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INGUINAL HERNIOTOMY IN CHILDREN, A FIVE YEARS SURVEY

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Abstract

The aim of the study is to evaluate and improve the treatment strategy of inguinal hernia in children and comparing our results with other international studies. A retrospective analysis carried out from January 1998 to the end of December 2003 in Al-Saddir Teaching Hospital, Basrah, Iraq on 965 children who underwent inguinal herniotomy.

Nine hundred and ninety seven inguinal herniotomies were performed on 965 children. Six hundred and forty patients (66.3%) were under six years old and 325 patients (33.7%) were from 6-14 years old, there were 805 (83.4%) males and 160 (16.6%) females with male to female ratio of 5: 1 .In 612 operations performed on the right side, 321 on the left side and 32 bilateral. Fifty five (5.7 %) child presented as emergency with irreducible hernia of which 39 patients (71%) underwent emergency herniotomies while the remaining 16 (29%) responded to conservative measures at time of admission. Postoperative complications rate for elective cases was 4.5 % and for emergency cases was 2.2 %, however, the overall postoperative complications rate was 6.7 %.

It is concluded that early detection and repair of inguinal hernia in infancy and childhood is essential to decrease the potential morbidity rate. This needs routine periodic checkup for neonates and infants, the role of community health visitors and an increase in parental awareness. Quick and prompt referral of irreducible hernias for surgery is strongly recommended.

Introduction

Inguinal hernia repair is one of the most common surgical procedures performed in infants and children[1]. Irreducibility is a frequent complication of inguinal hernia with a high risk of strangulation and subsequent intestinal and testicular infarction[2,3]. Eighty four to ninety four percent of irreducible inguinal hernias can be reduced conservatively while the remaining needs urgent surgical repair[3,4]. The reduction of irreducible inguinal hernia is influenced by the duration of symptoms at presentation and the age of the child[4]. Therefore, serious complications may occur even after conservative reduction[5]. There is an increased incidence of postoperative complication associated with irreducibility[4]. Early diagnosis and treatment thus are important if these complications are to be avoided.

Patients and methods

Medical records of all children up to 14 years of age who underwent inguinal herniotomy at Al-Saddir Teaching Hospital, Basrah, Iraq from January 1998 to the end of December 2003 were analyzed. Data were collected for age at operation, sex, laterality, the type of surgery (emergency or elective) and the postoperative complications. The study also included those children who

primarily presented with inguinal hernia but were later found to have undescended testes at operations.

All the operations (herniotomies) were performed by consultants and registrars and an additional surgical steps were undertaken if needed like resection of portion of the small intestine and or orchiopexy.

Results

Nine hundred and sixty five patients with inguinal hernia were admitted to the hospital between January 1998 and December 2003 they underwent 997 inguinal herniotomies.

There were 805 (83.4%) males and 160 (16.6%) females Table I; their ages at the time of operations were divided into pre-school and school age groups. The pre-school age group included neonates (0-6 weeks), infants (6 weeks – 1year) and children with age from 1-6 years .Six hundred and forty patients (66.3%) were in the pre-school age group with neonates and infants accounts only for 205 (21.3%) and the remaining 435 (45%) were children over one year of age while 325 patients (33.7%) in the school age group, Table II.

Inguinal hernia was right sided in 612, left sided in 321 and bilateral in 32 patients Table I, however 19 of the unilateral and 12 of the bilateral hernia were associated with undescended testes for which orchidopexy was performed at the time of herniotomy.

At the time of surgery, the sac was found to be empty in 887 cases while in the remaining cases the sac contains omentum in 38 cases, gonads in 31 cases and bowel in 9 cases.

Elective surgery was performed on 910 patients (94.3%) while 55 patients (5.7%) were admitted as an emergency due to irreducible hernia .All the cases of irreducible hernia were males with 41 cases on the right side and the remaining on the left side. Of these 55 emergency cases 23 (42%) were under one year old, 19 (34.4%) were 1-6 years and only 13 (23.6%) over six years old, Table III.

The strategy of management for those patients with irreducible hernia is conservative to start with involving gentle reduction (Taxis) with sedation if necessary, if the reduction achieved and the child general condition was stable, he was discharged home and readmitted for elective surgery (herniotomy) while if the reduction was not achieved or if there is a contra-indication for taxis (history of more than 4-6 hours of irreducibility or there was signs and symptoms of strangulation) emergency surgery was performed immediately. There were a successful reduction in 16 cases (29%) while the remaining 39 (71%) cases underwent emergency herniotomy. Of those 39 cases, 6 of them needed resection of portion of the small bowel with end to end anastomosis. Postoperative complications developed in 44 patients (4.5%) in the elective group while 21 (2.2%) in the emergency group, the overall rate of postoperative complications was 6.7 %(65 patients). These complications included scrotal swelling (41), chest infection (14) and wound infection (10).

Discussion

The diagnosis of inguinal hernia in children depend mainly on the history given by the parents who reported an intermittent swelling in the inguinal or suprapubic area which may appear while the child crying, walking or jumping and may reduce at night while the child laying down.

In our study 21.3 % of cases were below the age of one year (neonates and

infants), this finding is in contrary to other study where 50% of the patients are less than one year old[1] and this probably indicates the late presentation and diagnosis of children with inguinal hernia.

There is high incidence of irreducibility and strangulation of inguinal hernia in children especially in younger children[3]. Hence inguinal hernia in infancy and childhood can be life threatening and may result in the loss of testis, ovary or a portion of intestine[3, 4]. In this study 5.7 % of patients were presented as emergency cases which are lower than those reported by other studies[1,3,6] and this can be attributed to our strategy in dealing with patients with inguinal hernia by advising their parents to perform an early elective herniotomy within one week of their presentation.

Eighty four to 94% of irreducible hernia can be treated conservatively, the rest need emergency surgery[3,4]. However, conservative management was successful only in 29 % of our emergency cases and this can be explained by the prolong period of irreducibility and delay in referring of those patients from the district hospital and since conservative trail are not always success, these trail should not be carried out in district hospitals where emergency herniotomy can not be performed.

Forty two percent of patients with irreducible hernia were under one year of age which is similar to the finding reported in other series[3,6] thus the possibility of strangulation increase in younger patients and this emphasis the importance of medical awareness among parents.

Emergency herniotomy is difficult operation in neonates and infants because of the edematous structures around the sac which make the dissection of the cord structures more difficult[7], in our study there were 6 patients presented with gangrenous bowel which require bowel resection at the time of herniotomy.

The overall postoperative complication rate was 6.7 % which is slightly higher than the reported rate[1,7], however more than half of postoperative complications were scrotal swelling which respond to simple measures. Postoperative complications were higher after emergency herniotomy 38% and this in consistence with other reported series[3,6,8].

There is still controversy concerning the exploration of the contralateral groin in children with unilateral hernia. However, in our hospital we do not normally explore the silent contra lateral groin; we feel that the low incidence of contra lateral hernia[9,10], the risk to the injury to the cord structures and testes during the exploration[11], and the increase in the operating time does not justify routine contra lateral exploration. Moreover, no morbidity will result from waiting for the contra lateral hernia to develop[12].

Table I. Sex and sites distribution of the patients.

	Sex			Sites			
	Male	Female	Total	Right	Left	Bilat.	Total
No.	805	160	965	612	321	32	965
%	83.4	16.6	100	63.4	33.3	3.3	100

Table II. Age distribution of the patients.

	Pre-school age group			School age group	Total
	Neonates 0-6weeks	Infants 6weeks-1year	Children 1-6years		
No.	57	148	435	325	965
%	5.9	15.4	45	33.7	100

Table III. Age distribution of emergency cases.

	Neonates 0-6weeks	Infants 6weeks-1year	Children 1-6years	Children 6-14 years	Total
No.	7	16	19	13	55
%	12.7	29.3	34.4	23.6	100

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