ORIGINAL ARTICLE

EFFICACY OF SINGLE STAGE FOWLER STEPHEN ORCHIDOPEXY IN MANAGING IMPALPABLE UNDESCENDED TESTIS

Makil Shah[1], Amir Amanullah[2], Arshad Ali Marwat[3]

[1]Department of Surgery, Bannu Medical College, Bannu, [2]Department of Anatomy and [3]Department of Surgery, Gomal Medical College, D.I.Khan, Pakistan

ABSTRACT

Background: Undescended testis is the most common congenital anomaly encountered in children. There is no single successful surgical treatment option, so various surgical procedures are practiced to treat this anomaly. We have used single stage Fowler Stephen Orchiopexy (FSO) to show the success rate in our circumstances.

Material & Methods: This cross-sectional study was conducted in Department of Surgery, District Head Quarter Teaching Hospital Bannu from October 2012 to October 2014 (two years duration). Patients were admitted through outpatient department and detailed history, clinical examination and necessary investigations were carried out. Informed consent was taken. Patients more than 12 years, torsion testis and gangrene testis were excluded from the study. Children between age 6 months to twelve years presenting with impalpable undescended testis were included in the study. The results were analyzed using SPSS version 7.

Results: The total number of patients were 40, in which orchidopexy was performed by single stage FSO during the two years period. Thirty nine (97.5%) patients were unilateral; one patient (2.5%) was bilateral. All these cases were treated by single stage FSO. Age ranged from 6 months to 12 years. Two testes (5%) retracted to inguinal canal which needed secondary surgery. Three testes (15%) developed atrophy. One case (2.5%) developed hematoma and two (5%) wound infection of the scrotal skin. Patients follow up was done at 10 days postoperatively, one month and 6 months. The overall success rate was 87.5%.

Conclusion: Fowler Stephen orchidopexy (single stage) is an effective procedure which can be easily adopted in our circumstances.

KEY WORDS: Testes; Undescended testis; Orchidopexy; Impalpable testes.

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INTRODUCTION

Cryporchidism (Greek word cryptus meaning hidden and orchid meaning testis) is widely used for different kinds of undescended testes[1]. It is the most common anomaly encountered in children[2,3]. The incidence is most common in premature babies up to 30%[2]. It is 3.5 to 5.8% at birth and 0.8 to 1% at one year of age[3,4,5,6]. Upto75% of undescended testes will descend at the age of one year, whereas 25% will require surgical intervention. The timings for surgical intervention is controversial, but the general consensus is that it should be corrected between 6 months to two years[1,2,7,8]. After two years, microscopic changes appear in undescended testis, which leads to infertility.[2,8] So the purpose of early correction is to improve spermatogenesis, and to detect any malignancy in its early stage, to correct associated hernia and to alleviate psychological trauma associated with undescended testis.

The length of testicular vessels is the main length limiting factor in the correction of undescended testis. The testis has three fold vascular supplies, the testicular artery, artery of the vas and cremasteric artery. So if the testicular artery is ligated the two arteries are sufficient to keep the testis alive. Majority of the cases can be corrected by standard orchidopexy techniques, however sometimes it is not possible to bring the testis to midscrotum without tension. So keeping in view such conditions various procedures evolved like Fowler Stephen orchidopexy technique, staged or single stage both done laparoscopically

Corresponding Author:
Dr. Makil Shah
Department of Surgery
Bannu Medical College
Bannu, Pakistan
Email: shahmakil@gmail.com

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as well as by open surgery. Other procedures done for impalpable testes are Prentiss maneuver and micro vascular surgery. In FSO the testis is brought down only on vasal vessels. In micro vascular auto transplantation the testicular artery is anastomosed to inferior epigastric artery under microscope.

For high impalpable testis Fowler Stephen single stage orchidopexy is the focus of this study where we have presented the results and outcome of this procedure.

MATERIAL AND METHODS

This cross-sectional study was conducted at District Teaching Hospital Bannu for a period of two years extending from October 2012 to October 2014. During this study we treated 180 patients of undescended testes, of which we selected 40 patients with impalpable undescended testis by nonprobability purposive sampling technique. All the patients were admitted through the outpatient department. Age ranged from 6 months to 12 years were included in this study. Patients were examined physically and relevant investigation like hemoglobin, HBsAg, antiHCV and ultrasound were performed. Average hemoglobin was 10.5 gram/dl. Presentation was inguinal hernia, history of missing testis in the scrotum. Patients presenting with pain abdomen, gangrenous testis were excluded from the study. Informed consent from the parents of these cases was taken before surgery.

In 40 cases, single stage FSO was done, whereas the rest which were not included in the study were treated by standard orchidopexy technique.

RESULTS

The total numbers of patients were 40 in which orchidopexy was performed by single stage Fowler Stephen Orchidopexy (FSO) during the two years period. Thirty nine (97.5%) patients were unilateral; one patient (2.5%) was bilateral. All these cases were treated by single stage Fowler Stephen orchidopexy. Age ranged from 6 months to 12 years. Two testes (5%) retracted to inguinal canal which needed secondary surgery. Three testes (15%) developed atrophy. One case (2.5%) developed hematoma and two (5%) wound infection of the scrotal skin. Patients follow up was done at 10 days postoperatively, one month and 6 months. The overall success rate was 87.5%.

Table.1 Distribution of cases of UDT.

S.No	Side	No of Patients	Percentage
1	Right Side	25	62.5%
2	Left Side	14	35%
3	Bilateral	1	2.5%

Table. 2 Complications in single stage FSO.

S.No	Complication	No of cases	Percentage
1	Infection	2 cases	5%
2	Hematoma	1 case	2.5%
3	Atrophy	3 cases	7.5 %
4	Recurrent UDT	2 cases	5 %

DISCUSSION

Undescended testis is the most common abnormality found in children[1,2,9]. Extensive work has been done on this subject regarding the pathophysiology,causes,various other anomalies associated with it, age of correction, microscopic changes related to it and location[3,8,10]. The aim of orchidopexy is to improve spermatogenesis, to assess the testis early for development of malignancy, to correct the associated hernia and to alleviate the psychological trauma.[1,2,3] Orchidopexy may not decrease the risk of development of carcinoma which is 6 to 10 times, but it makes available the testis for clinical and self examination[3,9,11,12]. There is also increased incidence of torsion in undescended testis[4,13]. The main length limiting factor is the length of testicular vessels[1,14,15]. So the cases which are impossible to be corrected by standard orchidopexy techniques, various other options are used to address this problem.

We have used single stage Fowler Stephen orchidopexy in our study. We have done this operation by open surgery only. Three patients developed atrophy in our study which is 7.5 %.Sheikh A et al conducted a study in which the atrophy rate was 11.5%.[17] Similarly El.Anany et al by doing staged operation for impalpable testes a 4.3% atrophy rate was observed[18]. Basu AK and Basu J also did high ligation and the atrophy rate was 10%[19]. So our results regarding atrophy rate are similar to other studies. Recurrence of UDT occurred in two (5%) of cases in our series. The overall success rate for our study was 87.5%. Almaawi and Waqas (2012) claimed a success rate of 74-92% in 36 cases of single and staged FSO technique and the success rate was 95%[20]. Gerald H[10] and Brien O[16] et al had success rate of 50-80%.

CONCLUSION

In the end it is concluded that in high lying intra-abdominal testis Stephen Fowler single stage procedure is safe and effective method of orchidopexy. However it is not 100% effective so the field is open for research towards the better procedure which can address all the types of UDT by a single procedure.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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AUTHORS' CONTRIBUTION

Conception and Design:	MS
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