

Case Report

Prostatic Stromal Hyperplasia with Atypia

Ryan C. Hutchinson,¹ Kevin J. Wu,² John C. Cheville,³ and David D. Thiel¹

¹ Department of Urology, Mayo Clinic, 4500 San Pablo Road, Jacksonville, FL 32224, USA

² Department of Pathology, Mayo Clinic, 4500 San Pablo Road, Jacksonville, FL 32224, USA

³ Department of Pathology, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905, USA

Correspondence should be addressed to David D. Thiel; thiel.david@mayo.edu

Received 6 February 2013; Accepted 15 May 2013

Academic Editors: A. Lopatananon and T. J. Murtola

Copyright © 2013 Ryan C. Hutchinson et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Prostatic stromal hyperplasia with atypia (PSHA) is a rare histologic finding diagnosed incidentally on prostate biopsies, transurethral resection specimens, and radical prostatectomy specimens. PSHA has a bizarre histologic appearance and these lesions often raise concern for sarcoma; however, their clinical course is indolent and does not include extraprostatic progression. We discuss a case of PSHA discovered on prostate biopsy performed for an abnormal digital rectal examination and review the literature on this rare pathologic finding.

1. Introduction

Prostatic stromal hyperplasia with atypia (PSHA) is a rare histologic finding diagnosed incidentally in specimens from transrectal ultrasound (TRUS-) guided needle biopsy of the prostate, transurethral resection of prostate (TURP), radical prostatectomy, and simple prostatectomy [1]. Because of their bizarre histologic appearance, these lesions raise concern for sarcoma; however, their clinical course is indolent and does not include extraprostatic progression.

2. Case Presentation

A 55-year-old man underwent a 10-core TRUS biopsy for a grossly abnormal digital rectal exam. Histologic examination (Figure 1) revealed hypercellular stroma with hyperchromatic nuclei around benign prostatic glands in 1 of the 10 cores. There was an absence of adenocarcinoma in the remaining cores. High-power examination revealed smudgy chromatin within these cells (Figure 1 inset). The patient was reassured and placed on watchful waiting with yearly PSA examinations.

3. Discussion

PSHA is characterized by one or more ill-defined, uncircumscribed, and hyperplastic stromal nodules infiltrating

around benign acini [2]. Immunohistochemical staining further confirms the diagnosis by demonstrating intense immunoreactivity for androgen receptors, while being devoid of activity for estrogen receptors or Ki-67. In contrast with prostatic leiomyoma with atypia, these cells are intensely immunoreactive for vimentin instead of desmin and actin [3].

PSHA does not generally present as a symptomatic lesion in and of itself, though symptomatic cases have been reported [4]. In all cases reported, the portion of tissue comprised of PSHA was between 5–20% of the tissue, with the rest generally being typical nodular hyperplasia [1]. These lesions, despite their atypical appearance, have a universally benign course and no case of metastatic disease has been reported, though some patients undergoing surgical management for BPH have required re-resection [5].

This finding has been referred to by a variety of names including: atypical stromal hyperplasia, symplastic leiomyoma, and pseudoneoplastic lesion of the prostate gland. PSHA was previously grouped with low malignant potential findings such as phyllodes tumor and low-grade sarcoma as stromal tumors of unknown malignant potential (STUMP); however, given the universally benign course of PSHA, this may constitute a misnomer. The current nomenclature emphasizes the expected indolent clinical course with treatment focused on the original disease of interest [3].

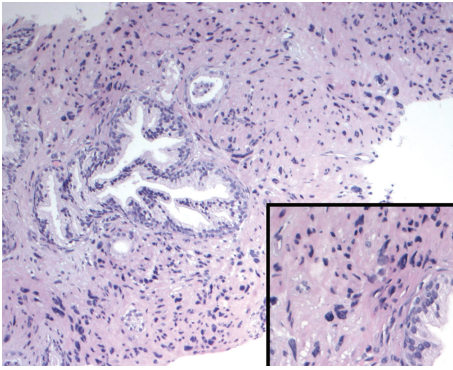


FIGURE 1: H/E stain, low-power magnification (10x) with high-power inset (20x) prostatic tissue showing hypercellular stroma with atypical hyperchromatic nuclei surrounding benign prostatic glands present focally in one of ten needle biopsies. Inset shows a higher power view of the atypical stromal cells with smudgy chromatin and adjacent normal prostatic acinus in lower left.

References

- [1] D. Hossain, I. Meiers, J. Qian, G. T. MacLennan, and D. G. Bostwick, "Prostatic stromal hyperplasia with atypia: follow-up study of 18 cases," *Archives of Pathology and Laboratory Medicine*, vol. 132, no. 11, pp. 1729–1733, 2008.
- [2] E. B. Attah and M. E. A. Powell, "Atypical stromal hyperplasia of the prostate gland," *American Journal of Clinical Pathology*, vol. 67, no. 4, pp. 324–327, 1977.
- [3] M. Herawi and J. I. Epstein, "Specialized stromal tumors of the prostate: a clinicopathologic study of 50 cases," *American Journal of Surgical Pathology*, vol. 30, no. 6, pp. 694–704, 2006.
- [4] J. H. Chang, A. S. Pathak, A. H. Dikranian, T. Danial, H. S. Patel, and J. A. Kaswick, "Benign prostatic stromal hyperplasia with bizarre nuclei," *Journal of Urology*, vol. 170, no. 5, p. 1951, 2003.
- [5] H. M. Wee, S. H. Ho, and P. H. Tan, "Recurrent prostatic stromal tumour of uncertain malignant potential (STUMP) presenting with urinary retention 6 years after transurethral resection of prostate (TURP)," *Annals of the Academy of Medicine Singapore*, vol. 34, no. 7, pp. 441–442, 2005.



Hindawi
Submit your manuscripts at
<http://www.hindawi.com>

