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Review of Inguinal Hernia Surgeries performed in Nigerian Children.

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Abstract:
Introduction: *Inguinal hernias are among the commonest clinical condition that requires surgical intervention in children.*
Method: *This study was a retrospective review of 118 inguinal hernias among 108 children which were surgical treated over a period of three years. Folders were sorted from records and reviewed.*
Result: *There were 105 males and 3 female children having 98 unilateral and 10 bilateral hernias .Age of the children ranged from 2 months to 15 years. The operation performed was a simple high ligation of sac without mobilization of cord. Most of the children were operated at much older age with peak ages at 2-3 years and 7-8 years .There were no operative mortality.*
Conclusions: *The findings in this series help to buttress the fact that hernias in infancy and childhood are amenable to surgery with gratifying result.*
Keywords: *Inguinal hernias, children, surgical treatment*

I. Introduction

Inguinal hernias are very common in infancy and childhood .For a long time, the persistent patent processus vaginalis in children has been recognized as the embryological basis of these hernias.[1.]
Surgical approach for treating the condition had been evolving overtime[2].

Herniotomy is simply excision of the pre-formed sac, and when carefully carried out, give satisfying results. This study concerning use of the technique was carried out in the general Surgery Unit. The paediatric surgery specialtry is yet not well extablished in many developing countries[3]. Nigeria with a population of about 160 millions[5] has an estimation of less than 50 practicing paediatric surgeons at present[4]. In such situation, the general surgeons can credibly fill the vacuum. This paper reviewed all herniotomy carried out by a general surgery unit.

II. Material and methods

One hundred and eight children with 118 inguinal hernias were operated upon in a General surgical unit at the University Colledge Hospital, Ibadan over a period of three years. The case notes of these children were critically reviewed retrospectively. These were 105 male and 3 female in this study. The ages of the children at Operation varied between 2 months to 15 years.

All the patients were operated upon on out-patient basis. The parents were instructed to fast the children overnight for about 6 hour prior to the morning of the surgery. A quick review for adherence to pre-operative instructions such as overnight fast and exclusion of contraindications to general anesthesia such as respiration infection was ascertained. The children were considered first place in the operation list for the day so as to prevent prolong fasting.

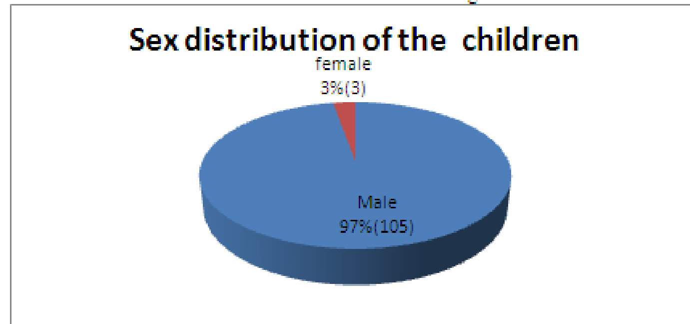
A minimum of Pack cell volume of 30% was bench mark for general anaesthesia and was applied for all the reviewed case. Operation was carried out by the corresponding Author and surgeons in-training. Operation technique used was described by Ferguson and has been reported in another study[6].

The salient features of this technique were the use of transverse skin crease incision and gentle dissection of the hernia sac from the cord coverings without mobilizing the cord. By not mobilizing the cord, the posterior attachment of the cremasteric muscle which serves as a pillar to the posterior wall of the inguinal canal is preserved. In all the patients, continuous absorbable subcuticular were used for skin closure. This prevented suture removal during follow-up clinic.Patients were followed up for periods ranging from 6 months to 3 and half years.

III. Results

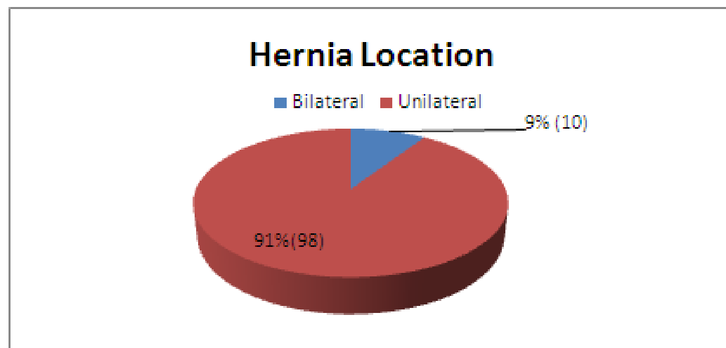
A total of 108 children with 118 inguinal hernia was reviewed for a three year period. They were followed-up for a period varying between 6 months to 31/2 years and there was no recurrence.

Chart 1: showed more male children with inguinal hernias.



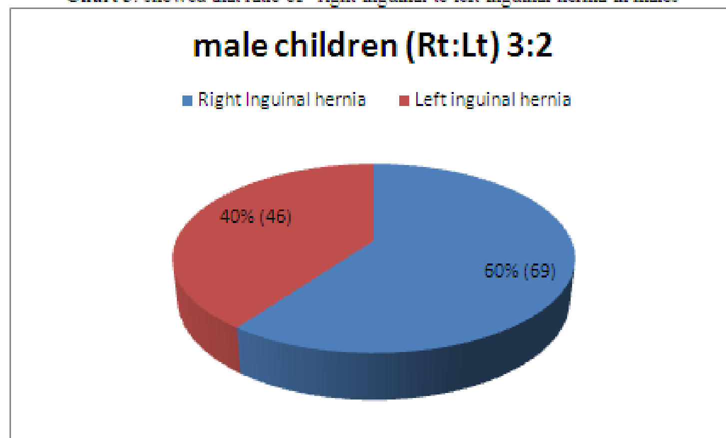
Hernias occur more as a unilateral presentation in children rather than bilateralism see chart 2

Chart 2: showed few hernia bilateralism in children



More of the studied children were males and among them the right side was significantly the most common. See chart 3

Chart 3: showed that ratio of right inguinal to left inguinal hernia in males



IV. Discussion

It is most expedient to offer elective surgery to infants and children with inguinal hernias because of increased morbidity and possibly damage to the testicles associated with incarceration and strangulation of the hernias in this age group. The diagnosis of hernia in infancy is quite simple and obvious to the pediatrician or the surgeons. Sometimes, the symptoms of inguinal swelling would be noticed when the child is crying or when a gentle pressure is applied on the abdomen which would induce the bulge or when the infant begins to make attempt in standing or walking upright. In few cases one would rely on the silk glove feeling' sign [10]. The

diffential diagnoses include hydrocele[9] and incomplete descent of the testicle .Our study reveals that inguinal hernias in children are common in male. Data from Africa on inguinal hernias show a male-to-female ratio ranging from 2.2:1 to 16.6:1. In this study series , the male to female ration was 31:1, and within the males; the right was more common than the left at ratio 3:2. There was 9.2% bilaterality in this review. Other studies corroborate our finding as well. Another literature revealed that right side in about 60–70% of cases and on the left side in 25–30%[6] and bilateral in about 5–10% of cases.

Indications for surgery are ; a newly diagnosed hernia in a child in order to prevent aftermath or complications following failure to operate early. Such aftermath include incarceration and strangulation of hernia content [6&7].The complications are indication for emergency herniotomy in children.

Optimum age for surgery is dependent on surgeon's experience. Too early surgery put damage to cord structure especially in in-experience hands. From General surgeon point of view and experience in the unit concerning was dependent on the guiding policy of the unit which was , the children must be 6 months old at least. The Pediatric surgeon may perform herniotomy at earlier age due to the specialty expertise [6]. Also, operations were carried-out as a day[8] procedure, in order to prevent cross infection, and not to perturb mother to child bonding. This allows more children to have their surgeries where patient beds are precious.

As regards to the operation, a transverse skin crease incision as opposed to oblique incision is favored for two reasons. First, cosmetic appearance of the scar, and secondly the oblique incision sometime may be extended into the very fatty suprapubic area which is below the site of the pathology and helps to confuse the inexperienced. The hernia sac was dissected-out without mobilization of the spermatic cord while the cremasteric muscles helps to maintain the integrity of the posterior inguinal wall. A small hernia sac was usually dissected, through and through, but moderate or large sac was usually transected and then the distal portion was left wide open without excision .This technique helps to prevent extensive dissection which invariably leads to hematoma formation as an immediate complication or hydrocele[9] in future.

V. Conclusion

Inguinal hernias are common in infants and children. They are amenable to surgical treatment with gratifying results. From this study, it is highly recommendable and desirable that General surgeon in training in developing parts of the world should be exposed to the technique of herniotomy in children during their training especially where there are in-adequate numbers of Paediatric surgical centers and specialized personnel. It is a technique easy to learn and certainly and when Surgeons in-training qualify as General surgeons, they will be faced with hernias in children which would require elective or emergency surgical intervention. Consequently, they may be the chance of preventing a morbidity that could arise where there are scarcely or no Paediatric surgeon available.

Conflict of interest; none to declare

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