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Knowledge, Attitude and Practices of General Surgeons Regarding Pediatric Inguinal Hernia at Liaquat University Hospital Jamshoro Sindh

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Abstract

Inguinal hernia is a most common surgical condition worldwide during infancy. In spite of significant improvements in pediatric surgery it still carries mortality and morbidity due to delay between diagnosis and surgical intervention. A delay in the treatment of inguinal hernia may lead to incarceration and strangulation. In developing countries like us the risk of incarceration and complications is much higher due to delay in seeking treatment due to lack of awareness among parents, general practitioners and even general surgeons about the timings of surgery for inguinal hernia in neonates and children. So to assess the knowledge, attitude and practices of general surgeons towards pediatrics inguinal hernia this observational study was conducted at Liaquat University Hospital Jamshoro Sindh. All the willing general surgeons of all surgical units of Liaquat University Hospital Hyderabad/Jamshoro were interviewed through a written questionnaire. Majority of surgeons favor ideal age of surgery is around two years and only 10% suggested that surgery should be done as soon as possible. Regarding the preference of bilateral herniotomy in single attempt, nearly half of surgeon's answer was no and half were in favor of surgery. For treatment of obstructed /irreducible hernia, emergency surgical management was suggested by 80% of surgeons while only 16% liked trial of manual reduction followed by elective surgery. Referral to pediatric surgeon for pediatric inguinal hernia surgery was fifty and fifty. Last question was regarding visibility of hernial swelling on physical examination while parents are sure.

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Eighty percent surgeons replied that patient should be reexamined only 10% relied on parent's statement. As majority of general surgeons had insufficient knowledge regarding pediatric inguinal hernia so continuous medical education like seminars or workshops are recommended for all to fresh up their knowledge.

Keywords: Knowledge; Attitude; practice; pediatrics; inguinal; hernia.

1. Introduction

Inguinal hernia is a common surgical condition of pediatric age group. The hernia in children is different from adults in all respects from etiology to complications. In children direct hernia is rare while indirect hernia occurs as a result of patent processus vaginalis versus adults in which muscular weakness is the basic causative factor. In children hernia is an open sac so simply herniotomy is performed. The structures of spermatic cord are not elevated and no herniorapy or repair of the muscles or fascia of the inguinal region are required as in adults. Expert hands are required to manage the sac, which is very delicate. Testicular vessels and vas deferens are separated from sac at appropriate distance with extreme care. The management of hernia in children is often managed as in adults inadvertently by general surgeons as a tradition that operates pediatric patients and use to call them young adults [1, 2, 3].

As the medical science advanced many anatomical and physiological differences in same cases in adults and in pediatric age group were observed. So studies challenge the misconception of dealing of both adults and children by same surgeon. Awareness at this time demands that pediatric surgery should be recognized as a separate discipline. It is established in most of the developed countries but still needed to be established in developing countries like us [4].

2. Material and methods

This observational study was conducted in all departments of general surgery at Liaquat University Hospital Hyderabad/ Jamshoro from 1st- to 30th November 2013. All the willing general surgeons and senior post graduated who are practicing individual or under supervision of seniors were included in the study.Semi structured questionnaire consisting various items used to explore the range of knowledge, attitude and practice of general surgeons regarding presentation and management of pediatric inguinal hernia.The content of questionnaire was explained. Questionnaire had 02 parts; first part contains personal bio data and second part contains questions regarding knowledge, attitude and practice of general surgeons for inguinal hernia in pediatric patients. Many Though all questions regarding assessing KAP of general surgeons for pediatric inguinal hernia was asked but few questions, which were thought to be significantly, differ in pediatric patient versus adults were analyzed.

2.1 Data processing and statistical analysis

The collected data was analyzed in SPSS version 16.00. Simple frequencies for the qualitative data were calculated and presented as n (%).

3. Results:

KAP survey showed that general surgeon deals the pediatric inguinal hernia as in adults. During one-month study period 50 general surgeons were enrolled in this study. Table I shows the distribution of surgeons and residents with their duration of practice. Regarding time of surgery 84% surgeons favor ideal age of surgery is around two years and only 10% suggested that surgery should be done as soon as possible. Second question was regarding the preference of bilateral herniotomy in single attempt, this was approximately 50% reply no and 40% favor surgery. Treatment of obstructed /irreducible hernia was emergency surgery suggested by 80% of surgeons while only 16% liked trial of manual reduction followed by elective surgery. Referral to pediatric surgeon for pediatric inguinal hernia surgery was fifty and fifty. Last parameter of testing was if hernia swelling was not visible on physical examination while parents are sure. Eighty percent surgeons replied that patient should be re-examined and only 10 % relied on parents statement. Table II showing all the questions and statements.

Table 1 showing sample size

Participant Surgeons	
Male surgeons 45	Female surgeons 05
Consultant surgeons 35	Resident surgeons 15
Duration of practice	
Less than 5 years 20	More than 5 years 30

4. Discussion:

KAP (Knowledge, Attitude and Practice) studies measure changes in human knowledge, attitudes and practices in respect to specific interventions or applications. Such studies are simple with countable (quantitative) data and small sample size is required for estimation of results. Studies only on knowledge and attitudes of specific issues without knowing practice/ behavior on that are worth less [5, 6,7].

Inguinal hernia is a most common surgical condition worldwide during infancy. Its incidence in full term newborns is 1 to 2% to 30% in preterm babies. In spite of significant improvements in pediatric surgery it still carries mortality and morbidity due to delay between diagnosis and surgical intervention. Another important

factor is thin transparent hernial sac in pediatric age group, which needs expert handling.A delay in the treatment of inguinal hernia may lead to incarceration and strangulation. In developing countries like us the risk of incarceration and complications is much higher due to delay in seeking treatment due to lack of awareness among parents, general practitioners and even general surgeons about the timings of surgery for inguinal hernia in neonates and children.

Table 2 showing important questions and responses from participants

	Questions			
1	When inguinal hernia surgery is required in pediatric patient?	As soon as possible,when medically fit 5(10%)	Around the age of 2 years 42(84%)	Around the age of 5 years 3 (6%)
2	Do you prefer bilateral herniotomy in a single attempt?	Yes 20(40%)	No 25 (50%)	No reply 5(10%)
3	What is the treatment of irreducible/obstructed inguinal hernia in children?	Emergency surgery 40(80%)	Trial for manual reduction then surgery 8(16%)	If manual reduction fails then emergency surgery 2(4%)
4	Do you refer to pediatric surgeon?	Yes 50%	No 50%	
5	If hernial swelling is not visible but parents are sure about it what is your opinion?	Re-visit 5(10%)	Re-examine 40(80%)	Rely on parents 5(10%)

We design a questioner (shown in Table 2 with responses given by general surgeons) of significant differences in management of inguinal hernia in children and adults, which are discussed as under.

4.1 Time for pediatric inguinal hernia surgery:

A pediatric surgeon suggests that surgery in children should be done as soon as possible providing patient is medically fit because he knows unnecessary delay invites complications. Zamakshary [8] and Chen Le[9] suggested that unnecessarily delay of even more than 14 days increase the risk of complications and also revealed that wait time put extra burden on health and facilities both. So we who are already working in low economy strata with

limited resources are significantly suffer from unnecessary delay. For this question we give three options to general surgeons that whether surgery is required as soon as possible as hernia has been diagnosed and baby is medically fit, around the age of 2 years and around the age of 5 years, which was responded as for 10%, 84% and 6% respectively. Our study showed the general surgeons prefer the surgery around the age of two years why not the baby has been diagnosed at neonatal age. Our study result contradicts to previous studies. [8,9] Delay in surgery by general surgeon might be due to difficult to handle small babies structures, infrequent exposure of pediatric patients and anesthesia problems.

4.2 Do you prefer bilateral herniotomy in a single attempt?

This question is responded as 40% Yes and 50% No and 10% has no response to this question. A pediatric surgeon prefers bilateral herniotomy in a single attempt because in pediatric patient second hernia repair takes few minutes more. Merits in single go are that exposure to anesthesia and hospitalization is once, to avoid the obstruction/incarceration and also decreases parents' worries. While general surgeons believe that bilateral herniotomy is not performed as in adults because of prolonged duration of surgery and anesthesia. Data suggest that if bilateral symptomatic hernia is there then bilateral herniotomy is preferred. In cases of unilateral hernia in pediatric patient it is also advised that contralateral exposure is fruitful as incidence of contralateral hernia is more up to the age two months. Steinau and Schleef [10] suggested that operation for contralateral hernia should be as routine procedure in children below two months of age as second hernia develops in two postoperative years significantly. Modern pediatric surgeons perform laparoscopic inguinal hernia repair, which has been proved to be feasible, safe and reliable technique. Contralateral patent processus vaginalis is best diagnosed and treated at the same sitting by laparoscopy [11, 12].

Experienced pediatric surgeon performs a simple non-invasive preoperative diagnostic test 91% accurately for diagnosing contralateral PPV the "silk glove sign" (SGS) or palpating the processus vaginalis over the pubic tubercle to avoid unnecessary contralateral exploration [13].

4.3 What is the treatment of irreducible/obstructed inguinal hernia in children?

This question is responded by 80% general surgeon as emergency surgery, Trial for manual reduction then surgery by 16%, if manual reduction fails then emergency surgery by 4% of surgeons. A pediatric surgeon manages most of the cases of irreducible/incarcerated inguinal hernia by early reduction successfully under sedation with firm and steady pressure. Then child is admitted for elective herniotomy after 48 hours surgery is done till that time sac edema resolved. If an experienced surgeon fails to reduce the hernia manually or if the signs of strangulation are present then emergency surgery is required [14, 15].

4.4 Do you refer to pediatric surgeon?

This question is responded as yes by 50% while 50% said that they did themselves which was practiced in west before second world war. In Pakistan pediatric surgery was emerged as separate entity almost 50 years ago but still modalities are not changed even by health care practitioners [16].

4.5 If hernial swelling is not visible but parents are sure about it what is your opinion?

Most (99%) inguinal hernias are diagnosed by either a parent who notices a bulge when a child is straining or crying first time or by a physician during a routine physical examination [17, 18].

Inguinal hernias in infants and children sometimes are not evident during physical examination by pediatric surgeon. Educated parents in the developed countries may show photographic images as a reliable tool for diagnosis. Parents' confirmation may save considerable physician and parental time and expenses. This study shows the opinion of Revisit by 10%, re examine by 80% or rely on parents 10% by of general surgeons. In our setup mostly parents are not literate to an extent that totally a pediatric surgeon rely upon them [19, 20].

5. Conclusion:

Inguinal hernia repair is one of the most frequently performed surgical procedures in pediatric patients. An inguinal hernia does not resolve spontaneously and must be repaired because of high risk of complications. There is a need for repeated training and continuous education to change the perceptions and practices of the surgeons towards management of pediatric inguinal hernia.

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