Case Report. Benign Prostate disorders

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Prostatic sclerosing adenosis on needle biopsy

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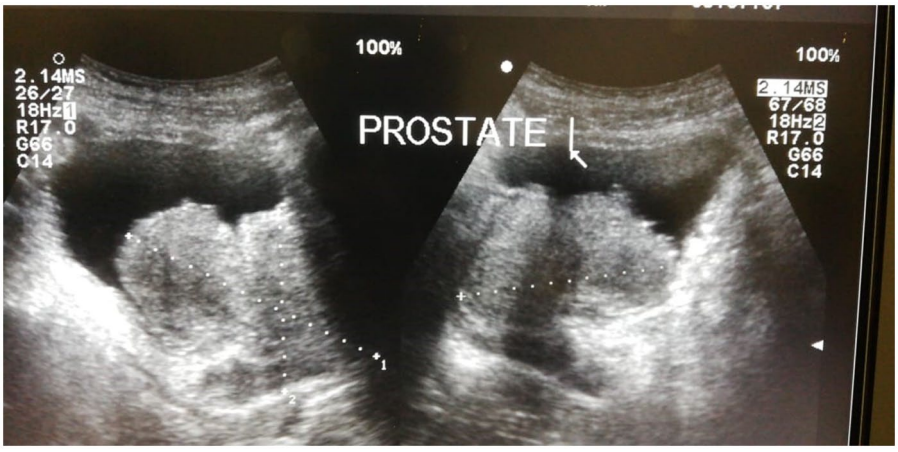

Figure 1. Transabdominal ultrasound of the prostate showing an inhomogeneous prostate gland measuring 120 ml.

Case summary

A 66-year-old black man presented with a one-year history of obstructive lower urinary tract symptoms (LUTS). He had no personal or family history of urological conditions. His calculated International Prostate Symptom Score was 17. On examination, he had a nonpalpable bladder and normal external genitalia. Digital rectal examination revealed an enlarged, firm and nodular prostate gland. Bedside ultrasound outlined an inhomogeneous prostate gland measuring 120 ml (Figure 1) and a prevoid bladder volume of 163 ml.

His uroflowmetry showed an obstructive pattern with maximal flow of 9.9 ml/s (Figure 2(a)); postvoid residual volume was less than 10 ml. Prostate-specific antigen (PSA) was 8.68 μg/l. He was started on doxazosin 4 mg *per os* daily for his LUTS. Prostate adenocarcinoma was suspected; therefore, systematic transrectal ultrasound-guided prostate biopsies were taken since multiparametric magnetic resonance imaging (mpMRI) is unavailable in our facility and histopathological assessment demonstrated features of sclerosing adenosis of the prostate on five of the 12 cores with immunohistochemical staining positive for transformation-related protein 63 (p63), high-molecular weight cytokeratin (HMWCK) by 34βE12 and negative for alpha-methylacyl-CoA racemase (AMACR) (Figure 3(a–d)).

A repeated uroflowmetry two months later showed a maximal flow of 15.5 ml/s (Figure 2(b)) with improved LUTS.

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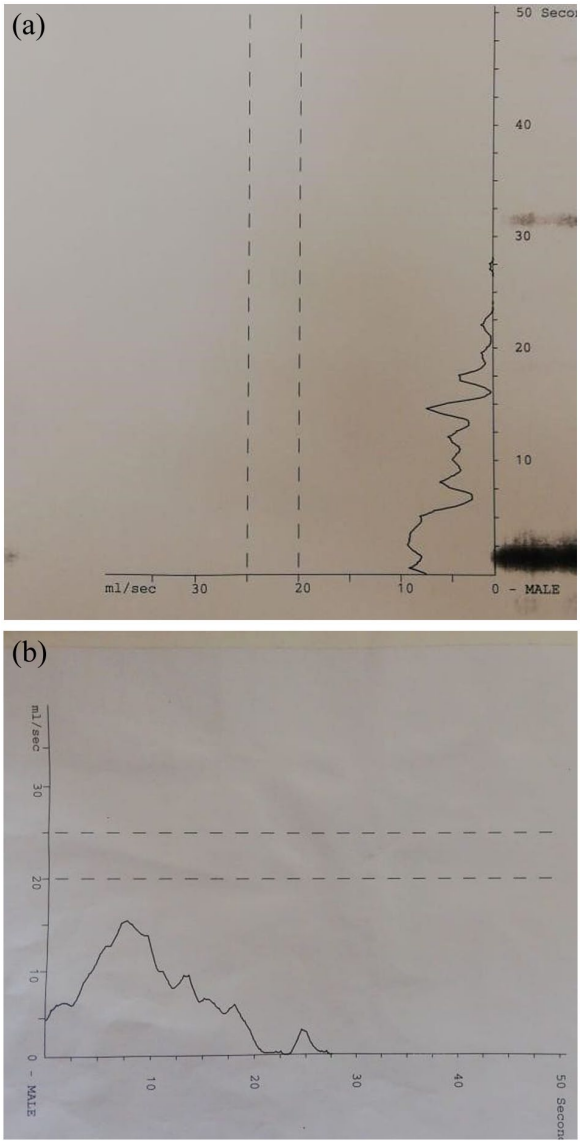

Figure 2. (a) Pretreatment uroflowmetry: max flow 9.9 ml/s, average flow 6.0 ml/s, voided volume 163 ml/s, voiding time 27 seconds, time to max flow three seconds. (b) Posttreatment uroflowmetry: max flow 15.5 ml/s, average flow 6.8 ml/s, voided volume 186 ml/s, voiding time 27 seconds, time to max flow eight seconds.

Discussion

Sclerosing adenosis of the prostate is an unusual histopathological finding that may be mistaken for adenocarcinoma. It is very rarely reported on prostate biopsy specimens and incidentally found in about 2% of transurethral resection specimens as this rare benign lesion arises in the transition zone of the prostate.[1,2]

Its histological feature consists of a prominent sclerotic stroma containing disorderly variable-sized or -shaped glands with immunohistochemical staining demonstrating a continuous basal cell layer negative for AMACR but positive for 34βE12, cytokeratin 5/6 (CK5/6), p63, S-100 protein and smooth muscle actin.[3–5]

This benign condition may have a myriad of clinical presentations. In this case the patient presented with semiological features suggestive of prostate cancer with associated risk factors such as increased age, race and elevated PSA. The treatment aim was to alleviate his LUTS, which was achieved with alpha-blockers evidenced by improved uroflowmetry and LUTS. The patient's symptoms could also be contributed by benign prostatic enlargement in view of the measured volume of 120 ml.

Despite a good response to alpha-blockers in this particular case, it is uncertain whether management with alpha-blockers would always be needed for every single patient. Presumably, some patients may not need any treatment, or surgical management may be required in some other patients based on the disease burden.

To minimise error in diagnosing prostate adenocarcinoma, pathologists should always use both the histomorphological and immunohistochemical assessment of the specimens.[6] In this case immunohistochemical staining was performed after morphological assessment and was positive for p63 and 34βE12 and negative for AMACR.

This is the first reported case of sclerosing adenosis of the prostate with special emphasis on clinical features and management. The nodular prostate surface may result from extensive fibrosis associated with sclerotic stroma and may suggest the unusual presence of the sclerosing adenosis in the peripheral zone. There is no evidence in the literature that this benign lesion increases the risk of prostate cancer.

Urologists should be aware of this rare mimicker of prostate cancer, which can clinically feel exactly like a nonbenign prostate gland and harbour all the other paraclinical characteristics of prostate cancer such as elevated PSA and inhomogeneous prostate on ultrasound. Always consider the possibility of benign mimicker of adenocarcinoma of the prostate if there is no malignancy found on histopathological analysis and/or suspected on mpMRI, if available.

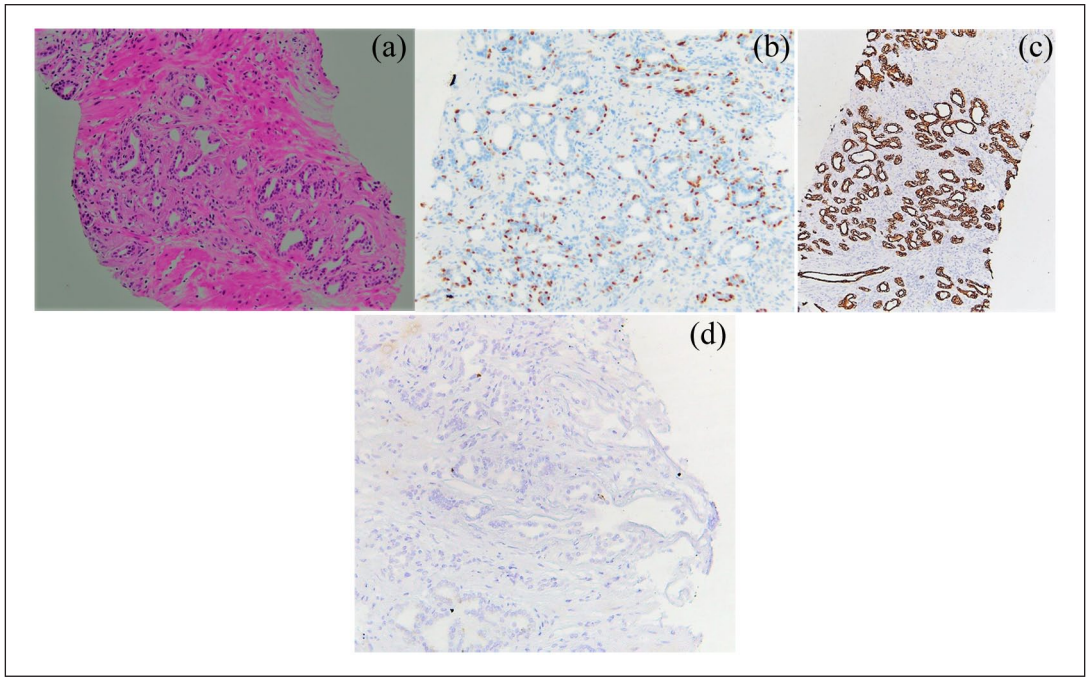

Figure 3. (a) This medium-power image better demonstrates the fibrous stroma separating the acinar glands and slight thickening of basement membranes (magnification 10×20). (b) This P63 immunohistochemical stain highlights intact basal cells (magnification 10×20). (c) This 34βE12 immunohistochemical stain highlights intact basal cells (magnification 10×10). (d) This alpha-methylacyl-CoA racemase immunohistochemical stain is negative (magnification 10×20).

Conflicting interests

The Authors declare that there is no conflict of interest.

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Ethical approval

The Wits Human Research Ethics committee approved this study (study approval number: M1811135).

Informed consent

Written informed consent was obtained from the patient for his anonymised information to be published in this article.

Guarantor

A.M.M.

Contributorship

AM Mukendi researched the literature, conceived the study, and was involved in obtaining ethical approval, drafting, reviewing, editing the manuscript and approving the final draft. R Blumberg reviewed for critical content and approved the final draft. G Davies provided slides and captions used in the manuscript.

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References

1. Cheng L and Bostwick DG. Atypical sclerosing adenosis of the prostate: A rare mimic of adenocarcinoma. *Histopathology* 2010; 56: 627-631.
2. Harik LR and O'Toole KM. Nonneoplastic lesions of the prostate and bladder. *Arch Pathol Lab Med* 2012; 136: 721-734.
3. Xu Y, Wang Y, Zhou R, et al. The benign mimickers of prostatic acinar adenocarcinoma. *Chin J Cancer Res* 2016; 28: 72-79.
4. Luque RJ, Lopez-Beltran A, Perez-Seoane C, et al. Sclerosing adenosis of the prostate. Histologic features in needle biopsy specimens. *Arch Pathol Lab Med* 2003; 127: e14–e16.
5. Kuroda N, Katto K, Ohtsuki Y, et al. Hybrid sclerosing adenosis and basal cell hyperplasia of the prostate. *Med Mol Morphol* 2010; 43: 226-230.
6. Berney DM, Fisher G, Kattan MW, et al. Pitfalls in the diagnosis of prostatic cancer: Retrospective review of 1791 cases with clinical outcome. *Histopathology* 2007; 51: 452–457.