

Clinical Study and Treatment of Undescended Testis in Western Rajasthan : Tertiary Center Experience

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Abstract

Background: Undescended testis occur in 0.8 per cent of 1-year-old boys and thus represents the most common disorder of male sexual differentiation.

Methods: 70 patients reporting to the General Surgery, Pediatric Surgery department within study duration and eligible as per inclusion criteria will be included in the study.

Results: In our study we noticed that the maximum number of cases were between 2 years to 10 years. This symptom was followed by the presence of pain in 26 (37.14%) cases, swelling in 22 (31.43%) cases and chronic discomfort in 12 (17.14%) cases. Clinically 18 (25.71%) patients were associated with inguinal hernia, two (2.86%) patients had hyposadias, one patient was associated with torsion, one patient had testicular tumor. Post-operative complication was found in one patient who developed hematoma.

Conclusion: The majority of undescended testes were palpable. The orchidopexy was the treatment of choice although the orchidectomy was indicated in atrophied or nubbin testis. Hence an early diagnosis and treatment is must to avoid complications.

Keywords: Cryptorchism, Testis, Orchiopexy, Orchidectomy, Testis undescended

Introduction

Undescended testis occur in 0.8 per cent of 1-year-old boys and thus represents the most common disorder of male sexual differentiation¹. Early detection of the undescended testis and its placement in the scrotum is important as degenerative histologic changes can be demonstrated in these testis by 1.5 to 2 years. But it is a pity that many of these patients discover the absence of testis only at adolescence and by this time the testis is irreversibly damaged. The cause of testicular maldescent has been the subject of much conjecture and investigation but has not been precisely elucidated. In 1762 John Hunter concluded that “it is not easy to ascertain the cause of failure of descent but I am inclined to suspect that the fault originates in the testes themselves”². Some 235 years later it is still difficult to ascertain the cause.

The problem of testicular non-descent is important because of the associated complications. The complications include decrease in fertility, malignant change, liability to trauma and torsion and associated

hernias. Equally important is the psychological stress in the child and parents caused by an empty scrotum.

Material and Methods

Study design: This is descriptive prospective hospital based study.

Study duration: August 2017 to December 2018.

Study place: Department of General Surgery, Pediatric Surgery in Sardar Patel Medical College and P.B.M. Hospital, Bikaner.

Study population: All patients admitted with undescended testis were included in this study.

Sample size: 70 patients reporting to the General Surgery, Pediatric Surgery department within study duration and eligible as per inclusion criteria will be included in the study.

Sampling Method: Convenience sampling

Inclusion Criteria: All patients with who present with undescended testis. Included for study and those who give consent for study.

Exclusion Criteria: All children with retractile testis were excluded from the study.

Data collection:

All the patients were evaluated as per the proforma. A written and informed consent was taken from the patient after explaining details of treatment modalities. Data was collected by a self-administered questionnaire. This was constructed in sections to address the different aspects of the study as follow:

- Section A- Personal data.
- B- Presentation
- C- Examination findings.
- D- Investigation.
- E- Surgical management.

Patient assessment

This was done in the normal manner by history examination and investigations.

History of personal data, presenting symptoms.

Examinations concentrate mainly in scrotal examination, perineum and abdominal examination. Looking for: -

- Empty scrotum
- Ectopic testis.
- Associated anomalies.

Investigations

- Scrotal and abdominal U/S for all cases.

Operative management

Results of the patients underwent inguinal explorations and orchidopexy done.

Postoperative assessment

Immediate postoperative assessment for: postoperative hematoma, wound infection, retraction of testis, atrophy of testis.

Data Analysis

To collect required information from eligible patients a pre-structured pre-tested Performa will be used. For data analysis Microsoft excel and statistical software Statistical Package of Social Sciences (SPSS) will be used and data will be analyzed with the help of figures, appropriate statistical test.

Observation

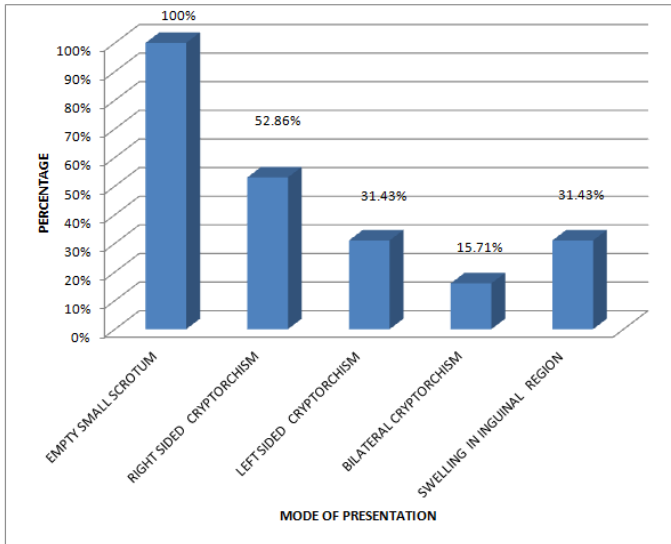
The peak incidence was between 5-10 years, which is around 42.86% of total undescended testis.

Table No. 1 -Showing Symptoms

Symptom	No. of patients	Percentage
Pain	26	37.14 %
Chronic discomfort	12	17.14 %
Swelling	22	31.43 %
Empty scrotum	70	100 %

Cryptorchidism is a congenital condition which means the duration of symptoms is from birth. 26 (37.14%) patients

presented with pain. 12 (17.14%) patients presented with chronic discomfort. 22 (31.43%) patients presented with swelling. 70 (100%) patients complained of empty scrotum. In the present study, the most common symptom in undescended testis is absent testical in scrotum. After that swelling at inguinal region was mostly present in around 61.43 % and then pain, chronic discomfort were present in decreasing order.



Empty small scrotum was the commonest finding 70 (100%) patients. This was followed by unilateral cryptorchidism 59 (84.29%), 37 (52.86%) patients had right sided cryptorchidism, 22(31.43%) patients had left sided cryptorchidism, 11(15.71%) patients had bilateral cryptorchidism and 22 (31.43%) patients had swelling in the inguinal region.

Table No. 2: Associated Conditions With Cryptorchidism

Associated conditions	Total cases	Percentage (%)
Hernia	18	25.71%
Torsion	1	1.43%
Tumor	1	1.43%
Hypospadias	2	2.86%

In this study 18 (25.71%) patients were associated with hernia. Two (2.86%) patients had hypospadias. One (1.43%) patient was associated with torsion of testis and one (1.43%) patient had testicular tumor.

Table No. 3:- Presentation On Local Examination

Presentation on Local Examination	No. of Patients	Percentage
Palpable testis	56	80%
Impalpable testis	14	20%

In this study 56 (80%) cases the testical were palpable and 14 (20%) cases testis were impalpable.

Table No: 4 -Type Of Surgery

Type of surgery	No. of patient	Percentage
Orchidopexy	66	94.29%
Orchidectomy	3	4.29%
Inoperable	1	1.43%

Sixty six (94.29%) patients underwent orchidopexy and three (4.29%) patients underwent orchidectomy (one gangrenous torsion testis and two nubbin testis). One (1.43%) patient had inoperable abdominal testicular mass. The type of Orchidopexy operation done in sixty six (94.29%) patients was the Dartos Pouch Technique.

Comparison of Clinical Examination, USG And Intra-Operative Finding

Table No. 5:- Postoperative Complication

Complication	No. of Patients	Percentage
Hematoma	1	1.43%
Wound Infection (within 7 days)	0	0%
Retraction of Testis	0	0%
Atrophy of Testis	0	0%

One patient developed hematoma. This patient was managed conservatively.

Table No. 6:- Complication Of Cryptorchidism

Complication	No. of patients	Percentage
Inguinal hernia	18	25.71%
Torsion	1	1.43%
Malignancy	1	1.43%
Infertility	0	0%

Hernia was the most common complication, occurring in eighteen (25.71%) patients, followed by torsion in one (1.43%) patient and malignancy in one (1.43%) patient. None of the undescended testis had infertility.

Discussion

This is a prospective study, conducted at S. P. Medical College and Associated group of Hospitals, Bikaner from August 2017 to December 2018.

Seventy patients with UDT were treated surgically, in which one patient was inoperable due to malignancy in intra- abdominal UDT.

Undescended testis is one of the anomalies, which has been studied since over hundreds of years. Many authors have worked over it and many studies have been conducted. In our prospective study of 70 cases of undescended testis, we tried to enlighten few aspects of undescended testis.

In our study of 70 cases, the mode of presentation varied, 65 cases presented as undescended testis (92.86%), five cases (7.14%) were noticed by doctor in which, two cases presented with other anomalies, when undescended testis was discovered incidentally and one case presented with torsion. The incidence of torsion is known to be higher in undescended testes than in normal testes. It may reach up to 20% of all undescended testis⁹⁷. This is because the testicle is not in its normal anatomic place, which will

amplify any force or strain to an undesirable stress for the testicle.

Undescended testis occasionally present with other congenital abnormalities. In our study only two cases (2.86%) of undescended testis presented with hypospadias, and none presented with other congenital abnormalities. According to Raff R, Shubert R³, (1998), if hermaphrodite genitals are present in a patient or a higher degree of hypospadias is shown with maldescended testis. Chromosomal disorder must be considered as one potential cause of the anomaly.

In our series we performed orchidectomy in 3 patients, out of which one was gangrenous torsion testis and two nubbin testis. According to Martin D C and Menke HR⁴ (1975), the patient seen after puberty with an intra abdominal unilateral undescended testis should have orchidectomy. They also mentioned that the patient seen after puberty and before the age of 50 years with unilateral undescended testis in inguinal region should have orchidectomy because the risk of death from malignancy exceeds the risk of anesthesia and orchidectomy.

In our study of 70 cases of undescended testis, we performed sub-dartos pouch orchidopexy in 66 patients and 3 patients underwent orchidectomy.

In a study by Redman J F et al, the subdartos pouch operation has been used in more than 200 consecutive orchidopexies with no scrotal hematomas, testicular atrophy or retraction of testis⁵.

In our study, 66 patients out of 70 have undergone subdartos pouch orchidopexy. Results are quite satisfactory. Only one had post operative complication (hematoma).

Conclusion

The majority of undescended testes were palpable. The orchidopexy was the treatment of choice although the

orchidectomy was indicated in atrophied or nubbin testis. Hence an early diagnosis and treatment is must to avoid complications.

References

1. Scorer CG, Farrington GH. Congenital deformities of testis and epididymis. New York: Appleton-Century. 1972 Chapter 2.
2. Hunter J. Observations on the state of the testis in the foetus and on the hernia congenita. In: Hunter J, editor. Medical Commentaries Part 1. A Hamilton; London: 1762.
3. Raff R, Schubert R. Van der Ven k Undescended testis and hypospadias in sex chromosomal aberrations In ; Klin pediat [1998 nov - dec] 210[6];400-5.
4. Martin D C, Menck H R The undescended testis, management after puberty in J Urolo[1975 july]114[1];77-79.
5. Redman J F; Simplified technique for scrotal pouch orchiopexy in Urolo Clin North AM[1990 Feb]17[1];9-12.