

Available online at www.sciencedirect.com
ScienceDirect
journal homepage: www.elsevier.com/locate/radcr

Case Report

Sonographically diagnosed and conservatively managed case of polyorchidism: A case report[☆]

Abdikadir Mohamed Dirie, MD^{a,*}, Abdinasir Mohamed Elmi, MD^a, Eren Mutlu, MD^a,
Faisal Abdi Osoble Osman, MD^a, Abdikarim Hussein Mohamed, MD^b

^a Radiology Department, Mogadishu Somali Turkish Training and Research Hospital, Mogadishu, Somalia

^b Urology Department, Mogadishu Somali Turkish Training and Research Hospital, Mogadishu, Somalia

ARTICLE INFO

Article history:

Received 30 March 2022

Revised 6 April 2022

Accepted 6 April 2022

Keywords:

Polyorchidism

Imaging

Accessary testis

Sonography

Conservative treatment

ABSTRACT

Polyorchidism is a congenital abnormality with distinct sonographic characteristics. In most cases, sonography is sufficient for diagnosis. In instances of complicated polyorchidism, an MRI may provide further information. Conservative treatment with sonographic follow-up is the best management option in uncomplicated cases. We present a rare case of polyorchidism with no associated complications that were managed conservatively with periodic follow-up imaging.

© 2022 Published by Elsevier Inc. on behalf of University of Washington.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Introduction

Polyorchidism is a rare condition, with approximately 171 cases documented in the literature. The exact cause of polyorchidism is unknown [1]. Initial duplication or an aberrant transverse division of the genital ridge is among many possibilities that have been offered as probable causes. Most polyorchidism patients are young adults, ranging from 15 to 25 years, with a single, usually left-sided supernumerary testis [2–4]. Cryptorchidism in 40% of the cases and testicular torsion in 15% of cases are associated with abnormalities with

polyorchidism ([5,6]. Other polyorchidism-related conditions include hydrocele (9%), epididymitis, varicocele, and malignancy in about % [7].

Case Report

Here is a sonographically diagnosed case of polyorchidism. This 17-year-old boy came to our urology department with a complaint of a non-tender mass in the left hemiscrotum that has been present since his childhood. A physical examination

[☆] Competing Interests: The authors have no affiliation with any organization with a direct or indirect financial interest in the subject matter discussed in the manuscript. This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue.

* Corresponding author.

E-mail address: fordaacad@gamil.com (A.M. Dirie).

<https://doi.org/10.1016/j.radcr.2022.04.016>

1930-0433/© 2022 Published by Elsevier Inc. on behalf of University of Washington. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

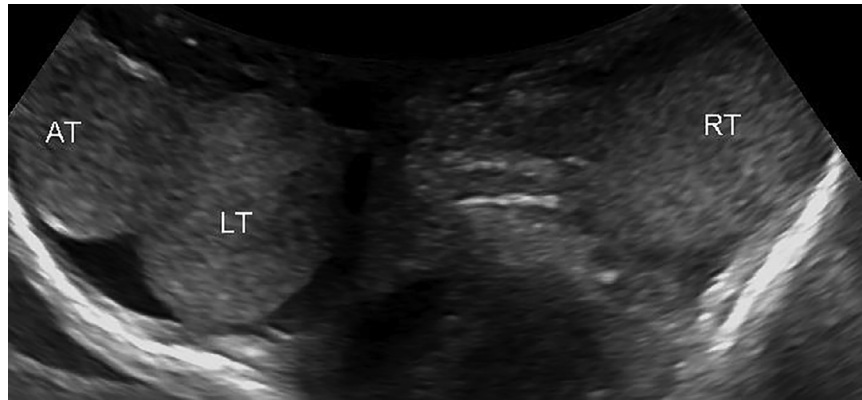


Fig. 1 – Testicular gray scale sonography with 2 similar echotexture testis in the left hemiscrotum and 1 testis in the right hemiscrotum.

revealed 3 rounded structures in the scrotum which 2 of them are in the left hemiscrotum. Then he was transferred to the radiology unit to have a scrotal ultrasonographic investigation. A 2.2 cmx1.5 cmx1.3 cm measuring accessory testis which has a normal vascularity on color doppler examination was observed through an ultrasound in the left hemiscrotum (Fig 1). In addition to that, the echotexture of the accessory testis was similar to the other testis and it had its own epididymis. The right and left testis were evaluated as normal in size and vasculature. The supranumery testis has similar echo pattern and good vasculature. Therefore, it was considered to as functional as others testis. No other endocrine abnormalities were identified from this case.

Discussion

Of about 2306 scrotal sonographic examinations had been done in our hospital since the last 6 years. This was our first case of polyorchidism.

Polyorchidism appears sonographically as a scrotal mass with an echo pattern identical to the ipsilateral testicle [8]. The flow parameters of the ipsilateral testis are almost similar to that of the supernumerary testis on color Doppler sonography.

Technological improvements in ultrasound (i.e., high-frequency transducers and advanced focusing and computing functions) have enabled the detection of very minute variations in the acoustic properties of superficial soft tissue. Therefore, sonography alone can be used to diagnose polyorchidism [9].

The following are some of the benefits of using sonography to investigate polyorchidism: (1) it provides high-resolution images that make it easy to distinguish a normal testis from a tumor mass; (2) it is flexible, convenient, and quick to use, requiring only a few minutes of scanning time; and (3) it does not expose the patient to radiation, making it suitable for repeated scrotal examinations. When a palpable lump in the groin or scrotum is considered to be an accessory testis, sonography is the most effective noninvasive method for inquiry and pre-

operative evaluation [10]. When the results of sonography are unclear, an MRI may be used to confirm the diagnosis.

Conclusion

The current treatment for uncomplicated polyorchidism is conservative, including sonographic observation, with no need for a biopsy of the supernumerary testicle for diagnosis or follow-up. In the presence of coexisting conditions, such as cryorchidism, torsion, or malignancy, surgical treatment is indicated.

Patient Consent

The patient was invited to participate and written informed consent was obtained.

• Consent for publication: The Patient was invited and written informed consent was obtained for his anonymized information to be published in this study.

REFERENCES

- [1] Mastroeni F, D'Amico A, Barbi E, Ficarra V, Novella G, Pianon R, et al. Polyorchidism: 2 case reports [in Italian]. *Arch Ital Urol Androl* 1997;69:319.
- [2] Amodio JB, Maybody M, Slowotsky C, Fried K, Polyorchidism Foresto C. Report of three cases and review of the literature. *J Ultrasound Med* 2004;23:951–7.
- [3] Berger AP, Steiner H, Lorenz H, Bartsch G, Hobisch A. Occurrence of polyorchidism in a young man. *Urology* 2002;60:911–12.
- [4] Pelander WM, Luna G, Lilly JR. Polyorchidism: case report and literature review. *J Urol* 1980;124:930–1.
- [5] Gandia VM, Arrizabalaga M, Leiva O, Diaz Gonzalez R. Polyorchidism discovered as testicular torsion associated with an undescended atrophic contralateral testis: a surgical solution. *J Urol* 1991;145:370–2.

- [6] Gokalp A, Gultekin EY, Gunes HA. Polyorchidism associated with cryptorchidism. *Turk J Pediatr* 1988;140:185–6.
- [7] Giyanani VL, Mc carthy J, Vennable DD, TerKeurst J, Fowler M. Ultrasound of polyorchidism: case report and literature review. *J Urol* 1987;138:863.
- [8] Chung TJ, Yao WJ. Sonographic features of polyorchidism. *J Clin Ultrasound* 2002;30:106–8.
- [9] Mastroeni F, D'Amico A, Barbi E, Ficarra V, Novella G, Pianon R, et al. Polyorchidism: 2 case reports [in Italian]. *Arch Ital Urol Androl* 1997;69:319.
- [10] Diabiane A, Poquet E, Jourdain C, Escure MN, et al. Value of echography in a case of polyorchidism. *J Radiol* 1996;77:509.