INTRODUCTION

Umbilical hernia (UH) is a common anomaly in pediatric age group. The prevalence range from 1.9%-18.5% in white children to 19.4% in black children. Complications are generally not common, incidence of complication being about 1 in every 1500 UHS. Most resolve spontaneously by third to fifth year of life, as the anterior abdominal wall develops. Some do not resolve and may be carried into adolescence. 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 evisceration and cutaneous fistula. Surgery may also be needed for cosmetic reasons and in those which fail to obliterate after 3-5 years of age. We present a profile of UH in the pediatric age group managed at the federal medical centre Umuahia 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 11males and 9females with a mean age of 6.19±0.83years and median age of 6years. Nine (7 males and 2 females) had acute incarcerations, nine (3 males and 6 females) had recurrent umbilical pains without incarcration and two (1 male and 1 female) had recurrent incarcerations. Age range for acute incarceration was 2-8years (mean:4.69years, median :4years); recurrent umbilical pains was 4 months -15 years (mean:7.7years, median:8years) and for recurrent incarceration 2-10 years (mean:6years). 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 fascial defect greater than 1.5cm is encouraged. Comprehensive NHIS will ensure early presentation and reduced complications.

KEYWORDS: Pediatric; Umbilical; Hernia

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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 1-3 days with a mean of 1.63 days .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±0.95 days with a range of 2-20 days .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 descent than those of Caucasian extraction .The prevalence is also lower in higher socioeconomic groups .Complications are generally thought to be uncommon ,but are significant when they occur .In our series all patients were symptomatic as opposed to some others’ where a significant proportion of patients had umbilical herniorrhaphies for asymptomatic hernias.

Our patients presentations were classified into three: acute incarceration ,recurrent incarceration and recurrent umbilical pains .Ameh ,Chirdan and Chirdan ,recognized acute and recurrent incarcerations as complications of UH while Marinković also identified UH as a recognized source of recurrent umbilical pains in the absence of any clinically obvious incarceration .Average age at presentation of 6.19 years supports the practice of close monitoring in umbilical hernias most of which will spontaneously resolve by 3-5 years of age .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 .Average duration of symptoms at presentation in acute incarceration of 1.63 days is high when compared with less than 24 hours observed in some other series .All,except one patient ,had optimal hemoglobin level ,with a mean of 11.32 g/dl suggesting a good nutritional status in almost all our patients ,though, as Ebomoyi et al suggested ,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 al in Jos ,Nigeria who had one bowel resection in their study of 23 complicated UHs .Average umbilical defect of 4 cm corroborates finding by Ameh of greater than 1.5 cm 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 cases .General anesthesia was used in all our patients and postoperative analgesia achieved by intramuscular and oral analgesics as opposed to local infiltration and parabulbar nerve block using local anesthetics by Clarke and Cassey .No mortality was recorded and this is corroborated by other local and foreign studies .No recurrence during short-term follow-up as opposed to recurrence rates of 8.9% and 2.4% seen in other studies .The percentage that presented before 5 years is 40% and is lower than 63% seen in Bulawayo,Zimbabwe .All our patients sought medical care due to symptoms and none for cosmetic reasons as experienced by Meier et al in Texas .Umbilical fecal fistula and spontaneous evisceration reported as UH complications by Killelea and Ameh EA respectively were not found in this study .The finding by London JA et al 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 al 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 1.5 cm is encouraged .Comprehensive and effective NHIS will ensure early presentation for adequate surgical care.

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