasian extraction .The prevalence is also lower in higher socioeconomic groups⁸.Complications are generally thought to be uncommon^{1,2},but are significant when they occur .In our series all patients were symptomatic as opposed to some others³ where a significant proportion of patients who had umbilical herniorrhaphies were for asymptomatic hernias.

Our patients presentations were classified into three : acute incarceration ,recurrent incarceration and recurrent umbilical pains .Ameh¹ and Chirdan² recognized acute and recurrent incarcerations as complications of UH while Marinković⁴ also identified UH as a recognized source of recurrent umbilical pains in the absence of any clinically obvious incarceration .Average age at presentation of 6.19years supports the practice of close monitoring in umbilical hernias most of which will spontaneously resolve by 3- 5years of age^{2,4,7} .The general male to female ratio of 1.2:1 and 3.5:1 for acute incarcerations is at variance with widely accepted knowledge that UHs are generally more common in females^{2,8,9} .Average duration of symptoms at

presentation in acute incarceration of 1.63 days is high when compared with less than 24hours observed in some other series⁷.All,except one patient ,had optimal hemoglobin level ,with a mean of 11.32g/dl suggesting a good nutritional status in almost all our patients ,though, as Ebomoyi et al¹⁰ suggests ,there is no strong association between nutritional status and incidence of UH .Only one patient had bowel resection(a resection rate of 5%);this is similar to findings by Chirdan et al² in Jos ,Nigeria who had one bowel resection in their study of 23 complicated UHs .Average umbilical defect of 4cm corroborates finding by Ameh EA¹ of greater than 1.5cm fascia defect in all complicated UH in their series .

Average duration of postoperative hospital stay of 4.52 days is long especially as ambulatory surgery is already been done for uncomplicated cases¹¹.General anesthesia was used in all our patients and postoperative analgesia achieved by intramuscular and oral analgesics as opposed to local infiltration and paraumbilical nerve block using local anesthetics by Clarke and Cassey¹² .No mortality was recorded and this is corroborated by other local and foreign studies^{1,2,5,7} .No recurrence during short-term follow-up as opposed to recurrence rates of 8.9%¹³ and 2.4%⁷ seen in other studies .The percentage that presented before 5years is 40% and is lower than 63% seen in Bulawayo,Zimbabwe⁹.All our patients sought medical care due to symptoms and none for cosmetic reasons as experienced by Meier et al in Texas⁵.Umbilical fecal fistula and spontaneous evisceration reported as UH complications by Killelea¹⁴ and Ameh EA¹ respectively were not found in this study. The finding by London JA et al¹⁵ that there is an increased risk of hernia complications in those without insurance is very applicable in this study where only one patient registered under the NHIS .The short duration of follow-up reflects what is generally seen in our environment ,though this is opposed to findings by Keshtgar AS et al¹⁶ in London ,where longer follow-up durations were recorded .This may be due to financial constraints and poor attitude to health-care which are rife in our society.

In conclusion ,active observation of all umbilical hernias will ensure early detection of complications and prompt treatment .Elective repair of umbilical hernias in patients above five years with fascia defect greater than 1.5cm is encouraged .Comprehensive and effective NHIS will ensure early presentation for adequate surgical care.

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