

Current Practice

Undescended testis

*Ravibindu Ranawaka¹

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Introduction

In a term neonate, the normal descent of the testis into the scrotal sac from the fetal intra-abdominal position along the posterior abdominal wall and internal inguinal ring is already completed¹. However, the descent could arrest itself anywhere along this pathway, resulting in an undescended testis (UDT) which has an incidence of 1.5 - 2%². In the preterm, the descent could continue to occur within the first three months of age². Timely orchidopexy is necessary in UDTs to facilitate normal testicular development.

Malignant risk

The risk of an UDT developing into a testicular malignancy in adult life is 3.7 to 7.4 times compared to a normally descended testis^{2,3}. Timely orchidopexy reduces this risk according to some researchers⁴ while others refute this stating that an UDT is inherently an abnormal testis and the normally descended partner of an UDT has a higher risk of malignant transformation⁵. An intra-abdominal testis is more prone to undergo malignant transformation compared to an inguinal testis⁶. Performing a case control study to accurately determine the malignant risk is ethically unacceptable and hence, most research on UDT on humans are retrospective and observational studies.

Fertility

The fertility rate is around 93%² in men with normal testicular descent. In those with bilateral UDT and who had orchidopexy, a fertility rate of 45-65% is reported, whilst in those with unilateral UDT, a rate of 80-90% is reported^{2,7}. These studies, however, were done on subjects who had orchidopexy later in their childhood. The benefits of current practice of early surgery would be evident only in the next few decades.

Ideal age to perform orchidopexy

The previous practice was to perform surgery

around 2 years of age. Current evidence advocates orchidopexy to be performed around 6-9 months of age and recommends it before the first birthday. Germ cells develop into adult spermatogonia around 3-6 months of age. The British Association of Paediatric Urologists Consensus Statement on UDT, where the author was also a partner, recommends orchidopexy around 6 months of age and strongly advocates surgery before one year of age⁷.

Investigations

There is little place for investigations like ultrasonography as around 80% of UDT are palpable²

Type of orchidopexy

In a palpable testis, the standard open orchidopexy is performed with inguinal and scrotal approaches. In impalpable testis, laparoscopy is both the diagnostic and the therapeutic procedure of choice². A high-lying intra-abdominal testis may require two stage laparoscopic surgery. In this, clipping of testicular vessels is done at the first stage and mobilisation of testis and orchidopexy are completed at a later date. The testis is placed in a sub-dartos pouch at orchidopexy. This makes it easier for self examination of testis in adulthood as a screening procedure for early detection of testicular malignancy.

Importance of early surgical referral

In the paediatric surgical units, the waiting list for surgery extends over months. The referring clinicians need to be aware of this and arrange early surgical referral during the first six months of life. Early referral made by the obstetric or neonatal unit itself would reduce the number of defaulters as well. At present, there is an undue delay in referring these babies and it is the duty of the paediatricians to refer them early. A study at The Lady Ridgeway Hospital for Children found that out of 37 children with UDT, only 15 had surgical referral before 6 months of age⁸. An ongoing research project by the same authors has analysed 97 UDT in 94 patients so far with the following findings on the age at surgical referral. (Table 1).

¹Consultant Paediatric Surgeon, Lady Ridgeway Hospital for Children

*Correspondence: rravibindu@yahoo.com

Table 1: Age at surgical referral

<6 months	6-12 months	12.1-24 months	24.1-60 months	>60 months
31	14	11	23	15

Early referral would facilitate the planning of appropriate management depending on the anatomical location of the testis and, where necessary, placing the baby in the waiting list for surgery.

In all term neonates with UDT, orchidopexy should be planned around 6 months of age. Considering the month long surgical waiting lists, it would be a good practice to arrange early surgical referral within the first 6 months of age to achieve this target.

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