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## **Polyorchidism: case report and literature review.**

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### **Abstract:**

Polyorchidism is a rare congenital anomaly frequently associated with maldescent testis, hernia, and torsion. Reports in the literature show an increased risk of testicular malignancy in the presence of polyorchidism. This entity has characteristic sonographic features and the diagnosis is often made on the basis of sonography. A conservative approach is the treatment of choice in uncomplicated cases. We report a male of 26-years old with 2 testicles in right side diagnosed by ultrasound. A brief history and review of the literature is also presented.

### **Introduction:**

Polyorchidism is defined as the presence of more than two testes. Polyorchidism is a rare congenital anomaly. Approximately 100 cases of polyorchidism have been reported in the literature[1]. It is found predominantly on the left side[2-4]. There are characteristic sonography features of polyorchidism, and the diagnosis is often made on the basis of sonography. Magnetic resonance imaging can be used for confirmation but may be more helpful in cases complicated by cryptorchism or neoplasia. Conservative treatment is advised in uncomplicated cases[5-7]. This entity is usually asymptomatic but it has been

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associated with malignancy and infertility[8]. Polyorchidism is associated with maldescent testis, inguinal hernia, torsion, and an increased risk of malignancy. However, if a neoplasm is ruled out by ultrasonography, surgical exploration is not needed[7, 9-12]. Malignancy in the extra testicle has been reported in 4 cases only[7]. Magnetic resonance imaging might also be used for the diagnosis, but is more helpful in cases associated with cryptorchism or neoplasia. Bilateral double testis, a variant of polyorchidism, is a rare malformation of which six cases have been reported in the published literature[13].

### **Case report:**

A male 26-years-old single presented with a right side mild testicular pain. The patient seen by a general practitioner and the suspected clinical diagnosis was epididymorchitis and referred to our department for scrotal ultrasound.

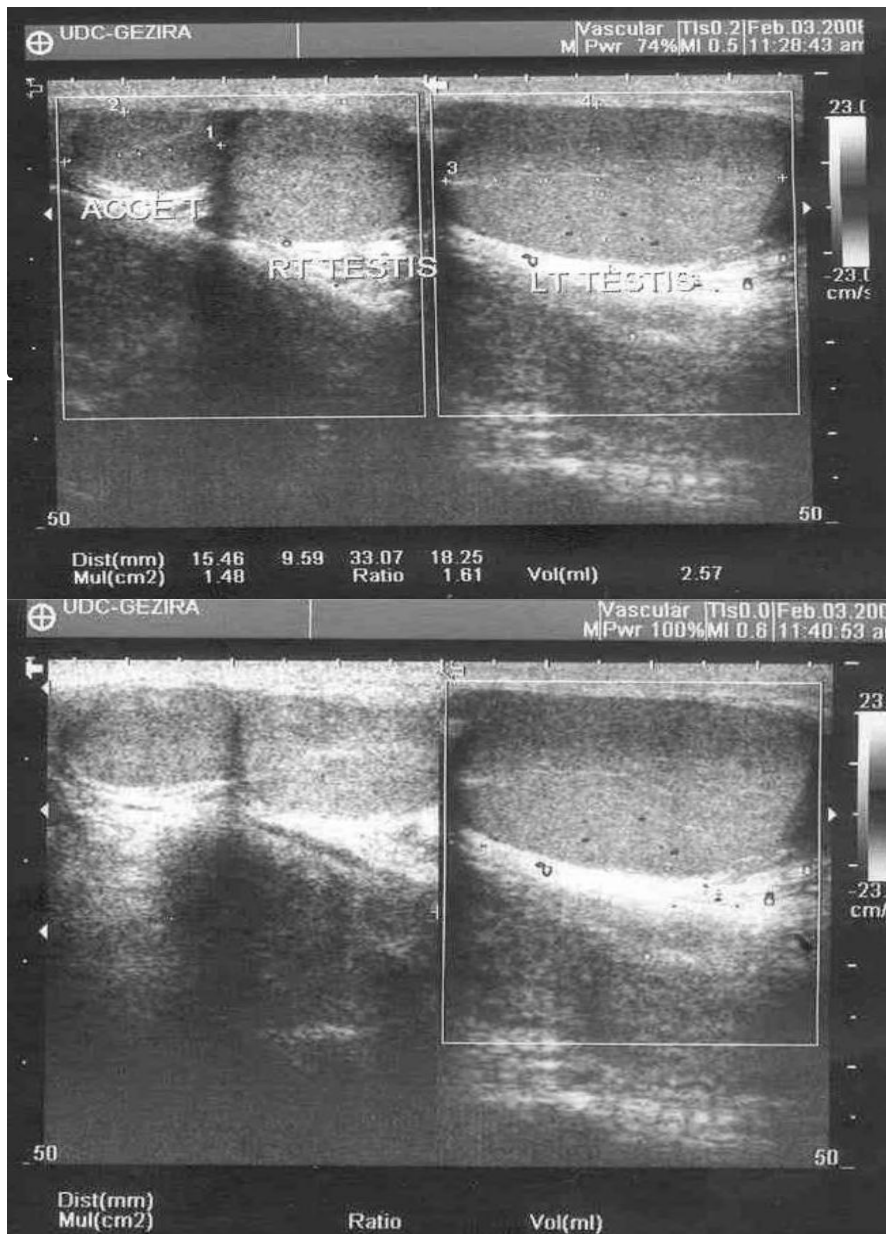
The ultrasound revealed a normal size left testicle (3.3x1.8 cm) with normal echotecture, blood flow pattern and normal epididymis. No focal lesion, hydrocele or varicocele detected in the left scrotum. The right testicle is a bit small in size measuring 2x1.1cm but with normal echotecture, blood flow pattern and normal epididymis. No focal lesion, hydrocele or varicocele detected in the right scrotum. In addition, there is a soft tissue structure within the right scrotum measuring 1.6 x 1.0 cm with echotecture and color Doppler blood flow are identical to that of the normal testes and has its own epididymis (Fig 1). All these findings are compatible with the diagnosis of the accessory testicle. Both prostate and seminal vesicles appear normal.

6 months later the patient came back for follow up and the he said the pain disappeared with one week after the first ultrasound image. The follow up ultrasound (not shown) revealed the same findings as in the first ultrasound. In addition MRI was done for confirmation which shows 2 separate testicles with septum between them in the right scrotum (Fig 2) and a normal left testicle. The MRI morphological findings confirmed the ultrasound diagnosis of the accessory testicle. Moreover, it showed no abnormal signal intensity to suggest complications or alternative diagnosis.

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To our knowledge this is the first reported case of polyorchidism in the literature from Sudan.

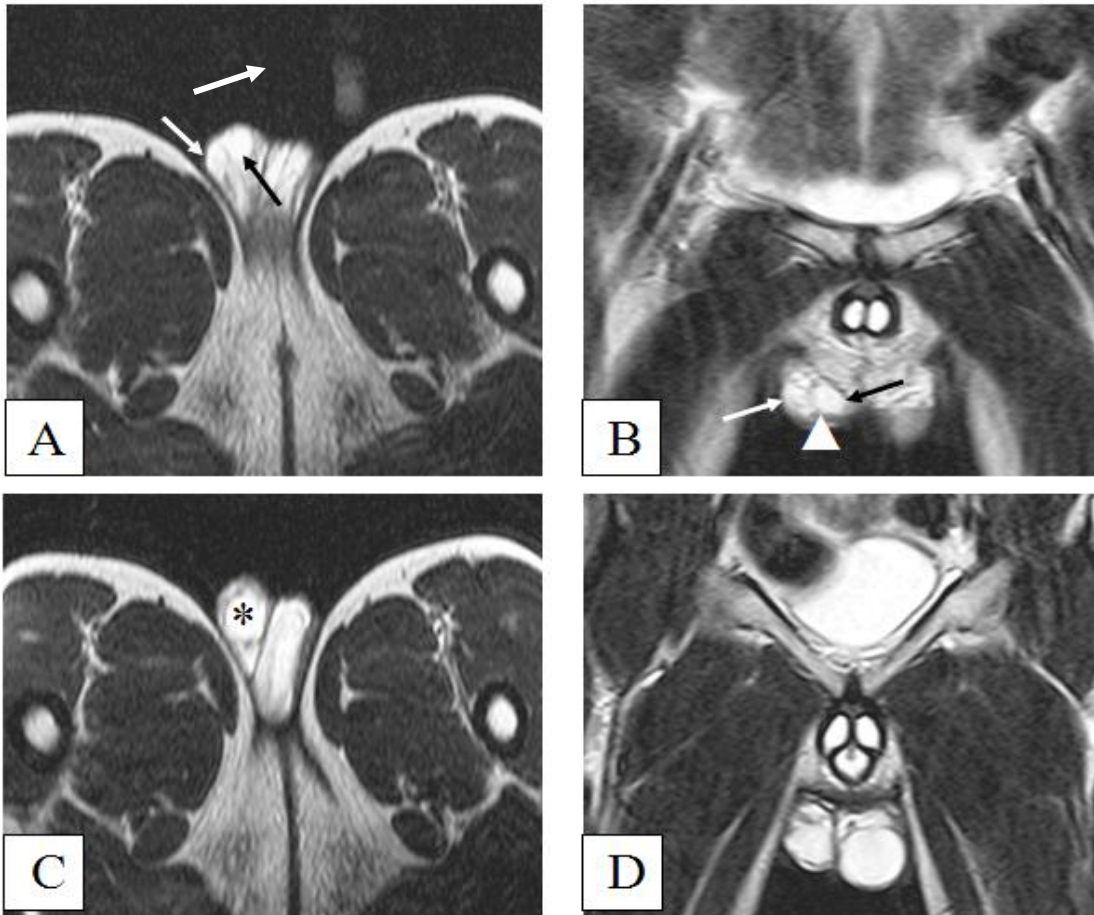
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**Fig 1:** Demonstrate 2 testicles in the right side and one normal-sized left testicle, and all of them with similar echotexture and blood flow and accessory testicle shows rete testis **A**. The rete testis of left testicle is obvious **B**.



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**Fig 2:** A & B. T2WI axial and coronal MRI views showing accessory testicle on the right side (*black arrow*) and part of normal right testicle (*white arrow*) and the septum in between (*arrowhead*). C & D. T2WI axial and coronal MRI views showing right testicle (*asterisk*). Both testicles right & normal-sized left testicle is shown in the T2WI coronal view D.

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