The Undescended Testis in Adult Life: A Case Report

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Abstract

Background
Cryptorchidism or Undescended testis (UDT) is a common birth defect in male genitalia, in which at least one testicle is absent from the scrotum. The missing testicle can be found along the inguinal canal or in the ectopic case could go as far as the pre-pubic area or perineum.

Case report
A 35-year-old man came to the Unggul Karsa Medika Hospital with a complaint of a lump in the right groin. He said that his lump has been felt since the patient was a child, comes and goes, and has become more clearly visible in the last 2 weeks. On physical examination, a lump was found in the right inguinal area without discoloration and pain, with a negative Valsalva test, and no right testicle was found.

Conclusion
It is possible that abnormality in intrauterine hormonal function has a role in the etiology of UDT. Adult UDT usually happens due to late diagnosis by physician and lack of insight of the parents about surgery necessity and its complications. Reduced fertility, risk of cancer, testicular torsion, as well as psychological issues are factors that supports the need for surgery. Orchiectomy remains the treatment of choice for adult UDT, including in our case, due to the risk of testicular cancer.

Keywords: Adult, Congenital, Cryptorchidism, Orchiectomy, Testis

Background
Testicular dystopia or UDT is a genital pathology of pediatric age and is the most common congenital malformation in male neonates.1 Although the mechanism that regulates prenatal testicular descent is still partly obscure, there is persuasive evidence that endocrine, genetic, and environmental factors are involved.2 Up to one-third of premature boys are affected by maldescensus testis, while about 2% to 5% of full-term boys have at least one undescended testicle. Short-term postnatal endogenous testosterone secretion reduces this incidence to 1% to 2% after three months.3

In children, the presence of a testicle probed on the clinical examination usually exempts some complementary examinations such as ultrasound. According Ndour, et al4, the ultrasound sensitivity in this situation is low and its result does not have a great impact on the therapeutic strategy. But in adults the degenerative risks incurred by the undescended testis deserve the detection of structural abnormalities that will make option for an orchiectomy, thus making it possible to prepare the patient psychologically before the intervention.4

UDT in adult is less frequent than in pediatric patients, thus making it somewhat a rare disease. UDT in adult associated with an increased probability of neoplasms, which has led orchiectomy to be the recommended treatment. Second most important factor is fertility.5 Therefore, early diagnosis and prompt treatment is crucial for the treatment of UDT in adults. In this case report, we aim to describe an UDT case in adult and analyse the case using relevant theoretical concepts.

Case presentation
A 35-year-old man came to the Unggul Karsa Medika hospital with a complaint of a lump in the right groin. He said that the lump has been felt since the patient was a child. Sometimes, it emerged and other time it disappeared. The lump had become more visible in the last 2 weeks. He said he only had one testicle since he was a child, however due to negligence, he or his parents did not find any medical help.
He also felt nauseous when the lump is pressed but did not feel pain. He already had two children. There was no family history and history of growth problems.

On physical examination, a lump was found in the right inguinal area without discoloration and pain, with a negative Valsalva test, and no right testicle was found. Left testicle was present and in good condition. Other physical examination results were normal.

He was then advised to undergo surgery and the next day he had an orchiectomy at Unggul Karsa Medika hospital. The patient was discharged 2 days later with no complaints.

**Discussion**

Undescended Testis (UDT) or Cryptorchidism is a common birth defect in male genitalia, in which at least one testicle is absent from the scrotum. The missing testicle can be found along the inguinal canal or in the ectopic case could go as far as the pre-pubic area or perineum. This condition should not be confused with monorchism or anorchism, a condition where one or both testicles is truly absent. Cryptorchidism itself means “hidden testis” and is interchangeable with Undescended Testis (UDT). Normal testicular descent raises scientific interest in terms of its mechanism.

The etiology of this condition remains poorly understood. Since testicular descent is a hormonally-driven event, it is possible that abnormality in intrauterine hormonal function has a role in the etiology of UDT. Based on their role in testicular descent, these investigations have focused on estrogens, androgens, human chorionic gonadotrophin (hCG) and the protein hormone Insulin-Like 3 (INSL3). These hormones are found to be related to some risk factors, including maternal smoking during pregnancy, family history of cryptorchidism, mutations at INSL3, birth weight, gestational age, and size for gestational age. Maternal age, parity and pregnancy-related health are also affecting the risk of UDT.

As a clinician, we must differ the UDT case between palpable and non-palpable testis. Other terms used to describe the position of the palpable testis are peeping (sliding in and out of the internal inguinal ring), canalicular, extra-canalicular, suprapubic, or ectopic. In this patient, since he said that the lump in his inguinal area was sometimes disappearing, we suspect that the palpable testis was sliding in and out of the internal inguinal ring. Non-palpable testes may be intra-abdominal, absent, atrophic, or inguinal but difficult to palpate.

Palpable and non-palpable testes will define the suggested treatment of UDT. Orchiectomy is more recommended than orchiopexy in unilateral palpable cases. In bilateral cases, orchiopexy is more recommended. However, if somehow orchiopexy is impossible to be performed, then orchiectomy is the solution. If it is nonpalpable, laparoscopy is the optimal treatment. Laparoscopy enables surgeon to identify the position of testis. If testis identified, laparoscopic orchiectomy or orchiopexy can be done.

There are reasons supporting earlier surgical intervention for UDT, including reduced fertility, risk of cancer, testicular torsion, or trauma, association with inguinal hernia, and psychological or body image issues. Patients with UDT are often presented with reduced fertility. It is found that of patients with unilateral cryptorchidism develop infertility, while of patients with bilateral cryptorchidism have a reduction in fertility after orchiopexy. Testicular cancer risk increases 5-6 times if orchiopexy is done after puberty, while the risk does not have any difference when orchiopexy is done in infancy.

Orchiectomy is still the suggested treatment for adult UDT. Rogers, et al. showed that cryptorchid testes in postpubertal male subjects were cannot contribute to fertility. In 52 patients with postpubertal cryptorchidism, only 1 histology result that showed normal spermatogenesis. About had carcinoma in situ of the testicle and had testicular torsion. Thus, orchiectomy remains the treatment of choice for adult UDT, including in our case.

Adult UDT cases were usually found due to several reasons, resulting in delay of treatment. Shiryazdi, et al. evaluated the causes of delay in proper treatments. The most common reasons were absence of early diagnosis by physicians, parent’s unawareness of surgery necessity and its complications associated, and parent’s disregard. Late diagnosis by physician and lack of insight of parents were the main reasons in delayed diagnosis and treatment of UDT. Therefore, we hope that with this case report, general practitioners can detect UDT earlier.

**Conclusion**

Undescended Testis (UDT) or Cryptorchidism is a common birth defect in male genitalia, in which at least one testicle is absent from the scrotum. The etiology of this condition remains poorly understood. However, it is possible that abnormality in intrauterine hormonal function has a role in the etiology of UDT.
Adult UDT usually happens due to late diagnosis by physician and lack of insight of the parents about surgery necessity and its complications. Reduced fertility, risk of cancer, testicular torsion, as well as psychological issues are factors that supports the need for surgery. Orchiectomy remains the treatment of choice for adult UDT, including in our case, due to the risk of testicular cancer.

List of abbreviations
UDT - Undescended Testis
hCG - human chorionic gonadotrophin
INSL3 - Insulin-Like 3 hormone

Declarations
Ethics approval and consent to participate
Informed consent from the patient has been obtained before the study

Consent for publication
Consent for publication regarding patient data has been obtained before the study. All the patient identity has been kept secret.

Availability of data and materials
Not Applicable

Competing interests
The authors declare that they have no competing interests.

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