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A Rare Case of Polyorchidism: Four Testes

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Background:

Polyorchidism or supernumerary testis means more than two testes. It is very rare and to the best of our knowledge, there have been only about 200 cases reported.

Case Report:

In this case report we want to present radiological features and assessment of a patient with four testicles.

Conclusions:

If the vascularity and echogenicity of the scrotal mass is similar with the normal testis parenchyma, multitestis should be considered. The MRI might not provide us with additional information to USG or CDUSG, thus it is not necessary to perform it if there is no suspicion of malignancy.

MeSH Keywords:

Magnetic Resonance Imaging • Scrotum • Testicular Diseases • Ultrasonography • Ultrasonography, Doppler

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Background

Polyorchidism or supernumerary testis means more than two testes. It is very rare and to the best of our knowledge there have been only about 200 cases reported. In this case report we want to present radiological features and assessment of a patient with four testicles.

Case Report

A 40-year-old man admitted to the urology out-patient department with a complaint of a mass in the left scrotum. There was no remarkable urological history except for the mass. The patient was married and had two children, thus there was no infertility condition. The urological physical examination was unremarkable, except for the mass. After physical examination the patient was referred to the radiology clinic. Testis ultrasonography (USG), color doppler ultrasonography (CDUSG) and pelvic magnetic resonance imaging (MRI) were performed.

USG revealed two mass lesions in the left scrotum. One of them was in the back of the penis on the left side (Lesion 1), and the other was inferiorly to the left testis

(Lesion 2). The parenchymal echogenicity of those lesions was similar to that of normal testis parenchyma (Figure 1), except for scattered macro- and microlithiasis foci. Both lesions were well circumscribed. The size of lesion 1 was 35×24×14 mm, and lesion 2 was 22×10×10 mm. The lesions did not show any significant or pathological vascularity in CDUSG (Figure 2). The vascularity of the lesions was similar to the normal testis parenchyma. After USG and CDUSG, contrast-enhanced MRI was performed in the patient. In MRI, those lesions showed the same intensity and diffusion restriction pattern with those of a normal testis in all sequences (Figures 3, 4). The diagnosis was multitestis. Three testes were in the left scrotum and one was in the right. There were some concomitant disorders accompanying multitestis. The disorders included: bilateral epididymal cysts, grade I varicocele on the right side and grade III varicocele on the left side. The patient was managed with one-year period of follow-up.

Discussion

Polyorchidism was first described by Blasisus in 1670 in an autopsy material where it was found incidentally. The first histological description was made by Ahlfeld in 1880,

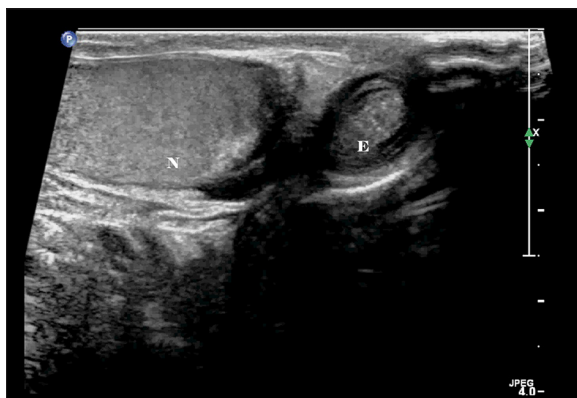


Figure 1. 40-year-old man with polyorchidism. Vertical ultrasonography image of normal testis (N) and extra testis (E). In this image the extra testis is situated inferiorly to the left testis. The scattered microlithiasis foci are seen as submillimetric echogenities.

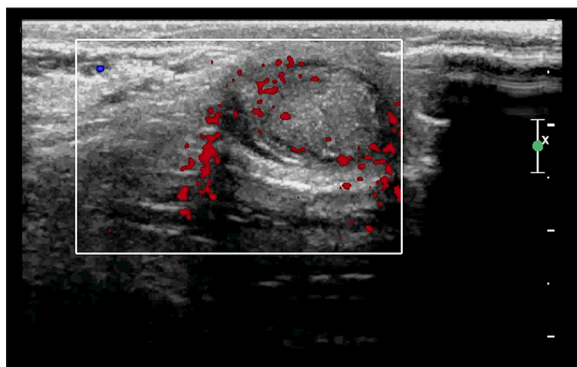


Figure 2. 40-year-old man with polyorchidism. The vertical color Doppler ultrasonography image of an extra testis shows similar vascularity pattern with normal testis parenchyma.

and the first clinical case was reported on by Lane in 1895 [1-5]. The etiology of polyorchidism is not clear but could be related with embryological period [2,6].

Extra testicles can be seen in different regions. The most common region is the scrotum. The extra testis is usually seen on the left side. Three testes (triorchidism) is the most common form. A total of 6 cases with 4 testes have been reported so far [7], and our case is the seventh one.

USG and CDUSG constitute a quick, noninvasive and cheap method to evaluate the mass pathologies. USG is easily available and well tolerated by the patients, unlike MRI. In our case report, the USG and CDUSG features of both lesions were similar to those of normal testicular parenchyma. After USG and CDUSG, our diagnosis was polyorchidism. To support the diagnosis, we performed MRI after USG. The MRI images of the lesions were similar with those of normal testis parenchyma in all sequences. Actually, USG and CDUSG were enough to make the final diagnosis. There is much controversy about the necessity

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Figure 3. 40-year-old man with polyorchidism. The coronal T2-weighted magnetic resonance image shows an extra testis located to the back of the penis (arrow), near the upper pole of the left testis.

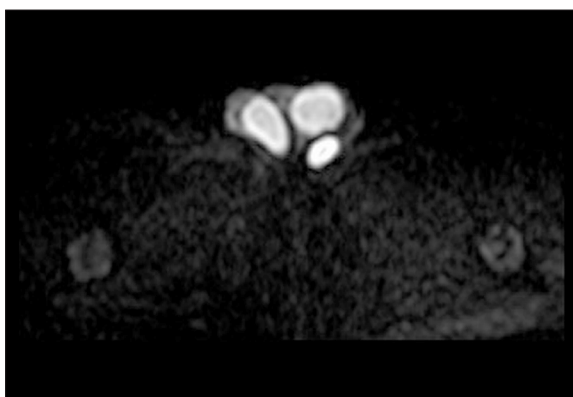


Figure 4. 40-year-old man with polyorchidism. The axial diffusion weighted magnetic resonance image of the extra testis posteriorly to the left testis. The diffusion restriction pattern of the extra testis is similar with normal testis parenchyma.

of MRI in polyorchidism. Some papers report that MRI is not required in the absence of suspicion [7], while other authors suggest to perform MRI in all polyorchidism cases [1,8]. In the meta analysis of Bergholz USG was the most common radiological modality and only a few of polyorchidism lesions underwent MRI. In those lesions, MRI did not give any additional information to USG [7].

Conclusions

If the vascularity and echogenicity of the scrotal mass is similar to the normal testis parenchyma, multitestis should be considered. MRI might not present additional information to USG and CDUSG, thus it is not necessary to perform it if there is no suspicion of malignancy.

Conflict of interest

There is no conflict of interest and funding concerning this paper.

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