

Research Article

Study and Management of Undescended Testes

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Abstract

Aim: To study the clinical profile, location, role of ultrasonography and different surgical modalities for the treatment of UDT at various sites.

Method: Total 43 patients (49 undescended testes) cases of UDT were studied prospectively. Patients above the age of six months with history of absent testes in the scrotum either unilateral or bilateral were included in the study and patients with intersex disorder or retractile testes were excluded. Study was prospective. Patients were subjected for USG scrotum. Palpable UDT and those were located on USG were subjected for orchiopexy or orchidectomy. Impalpable testes were subjected for examination under general anesthesia and treated accordingly.

Results: 72% patients were between age group of 5 to 15 yrs. 48.8 % patients were having right sided UDT 89.8% testes were palpable only 14% were having bilateral UDT 59.2% testes were present in inguinal canal. 10.2% UDT were not located on USG 81.63% patients orchiopexy was done. Three patients (6.93%) were having post operative wound infection

Conclusion: Need of coordinated campaign between surgeons, pediatricians, general practitioners and community Workers for timely intervention of UDT. Right sided UDT is common presentation. Ultrasonography remains the specific non-invasive modality of diagnosis and localisation. and orchiopexy is most common technique for placement of undescended testis in the scrotum with low complication rate and high success rate.

Keywords: Diagnostic laparoscopy, Orchiopexy

1. Introduction

Isolated cryptorchidism is the most common congenital anomaly of the male genitalia , affecting almost 1% of the full term infants at the age of 1 year.

The abnormality assumes particular importance in cases of bilateral undescended testis,. In unilateral cases treatment is directed to prevent complications known to be associated with undescended testis (UDT) Cryptorchidism is a rare condition, occurring between 0.7% and 2% of children over one year of age¹.

Incidence of testicular cancers in cryptorchid patients is estimated to be 3-5 times higher than in the general population. About 20 percent of testicular tumors in men with unilateral cryptorchidism occur on the side with the normally descended testicle; this finding supports the argument against indiscriminate removal of undescended testes. Although there is no proof that orchiopexy reduces the risk of testicular cancer, it is performed to ease detection through testicular self-examination.²

Sonography is simple to perform, rapid, non-invasive relatively inexpensive, easily reproducible, widely available and does not involve irradiation of gonads.

Diagnostic laparoscopy has gained wide acceptance as a diagnostic procedure for identifying the exact anatomy of impalpable testes and adnexae³.

Surgery for undescended testis is indicated to increase the chances of fertility, to reduce the chances of malignant degeneration or at least increases the chances of early detection of malignancy, Besides this it may also prevent psychological problems associated with an empty scrotum in later life.⁴

The current study is being carried out to identify the various clinical presentations of undescended testis, to analyze the reliability of Ultrasonography in identification of undescended testis and the efficacy of various surgical modalities for management of undescended testes.

2. Material and Method

This present study was carried out at Jawaharlal Nehru Medical College and Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), Wardha, Maharashtra, India, between August 2011 to August 2013 . Patients from nearby district hospital, primary health centers and private healthcare facilities are often referred to this hospital. Most patients seeking healthcare at the institute come from neighborhood villages and small towns.

Total 43 patients cases of Undescended Testes were studied prospectively . In these 43 cases , there were 6 cases having bilateral undescended testes , this means total 49 undescended testes were included in this study . Most of the patients were referred to this hospital under child health programme.

Written informed consent was taken from the adult patient. In case of children, the parent's consent was taken. All patients were examined in a systematic order as mentioned in the proforma. The study was undertaken after the Institutional Ethical Committee's approval.

2.1 Inclusion criteria

Patients coming to A.V.B.R.H. above the age of six months with history of absent testes in the scrotum either unilateral or bilateral.

2.2 Exclusion criteria

- Patients of undescended testes of age less than 6 months
- Intersex disorder
- Patients with retractile testes

2.3 Study design

After detailed history and complete general and systemic examination and local examination of genitalia and scrotum, diagnosis of undescended testes was done.

After detailed clinical examination patients were subjected for ultrasonography of scrotum and inguinal canal to know the location and size of testes.

Along with Ultrasonography of scrotum patient were subjected to various routine investigations like haemogram , liver function test , kidney function tests blood sugar , urine analysis to know the condition of patient and feasibility of surgery.

- Patients having palpable unilateral undescended testes were subjected to orchiopexy directly
- Patients having bilateral palpable undescended testes were subjected to orchiopexy directly
- Patients having impalpable unilateral or bilateral testes were thoroughly examined by described clinical method of palpation and evaluated by ultrasonography to locate the testes and if the testes located in inguinal canal, orchiopexy was done.
- In patients where testes was not located by ultrasonography , were subjected for palpation under general anaesthesia to locate the testes . If testes were not located under anaesthesia patients were subjected for diagnostic laparoscopy and appropriate surgical procedure was done .
- Patients in whom testes were found flabby and small were subjected for orchidectomy otherwise in all the other patients having testes normal in size and consistency orchidopexy was done.

3. Results

3.1. Age distribution of patients of undescended testes

In this study maximum number of cases were in the age group of 5 to 15 yrs i.e. fourteen (32.59 %) and seventeen cases were between age group of 10 to 15 yrs (39.5%) n=43

Table 1. Age distribution of patients of undescended testes

	No. of Patients	Percentage of Patient
6 MNTHS TO 2 YRS	1	2.33%
2 YRS TO 5 YRS	1	2.33%
5 YRS TO 10 YRS	14	32.59%
10 YRS TO 15 YRS	17	39.5 %
15 YRS TO 20 YRS	2	4.65%
20 YRS TO 25 YRS	2	4.65%
25 YRS TO 30 YRS	2	4.65%
30 YRS TO 35 YRS	4	9.3%

3.2. Presentation on local examination (n=49)

Table 2. Presentation on local examination

	No. of testes	Percentage
Palpable	44	89.8 %
Non Palpable	5	10.2 %
Total	49	100%

Above table shows that maximum cases were palpable . cases in which testes were non palpable were further evaluatd according to study design.

3.3. Side of undescended testes

Table 3. Side of undescended testes

	No. of patients	Percentage
Right	21	48.8 %
Left	16	37.2 %
Bilateral	6	14 %
Total	43	100 %

n=43

Out of forty three cases there were twenty one (48.8%) cases with right sided testes and sixteen cases (37.2%) were having left sided undescended testes. Above table suggest that maximum number of undescended testes were unilateral in this study.

3.4. Ultrasonography findings (n=49)

Table 4. Ultrasonography findings

Location	No. Of testes	Percentage
In Ing. canal	29	59.2%
At Superficial ring	13	26.5%
At Deep ring	2	4.1%
Not located	5	10.2%
Total	49	100%

Out of forty nine undescended testes twenty nine (59.2%) testes were located in inguinal canal .

5. Surgical procedure for undescended testes (n=49)

Table 5. Surgical procedure for undescended testes

	Number	percentage
Orchidopexy	40	81.63 %
Orchidectomy	5	10.21%
Diagnostic lap with excision of nibbus	4	8.16 %
Total	49	100

Out of total forty nine undescended testes that were included in present study, forty (81.63%) were subjected for orchidopex as they were normal in consistency

In five (10.21%) undescended testes orchidectomy was done as these were found small and flabby intraoperatively.

In four (8.16%) undescended testes which were not palpable on described clinical examination and not located on ultrasonography, diagnostic laparoscopy was done . In all diagnostic laparoscopies vas and vessels were entering in deep ring so inguinal canal exploration was done . Small nibbus were found on inguinal exploration which were excised .

4. Discussion

Total of 43 cases of undescended testes were studied in the present study . out of 43 cases 6 were of bilateral undescended testes that means total 49 undescended testes were studied in the present study

A wide range of age was seen in the present study of 43 cases. one case(2.33%) was in between 6 months to 2 years of age, and 2 yrs to 5 yrs of age each .fourteen (32.59 %) cases were between 5years to 10 years of age, and seventeen (39.5 %) cases between 11 years to 15years of age. There were total ten cases (23.25%) cases between 15 yrs to 35 yrs of age group.

In 2010 according to Paul J *et al* noticed undescended testis in patients between 0 to 6 months of age are nil, 43% cases between 6 months to 2 years of age, 26% between 2 years to 5 years of age, 19% cases between 5years to 15 years of age, and 12% cases between 15years and above age⁵. In 2010 Khalid noticed undescended testis in patients below age of one year i.e up to 49.2% and patients above the age of one year i.e 45% and 5.8% between 2 years to 5 years of age⁶. Seyyed Mostafa *et al* concluded that late diagnosis by physician and lack of insight of parents are the main reasons in delayed diagnosis and treatment of undescended testis. Therefore education of parents and careful physical examination of the babies at birth and regular follow up until 18 months can prevent delay in diagnosis⁷. In the present study age of presentation is late as compared to other studies as this study was carried out in rural area where there was significant delay in the referral of patients with an undescended testes either because the condition was not identified early on, or the doctor gave false reassurance that the testicle may descend by itself even after the age of 6 months, or the parents of the patient failed to seek proper surgical advice because they feared surgery and didn't appreciate its importance. One of the reason for late presentation is Home deliveries done in maximum number. Of cases

In the present study forty four (89.8 %) undescended testes were palpable and five (10.2%) testes were non palpable . All cases were examined by described clinical method of palpation .

In 2010 according to Seyyed M *et al* noticed approximately 80% of undescended testes are palpable and 20% are not palpable⁷. According to Osifo *et al* 16.3% testis are nonpalpable⁸.In 2008 according to Ciro *et al* 20% of UDTs are nonpalpable⁹

In all the above studies maximum number of undescended testes were palpable. In the present study also maximum number of testes were palpable

We studied, the side on which undescended testis get arrested during its descent, more frequently. In the present study we had 21 (48.8%) cases of right sided undescended testis, 16 (37.2%) cases of left sided undescended testis and 6 (14%) cases

of bilateral undescended testis.

In 2007 according to Sinha *et al* of the 250 cases under study 202 (80.8%) were unilateral in that cases of right sided undescended testis were 110 (54.5%) and 92 (45.5%) cases of left sided undescended testis and 48 (19.2%) cases of bilateral undescended testis were present¹⁰ According Christofer , the right testis is affected in 50% of cases, the left testis is affected in 30% of cases, and double arrest occurs in 20% of cases¹¹.

According to Ajmer ,he studied 313 cases of undescended testis the right testis is affected in 119 (39%) of cases, the left testis is affected in 92 (30%)of cases, and double arrest occurs in 51 (31%) of cases¹² In all the above studies right sided undescended testes is more common than left sided undescended testes and bilateral undescended testes are less in number. In the present study also maximum cases were of right sided undescended testes.

In our study Ultrasonography was performed in all patients who presented with undescended testis. We studied the role of Ultrasonography in localizing the testis. we performed Ultrasonography in 43 patients out of 43.

In our study, amongst 43 patients, who underwent Ultrasonography, testes were located in 41 patients . In five patients testes were not located on ultrasound also .

According to Bjerklund *et al* ultrasonography was performed in 119 patients of undescended testis. In 113 patients the testis was demonstrated as an echo-poor oval structure i.e 95% localisation identified¹³ K Wolverson *et al* stated localisation of undescended testis was attempted in 23 instances USG resulted in 88% sensitivity, 100% specificity and 91% accuracy. The authors recommend high resolution real time USG as a modality of choice for this procedure because it is simple, accurate ,and avoids the use of ionizing radiation¹⁴.

In our study of 43 cases of undescended testis, we performed orchiopexy in 33 patients (76.44%), 6 patients (13.96%) underwent orchidectomy and 4 patient (9.3%) underwent diagnostic Laparoscopy and excision of nibbus.

Dartos pouch orchidopexy is commonly done surgery. It has success rate of 95.2% and lesser hospital stay¹⁵. Ameh *et al* concluded that following orchiopexy fertility after treatment for unilateral undescended testis is about 84%, bilateral 60%, and over all 79%¹⁶. In 2006 Irina Taran *et al* concluded the success of orchiopexy for inguinal testis has been more than 95% where as tumours that occur following orchiopexy are much more likely to be nonseminomatous¹⁷. According to Fabio *et al* (2012) orchidectomy should not be a rule for unilateral undescended testes in adults and if testicular preservation is feasible it should be offered to patients with relatively normal organs . . They have preserved 68.4% of testes through laparoscopy depending upon size , position and contralateral testicular status . In midterm follow up testicular tumour was not the concern , unfortunately fertility may not be preserved in bilateral undescended testes¹⁸ Mahmoudreza *et al* in 2011 had done orchiopexy in adults and recommend the patients to do self examination periodically after orchiopexy and scheduled routine examination by urologist . They preferred this over testicular biopsy.¹⁹

We have done orchiopexy in adults also as patient can self examine testes for malignancy changes in follow up period and can also be examined by surgeon clinically In adults psychological satisfaction is also one of the reason for doing orchiopexy

5. Conclusions

In our study the maximum number of cases were recorded between five years to fifteen years of age In the present study we concluded that there is need of coordinated campaign between surgeons , pediatricians, general practitioners and community Workers for timely intervention of undescended testes .Right sided undescended testis is common presentation.

We also concluded that Ultrasonography remains the specific non-invasive modality of diagnosis and localisation and Orchidopexy is most common technique for placement of undescended testis in the scrotum with low complication rate and gh success rate.

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