

# A study on clinical profile of patients with undescended testes attending Tertiary care hospital

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## Abstract

Undescended testis is present in about 1-4.5% of new borns with a higher incidence in pre terms (30-45%). In infants born with undescended testis, it may descend into scrotum in 75% of full term neonates and in 90% of premature new born boys in infancy, and it decreases to 0.8-1.2% at 1 year of age. After taking informed consent from the parents, a detailed case history was recorded on admission as per the proforma. Data collected included Name, Age, Weight, Presentation, Past history, Family history, Examination of bilateral testis, its position, palpable or not and size and associated complications, Routine blood investigations and ultrasonography of abdomen and pelvis, Surgical treatment (including Date of admission, Surgery and Discharge), Outcome and Follow up. In the present study, most common side of undescended testis was left present in 48% of case (n=24). Next common side was right present in 42% of cases (n=21), followed by bilateral cases present in 10% of cases (n=5). In the present study, most common position of undescended testis was in the inguinal canal in 34% of patients (n=17). Next common position was in the superficial inguinal ring in 32% of cases (n=16), followed by intra-abdominal in 24% of cases (n=12) and deep inguinal ring in 10% of cases (n=5) which was least common.

**Keywords:** Undescended Testes, Inguinal Canal, Cryptorchidism

## Introduction

The undescended testis is a common urologic problem. It is considered as developmental defect and places the affected testis at higher risk of developing malignancy <sup>[1]</sup>.

The normally descended testis is ovoid and about 4 cm in length. The right testicle, in most cases, is at a higher level than the left. The two testicular functions are spermatogenesis and production of the steroid testosterone <sup>[2]</sup>.

Testicular descent from the abdomen to the scrotum normally occurs at 28 weeks of gestation, with incomplete descent reported for 3% of term neonates. Most undescended testis migrate into the lower scrotum within the first 3 months of life, presumably as a consequence of a postnatal testosterone surge, with 1% remaining undescended by 1 year of age <sup>[3]</sup>.

Boys with undescended testis may have an increased incidence of sub fertility, sterility (in bilateral cases), trauma, indirect inguinal hernia, torsion of testis, epididymo-orchitis, atrophy and testicular malignancy <sup>[4]</sup>.

Undescended testis is present in about 1-4.5% of new borns with a higher incidence in pre terms (30-45%). In infants born with undescended testis, it may descend into scrotum in 75%

of full term neonates and in 90% of premature new born boys in infancy, and it decreases to 0.8-1.2% at 1 year of age.

Primarily undescended testicles may descend within the first six months of life. This is speculated to be related to a sudden increase of gonadotropins and androgens known as “mini-puberty” [5].

Anomalies associated with cryptorchidism occur in about 15% of cases and include a wide variety of syndromes such as Klinefelter syndrome, hypogonadotropic hypogonadism, Prune belly syndrome, horseshoe kidneys, renal agenesis or hypoplasia, exstrophy of the bladder, ureteral reflux, gastroschisis, and cloacal exstrophy [6].

Cryptorchidism is best diagnosed clinically and treated by surgical orchidopexy at the age of 9-15 months without routine biopsy. Spontaneous testicular descent can be expected only before 6 months of age. If no testis is palpable, or if other signs of hypovirilisation such as hypospadias are present, chromosomal sex and hormonal status must be assessed. Laparoscopy is the best way to diagnose and manage intra-abdominal testis.

## Methodology

Ethical clearance was obtained before the study was undertaken from the college ethical committee. A prospective study was conducted for 24 months.

Source of data: 50 paediatric patients in the age group up to 15 years who presented to Medical College were included.

## Inclusion Criteria

1. Male child diagnosed with feature of undescended testes.
2. No upper age limit.
3. Patients without complications.
4. Patient attenders willing to undergo surgery for the condition.
5. Patient fit for surgery.

## Exclusion Criteria

1. Patients with retractile testes.
2. Patient attenders not willing for surgery.
3. Patients not fit for surgery.

## Sampling Method

Sampling of patients with undescended testis was done. Those who are fit for surgery meeting our selection criteria are included.

## Method of data collection

After taking informed consent from the parents, a detailed case history was recorded on admission as per the proforma.

Data collected included Name, Age, Weight, Presentation, Past history, Family history, Examination of bilateral testis, its position, palpable or not and size and associated complications, Routine blood investigations and ultrasonography of abdomen and pelvis, Surgical treatment (including Date of admission, Surgery and Discharge), Outcome and Follow up.

Informant being parents, detailed past history was taken in case of patients who underwent any staged surgical procedure in their previous admission. Patients who admitted for second stage procedure underwent local examination of previous surgical wound.

Importance was given to physical examination, which included a detailed head to toe examination to look for any congenital defects and a detailed inguino scrotal examination.

## Results

**Table 1:** Distribution of study participants according to age of presentation

Age	Frequency	Percent
0-15 months	12	24.0
15-36 months	9	18.0
4-6 years	5	10.0
7-10 years	14	28.0
11-15 years	10	20.0
Total	50	100.0

In the present study, 28% of cases were in the age group of 7-10 years (n=14), followed by 0-15 months of age group which is 24% (n=12), 20% patients were in the age group of 11-15 years (n=10), 18% in the age group of 15-36 months (n=9) and least being in the age group of 4-6 years (n=5).

Range of age group in the study was from 16 days to 15 years.

In the present study, it was found that nearly 58% of parents consulted doctors for surgical treatment of UDT, when the child age was more than 3 years.

Only 24% of parents consulted before 15 months of age, where the long term prognosis is good in terms of testicular size and sterility.

Delayed presentation of UDT and hence delayed surgical correction is associated with more chances of testicular atrophy. Optimal age considered for surgery is 9-15 months.

**Table 2:** Symptoms presented by study participants at the time of presentation

Presenting symptoms	Frequency	Percentage
Absent Testis in Scrotum	50	100.0
Groin Swelling	4	8.0
Pain	3	6.0

In the present study, most common symptom was absence of testis in the scrotum which was present in all patients (n=50), followed by groin swelling in 8% of cases (n=4) and pain in 6% of cases (n=3).

None of the patient presented with complications of undescended testis like torsion, malignancy.

**Table 3:** Side of undescended testis in study participants

Side of UDT	Frequency	Percentage
Bilateral	5	10.0
Left	24	48.0
Right	21	42.0
Total	50	100.0

In the present study, most common side of undescended testis was left present in 48% of case (n=24). Next common side was right present in 42% of cases (n=21), followed by bilateral cases present in 10% of cases (n=5).

**Table 4:** Palpability of undescended testis in study participants

Palpability of Testis	Frequency	Percentage
Palpable	35	70.0
Non Palpable	15	30.0
Total	50	100.0

In the present study, out of 50 cases, 35 cases were palpable UDT (70%) and 15 were non palpable UDT (30%).

**Table 5:** Site of testis according to USG

Site of testis	Frequency	Percentage
Intra Abdominal	12	24.0
Deep Inguinal Ring	5	10.0
Inguinal Canal	17	34.0
Superficial Inguinal Ring	16	32.0
Total	50	100.0

In the present study, most common position of undescended testis was in the inguinal canal in 34% of patients (n=17). Next common position was in the superficial inguinal ring in 32% of cases (n=16), followed by intra-abdominal in 24% of cases (n=12) and deep inguinal ring in 10% of cases (n=5) which was least common.

**Table 6:** Intra operative findings of size of testis

Intra operative findings	Frequency	Percentage
Adequate for age	38	76.0
Atrophic Testis	7	14.0
Half of expected size	5	10.0
Total	50	100.0

## Discussion

**Table 7:** Comparison of patient age and side of undescended testis

	Present Study Impalpable testis	Present study Palpable testis	Emir <i>et al.</i> , <sup>[7]</sup> Impalpable testis	Piet R.H. Callievert <i>et al.</i> , <sup>[8]</sup> Impalpable testis
Mean age	6.3 years	6.14 years	4.1 years	6 years
Right sided cases	46.67%	40%	40%	34%
Left sided cases	53.33%	45.71%	60%	66%
Bilateral cases	-	14.29%	-	-

The mean age group of children presented with non palpable UDT in our study was 6.3 years as compared to 4.1 and 6 years in studies by Emir *et al.*, and Piet R. H. Callievert *et al.*, respectively.

The mean age group of children presented with palpable UDT was 6.14 years.

But this was much later in age as the ideal age of surgical intervention for cases with UDT to have reasonably good fertility and testicular functioning is around 9-15 months.

The impalpable UDT was found to be more common in left side in our study as compared with other studies, whereas palpable UDT was also more common on left side.

## Comparison of testis location in non-palpable testis -

**Table 8:** Comparison of testis location in non-palpable testis

	Present Study	Piet R.H. Callievert <i>et al.</i> , <sup>[8]</sup>	Merry C <i>et al.</i> , <sup>[9]</sup>
Abdominal testis	80%	22%	10%
Deep ring	20%	78%	90%
Total	100%	100%	100%

In around 80% of our cases the testis was located intra abdominally and in 20% either in and around the deep ring.

In other two studies, most were situated either in and around the deep inguinal ring <sup>[10]</sup>.

Other studies proposed the debate of primary inguinal exploration for testis over the laparoscopic exploration as in around 80-90% of the cases laparoscopy seems to be unwarranted, whereas in our study diagnostic laparoscopy was found to be useful.

## Conclusion

7-10 years of age group is the most common age group presented during surgery. There was no history of consanguineous marriage or family history of undescended testis noted in our study.

Every patient presented with absence of testis in the scrotum and none of them were found to have torsion.

## References

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