

## IN ORCHIOPEXY, IS LIGATION OF HERNIAL SAC OBLIGATORY?

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### ABSTRACT

The best way to define an undescended testis is one that cannot be lowered to the bottom of the scrotum without exerting excessive pressure on the spermatic cord. According to studies, the prevalence of undescended testicles ranges from 1-3% in term babies to 30% in preterm babies. At the Dr. M. R. Khan Shishu Hospital & ICH in Mirpur, Dhaka, this retrospective study was conducted between the years of 2005 and 2013. 104 youngsters under the age of 12 (varying in age from one month to twelve years) who have an undescended testis diagnosis have been selected for this study. Informed consent was obtained from each participant in the study. Total 33 of the 104 instances were bilateral, and 71 were unilateral. 49 of the 71 unilaterally undescended testes were on the right and 22 on the left. Testis could be felt in each case. Clinically, there were no instances that had hernias. Version 26.0 of the SPSS software was used to analyze the data. The means and standards are used to express qualitative data. Standard deviation (SD) and percentage (%) were contrasted. Using a separate t test, compare the two groups respectively, the Chi square test. P value less than greater than 0.05 was regarded as significant. Our research suggests that it is safe to avoid ligating the hernial sac during orchidopexy and that doing so is not necessary. It significantly reduces morbidity and healing time.

**KEYWORDS:** Orchiopexy, Ligation, Hernial Sac.

### INTRODUCTION

Testicles that cannot be descended to the bottom of the scrotum without placing undue strain on the spermatic cord are known as undescended testicles. According to various research, the prevalence of undescended testicles ranges from 30% in premature infants to 1-3% in term infants.<sup>[1-3]</sup> The majority of undescended testes can be felt.<sup>[2]</sup> Normally, between 25 and 35 weeks of gestation, the testicles descend normally to the scrotum. A diagnosis of an undescended testis is made at delivery between 1% and 4% of term babies and up to 45% of preterm babies. By the age of 3 months, many cases of undescended testes will naturally descend to the scrotum.<sup>[4]</sup> In order to avoid the consequences of

irreducibility, blockage, and strangulation of the contents, which might increase mortality and morbidity<sup>[5,8]</sup>, herniotomy is the universal surgical procedure, combined with orchidopexy or the closure of associated patent processes vaginalis. Some writers' standard procedure is to routinely seal the peritoneum over the deep inguinal ring (DIR) region.<sup>[5]</sup> We discuss our findings in order to identify whether or not leaving the peritoneum over the DIR unstitched increases the risk of postoperative inguinal hernia. Which may be because any peritoneal defect heals by the in-situ transformation of the mesodermal cells within 24 hours.<sup>[3-5]</sup>

**MATERIALS AND METHODS**

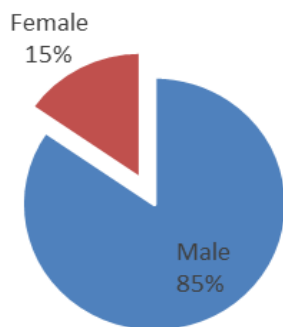
This retrospective study was carried out between the years of 2005 and 2013 at the Dr. M. R. Khan Shishu Hospital & ICH in Mirpur, Dhaka. For the purposes of this study, 104 children under the age of 12 (ranging in age from one month to twelve years) with an undescended testis diagnosis have been chosen. Informed consent was obtained from each participant in the study. Of the 104 cases, 71 were unilateral and 33 bilateral cases. Of the 71 unilateral undescended testis, 49 were right-sided and 22 left-sided. In all the cases, testis was palpable. Clinically, no cases presented with hernia.

Patients was randomly assigned to one of two groups: either the open procedure (group-A) or the laparoscopic high sac ligation group for the orchiopexy (group-B). Caudal block anesthesia was used to both groups. One surgeon carried out each procedure.

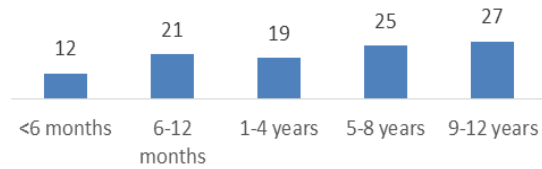
Following surgery, patients was checked on in the first, sixth, and twelfth weeks to look for early (scrotal hematoma, edema, wound infection, and postoperative fever) and late (adhesion and recurrence) issues. By a chosen team, the early and late complications was evaluated. Each group's operational time was also be documented. The calculation took into account the period between the beginning of the caudal anesthetic and the time the skin incision has been stitched. Version 26.0 of the SPSS software was used to analyze the data. The means and standards are used to express qualitative data. Standard deviation (SD) and percentage (%) were contrasted. Using a separate t test, compare the two groups respectively, the Chi square test. P value less than greater than 0.05 was regarded as significant.

**RESULTS**

For our investigation, a total of 104 patients with inguinal hernias were deemed suitable and among them 88 were male and 16 were female patients (figure 01). All of them range in age from one month to twelve years (figure 02).

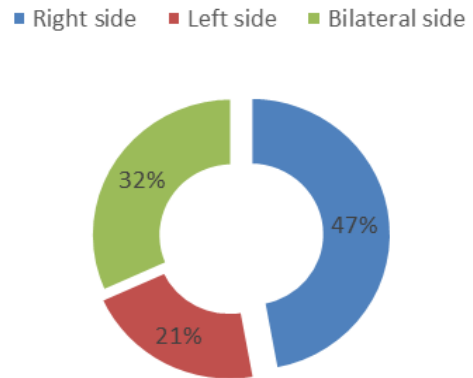


**Figure 1: Distribution of patients according to gender.**



**Figure 2: Distribution of patient according to age.**

Right, left, and both sides of inguinal hernia 49 (47%), 22 (21%), and 33 (32%) of the patients has been reported respectively (figure 03).



**Figure 3: Site of inguinal hernia.**

All of the patients finished the trial. Table 1 lists the frequency of early problems. The frequency of fever, scrotal hematoma, scrotal edema, and surgical site infection did not differ significantly. Adhesions or recurrence were not experienced by any of the patients. No correlation between the occurrence of problems and the mean operation length and length of hospital stay was discovered (P>0.005).

**Table 01: Patient result of orchidopexy.**

Anesthesia	GA with caudal epidural
Time	
Unilateral	13-38 min (mean 17.38 min)
Bilateral	22-50 min (mean 28 min)
Recovery	3-11 h (mean 5.8 h)
Discharge	
24 hours	82%
48 hours	18%
Complications minor	<2%
Recurrence	Nil

**DISCUSSION**

The cornerstone of treatment for cryptorchidism has been surgery. Standard orchidopexy by inguinal exploration is performed when palpable testis is located in the inguinal area.<sup>[5]</sup> In 1899, Bevan described the first orchidopexy technique, which involved mobilizing the testicles, ligating the hernial sac, and fixing the testis in the sub-

dartos pouch.<sup>[6]</sup> The early complications and recurrence rate are unaffected by children's herniotomies performed without ligating the hernia sac. It is not necessary to approximate the peritoneum following any surgical treatment because the healing of the peritoneum is accomplished by the transformation of the in situ mesodermal cells. Every time a raw patch on the peritoneum develops, the defects are repaired by the migration of mesodermal cells within a few hours. In a study, it was shown that children did not require hernia sac ligation during herniotomy and that the rate of complications was the same in the two groups. However, because the study only looked at 55 patients, it was unable to generalize the findings.<sup>[2]</sup> The findings of a study including 50 cases show that any peritoneal defect would be repaired by in situ metamorphosis of mesodermal cells within a day of surgery, negating the need for hernia sac closure during inguinal herniotomy. The non-ligation of the sac saves time and guards against unintentional harm to the spermatic cord structures.<sup>[13]</sup> Another study conducted on 74 individuals in a tertiary care institution indicated that laparoscopic orchidopexy did not require the internal ring to be narrowed or closed.<sup>[14]</sup> The prevalence of postoperative hernia and the length of the procedure with and without sac ligation during pediatric orchidopexy were compared in retrospective research.<sup>[15]</sup> Numerous authors have researched and supported this fact in their works.<sup>[11-13, 15]</sup> Our findings showed that whether the peritoneal sac was tied or not did not affect the frequency of recurrence or other problems in children. Morbidity and operating time are drastically decreased by the OSL (Orchidopexy san ligation) procedure.<sup>[9]</sup> The following benefits of herniotomies performed without sac ligation have been enumerated in a study:

1. Saving time: According to the study, a herniotomy without sac ligation takes less time to complete than a high ligation.
2. Safety: By not tying the sac, you can avoid accidentally damaging the spermatic cord components.
3. Simple: During orchidopexy, the processus vaginalis was not necessary to be ligated, and sac ligation took more time during surgery.<sup>[10]</sup> According to our observations, regular closure of the hernial sac is not necessary.<sup>[12]</sup> This avoids the chance of unintentionally ligating cable constructions and cuts down on the overall operating time.<sup>[13]</sup>

In this study, the incidence of postoperative hernia and the length of the procedure without sac ligation during pediatric orchidopexy were observed. Sac ligation was not required during orchidopexy and added time to the procedure. Following surgery, there were no post-operative hernias at one, four, or eight weeks of routine follow-up.

## CONCLUSION

Our experience indicates that normal hernial sac ligation is not necessary during orchidopexy and that non-ligation

of the hernial sac is safe. It considerably cuts down on both morbidity and recovery time.

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