

# Management of polyorchidism in a prepubertal boy: A case report and literature review

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## Abstract

Polyorchidism is a very rare embryological anomaly characterized by the presence of extra number of testes with the usual presentation of two homolateral and one contralateral testis and no clear guidelines for management. Herein, we present a 14-year-old case with left supernumerary testes presented with discomfort and painless mass, diagnosed by US and confirmed by magnetic resonance imaging. Conservative treatment was implemented, in the form of ultrasound followup imaging (every 6–12 months) with selfscrotal examination every month.

**Keywords:** Polyorchidism; triorchidism; ultrasonography; Supernumerary testicle; A congenital testicular anomaly

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## INTRODUCTION

Polyorchidism is a very rare embryological anomaly characterized by the presence of extra number of testes with the usual presentation of two homolateral and one contralateral testis and no clear guidelines for management.<sup>[1]</sup> Herein, we present a 14-year-old case with left supernumerary testes presented with discomfort and painless mass, diagnosed by US and confirmed by magnetic resonance imaging. Conservative treatment was implemented.

## CASE REPORT

A 14-year-old boy with no medical or surgical history came to the clinic with a complaint of painless left scrotal swelling and mild discomfort. On the scrotal examination, a normal right and left testis in addition

to a left scrotal mass approximately the same size as the left testis and two vasa deference were palpated. The patient was investigated by laboratory blood tests and scrotal US. On laboratory tests, normal blood count and normal serum levels of testicular tumor markers were detected. Scrotal ultrasound (US) demonstrated a normal left testis measuring 4 × 6 cm and supernumerary testis measuring 3 × 2 cm with the same echogenicity and separate epididymis for each one. The right testis was normal measuring 4 × 5 cm with microlithiasis. Where, no US features suspicious of malignance found on the three testicular glands [Figures 1-3]. MRI was done and showed the same finding [Figure 4]. Conservative management was offered to the patient in the form of sonographic follow-up (every 6–12 months) with self-scrotal examination every month were suggested for

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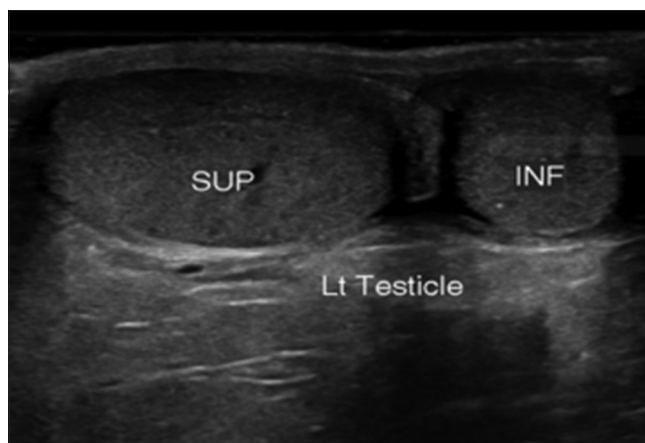
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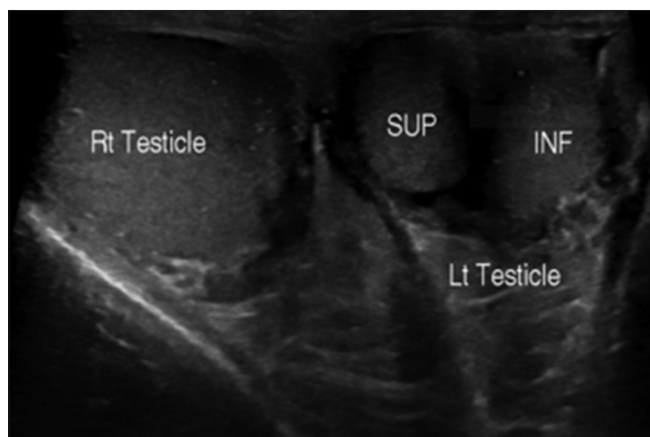
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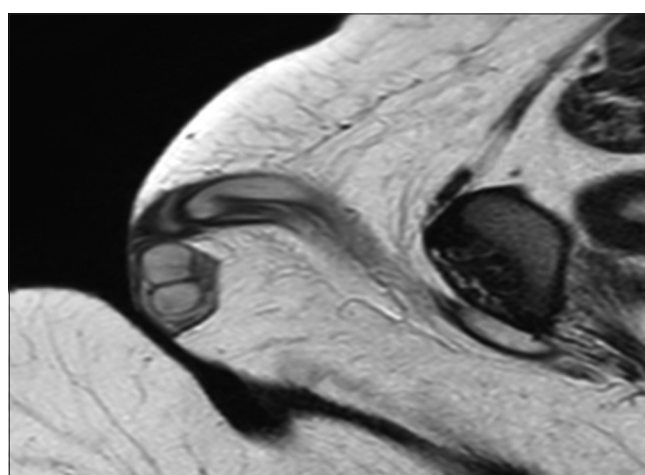
**Figure 1:** Ultrasounds image showed right testicular microlithiasis



**Figure 2:** Ultrasounds image showed two left testes with no malignant evidence



**Figure 3:** Ultrasounds image showed the triple testes



**Figure 4:** Sagittal view of twice left testes in the magnetic resonance imaging image

the patient because of the risk of malignancy and further fertility follow up was planned.

## DISCUSSION

Polyorchidism is a rare testicular embryological disorder characterized by supernumerary testicles. The cause of polyorchidism, until now, remains unclear. The diagnosis of polyorchidism is usually incidentally discovered. Painless groin or scrotal swelling is the presenting symptom in 16% of the patients as reported in the literature.<sup>[1]</sup> The median age was 17 years with an age range of 11-25 years. Most of the cases are single, and left-sided extra testis was present as present in our case.<sup>[1,2]</sup> The majority of supernumerary testes the scrotal supernumerary testes were found in (66%), inguinal come after by (23%) then abdominal in (9%).<sup>[1]</sup> This congenital anomaly indiscriminately accompanied with inguinal hernia (24%), undescended testis (22%), and testicular torsion (15%).<sup>[1]</sup> Testicular malignancy risk increased in the presence of polyorchidism as Bergholz and Wenke, reported 6.4% neoplasm of the polyorchidism of 140 cases.<sup>[1]</sup> Infertility was found in 20% of supernumerary cases; 37% of those

have tubular atrophy, Sertoli cell pattern (without Leydig cells), or spermatogenesis failure.<sup>[3]</sup>

The management of extra testis is diverse between conservative observation and orchiectomy depending on the fertility condition and the position of the supernumerary testis. The testicular function preservation must be overweight the malignancy risk. Our patient fertility issue is difficult to be assessed as he is at prepubertal age, unmarried, and want to have children so he was counseled and the conservative management offered in view of the patient's fertility purpose and low malignancy risk. Singer *et al.*<sup>[4]</sup> recommended orchiectomy of all nonfunctioning or ectopically positioned polyorchidism, absence of fertility desire, patient request, and the difficulty of regular observational follow-up. While, Sonmez *et al.*, applied conservative management for a 37-year-old patient if no malignant suspicious.<sup>[5]</sup> Therefore, we thought in prepubertal age,

no malignant suspicious, intrascrotal polyorchidism and the fertility potential is difficult to be assessed the regular follow-up is recommended.

## CONCLUSIONS

Polyorchidism is a rare embryological testicular anomaly with unclear etiology. Diagnosis can be established by the clinical examination and ultrasonographic findings and MRI imaging. The treatment of choice is conservative management in the prepubertal patient with intrascrotal polyorchidism special the fertility potential difficult to be assessed.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will

not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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