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CASE REPORT / OLGU SUNUMU

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Rare Clinical Case: Polyorchidism

Nadir Klinik Olgu: Poliorşidizm

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Abstract

Polyorchidism is a rare embryological anomaly that encompasses various forms, such as triorchidism, and involves at least one supernumerary testis, which may reside within or outside the scrotum. Approximately 65% of cases are reported on the left side, with the majority located in the scrotal area (75%). According to the literature, no specific abnormality has been consistently associated with polyorchidism. Patients are generally asymptomatic, but they may more commonly encounter conditions, such as cryptorchidism, inguinal hernia, testicular torsion, hydrocele, varicocele, or testicular cancer. However, although polyorchidism has been recognized as an anomaly for many years, there is no consensus on its management.

Keywords: Polyorchidism, supernumerary testis, triorchidism

Öz

Poliorşidizm, triorşidizm gibi çeşitli formları kapsayan ve skrotumun içinde veya dışında bulunabilen en az bir fazla sayıda testis içeren nadir bir embriyolojik anomalidir. Olguların yaklaşık %65'i sol tarafta bildirilmektedir ve çoğunluğu skrotal bölgede (%75) yer almaktadır. Literatüre göre poliorşidizm ile tutarlı bir şekilde ilişkilendirilen spesifik bir anormallik bulunmamaktadır. Hastalar genellikle semptomsuzdur ancak daha sık olarak kriptorşidizm, kasık fıtığı, testis torsiyonu, hidrosel, varikosel veya testis kanseri gibi durumlarla karşılaşabilirler. Ancak poliorşidizmin uzun yıllardan beri bilinen bir anomali olmasına rağmen tedavisi konusunda hala bir fikir birliği yoktur.

Anahtar Kelimeler: Poliorşidizm, fazladan testis, triorşidizm

Introduction

Polyorchidism is a rare embryological anomaly ,which has many forms, such as triorchidism, characterized by at least one supernumerary testis (SNT) and placement in the scrotum or ectopically. Approximately 65% of cases were reported on the left side and mostly scrotal (75%)[1].

According to the literature, no specific abnormality has been found to be associated with polyorchidism in terms of etiology.

The first case in the literature was reported by Blasius in 1670 during routine autopsy. Subsequently, first described an extra testes with histological confirmation in 1895. The most commonly used classification system is the Leung classification. Patients with polyorchidism are usually asymptomatic and commonly present with cryptorchidism, inguinal hernia, testicular torsion, hydrocele, varicocele or testicular malignancy more commonly[2]. Although poliorchidism is a very well-known abnormality for decades, there is still no consensus in disease management. Written informed consent was obtained from patient.

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Case Report

A 23-year-old man presented to the urology clinic with a palpable mass in the right hemiscrotum. In patient history, no comorbid disease, family history, or medication received was found.

In the scrotal examination, both the right and left testes were palpated in the scrotum. Additionally, a scrotal mass in the right hemiscrotum was detected with a similar size and was adjacent to the right testis. Subsequent to physical examination, blood tests, scrotal ultrasonography (USG), and magnetic resonance imaging (MRI) were performed to identify the mass. Blood tests showed normal serum levels of testicular tumor markers (hCG <0.20 IU/L; lactate dehydrogenase, 169 U/L, alpha fetoprotein/(AFP) 1.37 µg/L. Scrotal USG demonstrated normal-sized right and left testises with 48x30x25 mm and 30x22x17 mm diameters, respectively, and additional SNTs with 32x29x20 mm and separated epididymis for each one (Figure 1 and 2). There was no evidence of hydrocele, varicocele, or inguinal hernia. MRI showed similar findings to USG (Figure 3).

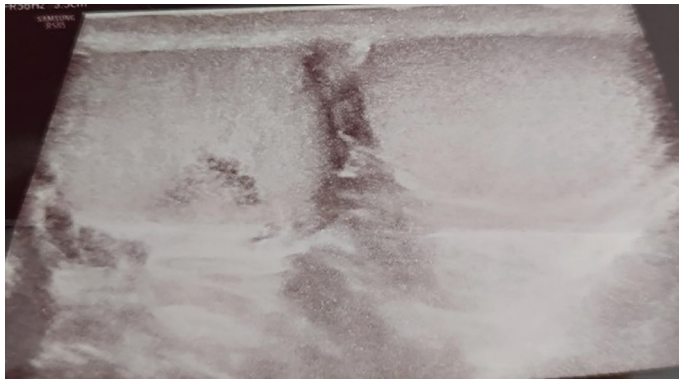

Figure 1. Ultrasounds image showed two right testes

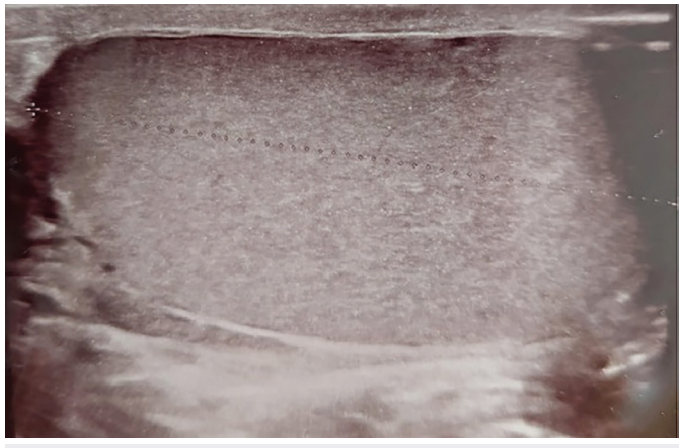

Figure 2. Ultrasounds image showed left testis

After a meticulous evaluation, the patient was informed about the abnormality and potential long-term outcomes, including fertility, and the recommended conservative management. Subsequent to this consultation, follow-up with USG and examination via clinical visits (in every 6-12 months), and self-scrotal examination were planned.

Discussion

Polyorchidism is a rare congenital genitourinary anomaly, which is defined by the presence of three or more testicles. The precise etiology of this condition remains unclear. There are many theories about the potential causes of polyorchidism, including abnormalities during division and union of the urogenital ridge and mesonephric ducts.

Triorchidism is the most common type of polyorchidism, besides case studies reported four or five testicles have also been published in the literature[3]. A recent metaanalysis concluded that the median age for diagnosis was 17 years, and the majority of cases were left-sided (65%). In addition, the most common anomalies associated with polyorchidism were inguinal hernia (30%), undescended testis (15-30%), testicular torsion (13%), hydrocele (9%), and malignancy (<1%)[1].According to the Leung classification, there are 4 types of polyorchidism which are described as follows[4]:

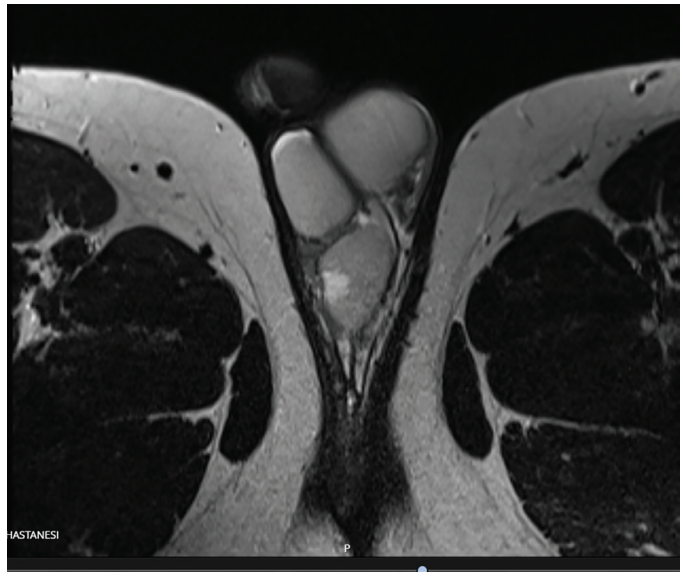

Figure 3. Twice testes in the MRI image

MRI: Magnetic resonance imaging

Type 1- SNT lacking epididymis or vas and no attachment to the usual testis.

Type 2- Supernumerary testes drain into the epididymis of the usual testes and share a common vas.

Type 3- SNT has its own epididymis, and both epididymis of the ipsilateral testis drain into the common vas.

Type 4- Complete duplication of the testes, epididymis and vas.

Type 2- Is considered the most common type.

The most common locations of extra testes were the sctorum (66%), inguinal canal (23%) and abdomen (9%) respectively[5]. The vast majority of the patients were asymptomatic and incidentally detected. USG is the most commonly used imaging modality, and MRI is very helpful in determining whether the diagnosis remains unclear with USG.

In the literature, no consensus has been established regarding the management of polyorchidism. However, conservative management, including clinical visits and self-examination, is recommended if scrotal placement, the absence of a concomitant disorder, and testicular tumor signs are detected[6].

Conclusion

Polyorchidism is a rare urogenital anomaly. USG or MRI are used in diagnosis most commonly. In decision making for treatment strategies, the location of SNT, concomitant disorders, and the existence of a potential testis neoplasm must be evaluated.

Ethics

Informed Consent: Written informed consent was obtained from patient.

Footnotes

Authorship Contributions

Surgical and Medical Practices: A.E.C., M.U., Concept: O.Ö., A.E.C., Design: M.U., Data Collection or Processing: O.Ö., M.U., Literature Search: A.E.C., M.U., Writing: O.Ö., M.U.

Conflict of Interest: No conflict of interest was declared by the authors.

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