Asian Journal of Andrology (2014) 16, 923–924

www.asiaandro.com; www.ajandrology.com

Open Access

LETTER TO THE EDITOR

Male Health

Triorchidism: a rare genital abnormality

Orcun Celik, Salih Budak, Ozgur Cakmak, Huseyin Tarhan, Okan Nabi Yalbuzdag, Aziz Peker, Yusuf Ozlem Ilbey

Asian Journal of Andrology (2014) **16**, 923–924; doi: 10.4103/1008-682X.133317; published online: 17 June 2014

Dear Editor,

We would like to present a rare case of polyorchidism. Polyorchidism is an unusual abnormality of the genital tract and until date, there are approximately 178 case reports of polyorchidism in the literature.[1] However, the most of patients are asymptomatic and usually diagnosed incidentally. Some may present as inguinal hernia (30%), maldescended testis (15% to 30%), testicular torsion (13%) and hydrocele (9%), varicocele (1%), hypospadias (<1%), anomalous urogenital union (<1%), and malignancy (<1%).[2] Management of polyorchidism is still controversial. Important factors of polyorchidism management are testis location, size and anatomical organization of the testicular drainage system and the age of the patient.

A 28-year-old single Turkish man presented to our clinic with 12 years history of a small palpable lump in the left hemi-scrotum. There were no other urological and general medical symptoms or significant past medical history. Physical examination was normal with no palpable mass on abdomen wall and no palpable inguinal herniae. Scrotal examination revealed a normal right testis and scrotal content, but on the left-side there were palpated two mass in similar size. It was difficult to make a distinction between the normal testis and the mass because of their similar consistency and size. They were separate testis and had two epididymis and two vas deferens. In laboratory findings such as human chorionic gonadotropin and α-fetoprotein and lactate dehidrogenase were in normal range.

Scrotal ultrasound identified a left-side duplicated testis with normal echo-texture and blood flow. Scrotal magnetic resonance imaging (MRI) scan was performed for confirming the diagnosis and anatomical evaluations. MRI showed single right testicle and a left-side double testis having their own epididymis and vas deferences (**Figure 1**).

Blasius recorded the first case of triorchidism at a routine autopsy in 1670.[1] The first histologically documented case of polyorchidism was reported by Lane in 1895. Most patients with polyorchidism has been identified especially early adulthood period and the majority of supernumerary testes are located in the scrotal region (66%) followed by inguinal (23%) and abdominal (9%) positions. The most common type of polyorchidism is triorchidism with the supernumerary testis detected to the left-side as our case.[3]

In an embryonic life, duplication of the mesonephric ducts and genital ridge occurs resulting in various types of polyorchidism in the horizontal or longitudinal plane at about 8 weeks. Based on embryology, Leung has proposed four types.[4] In Type I, the supernumerary testicle has no epididymis or vas having postulated to occur if the division separates from only a small part of the genital ridge that is not in contact with the rete testis. In Type II, the supernumerary testicle has its own epididymis, but shares common vas deference with the lower testis. This occurs when there is complete transverse division through the genital ridge and the mesonephros. Depending on the degree of division, the supernumerary testis may be connected longitudinally to the epididymis of the normal testis and its vas deferens, or it may lack any connections to the normal testis. In Type III, both testes share a common epididymis and a common vas. This is the most common form and may result if the division of the genital ridge does not include the mesonephros.[3] In Type IV, there is complete duplication of the testis, epididymis, and vas. This occurs rarely and may result from simultaneous duplication of the genital ridge and mesonephric duct. Our case was in Type IV.

Management of triorchidism is still controversial. Some authors in argue that the majority of supernumerary testis have histologically reduced or absent spermatogenesis and may have a potential premalign lesion. If it is nonviable, undescended or ectopically located it should be resect when it detected.[5] Others have a conservative approach that; to preserve a potentially functional supernumerary testis to improve the capacity for spermatogenesis is essential even if they are smaller or in ectopic locations.[6] It is suggested that all gonadal tissue should be left in the scrotum to maximize potential fertility. Our patient's hormone (total testosterone, free-testosterone, follicle-stimulating hormone (FSH), luteinizing hormone, prolactine) levels were normal and spermiogram test was normal. Our case was presented without another urinary abnormality. We selected to follow-up our patient

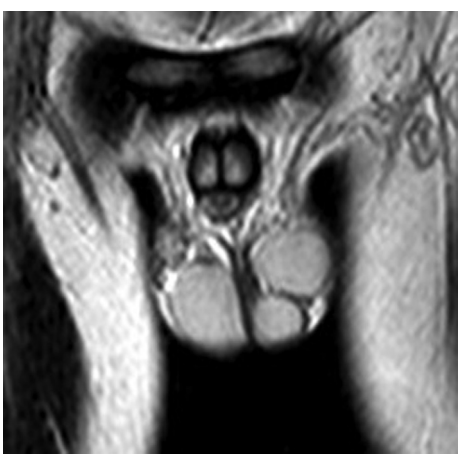

Figure 1: Coronal view of the scrotal magnetic resonance imaging scan clearly demonstrates a doubled testicle on the left-side.

Department of Urology, Tepecik Educational and Research Hospital, Izmir, Turkey.
Correspondence: Dr. O Celik (orcuncelik82@hotmail.com)
Received: 04 March 2014; Revised: 27 March 2014; Accepted: 22 April 2014

with ultrasonography and semen analysis, serum testosterone and FSH levels for malignancy every 2 years.

AUTHOR CONTRIBUTIONS

OC, SB, HT carried out this clinic properties. AP collected radiologic data of the patient. OC and YOI made analysis and interpretation of data. OC and ONY gave final approval version to be published.

COMPETING INTERESTS

The authors declare that they have no competing interests.

REFERENCES

1 Bergholz R, Wenke K. Polyorchidism: a meta-analysis. *J Urol* 2009; 182: 2422–7.
2 Kharrazi SM, Rahmani MR, Sakipour M, Khoob S. Polyorchidism: a case report and review of literature. *Urol J* 2006; 3: 180–3.
3 Bergholz R, Koch B, Spieker T, Lohse K. Polyorchidism: a case report and classification. *J Pediatr Surg* 2007; 42: 1933–5.
4 Leung AK. Polyorchidism. *Am Fam Physician* 1988; 38: 153–6.
5 Scott KW. A case of polyorchidism with testicular teratoma. *J Urol* 1980; 124: 930–1.
6 Mathur P, Prabhu K, Khamesra HL. Polyorchidism revisited. *Pediatr Surg Int* 2002; 18: 449–50.

How to cite this article: Celik O, Budak S, Cakmak O, Tarhan H, Yalbuzdag ON, Peker A, Ilbey YO. Triorchidism: a rare genital abnormality. *Asian J Androl* 0;0:0. doi: 10.4103/1008-682X.133317. [Epub ahead of print]