

Case report

Melanosis of prostate – Benghazi, Libya

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ABSTRACT:

We present the case number 22 of prostatic melanosis in the literature reports. Prostatic melanosis is a very rare, benign lesion characterized by the presence of melanin both in the epithelium of the prostate gland as well as in the stromal dendritic cells, requiring no additional treatment. It constitutes the melanocytic lesions of the prostate together with blue nevus and melanoma.

Keywords: Melanin, melanosis, prostate, Benghazi.

INTRODUCTION

The presence of melanin pigment in the prostate gland is a very rare finding. Melanosis, blue nevus, and melanoma are lesions seen in the prostatic tissue, containing melanin pigment [1]. Melanosis is described as the presence of the melanin pigment in dendritic cells in the stroma and in the epithelium of the prostate gland [2]. Prostatic melanosis is interesting because it is rarely seen and its distinction from melanoma is clinicopathologically very important. A total of 21 prostatic melanosis cases have so far been reported in the literature [3].

CASE REPORT

An 80-year-old male patient admitted with urinary problems to the Urology Clinic in Benghazi Medical Center. His physical examination revealed an enlarged prostate gland. His serum prostate-specific antigen (PSA) level was 4 ng/ml. Patient was treated by transurethral resection of the prostate (TUR-P) based on a preliminary diagnosis of benign prostate hypertrophy.

TUR-P material consisted of chips of grey pink tissue.

Histopathological examination revealed the presence of fusiform and round cells loaded with brown-black pigment in the prostatic stroma and similar pigment in the neighboring epithelial gland [Figure 1]. No cytological atypia, mitosis, or necrosis was seen. The pigment stained positively with Masson Fontana [Figure 2]. No reactions were observed with Prussian blue and Luxol fast blue. While, immunohistochemically, pigment-loaded cells stained positively for S-100 [Figure 3], no positivity revealed for Melan-A.

DISCUSSION

About 30 cases with blue nevi and 21 cases with melanosis have been reported since the first report of blue nevus in the prostate gland [4, 3]. Melanocytic lesions of the prostate are classified into: melanosis, blue nevus, and melanoma. While the presence of melanocytic cells in the prostatic stroma is described as blue nevus, the term melanosis is used when the melanin pigment is seen in the glandular cells and the stroma [1]. Melanosis is an incidentally discovered finding, typically in elderly patients who were operated due to complaints associated with prostate hyperplasia. They are not considered to be premalignant lesions [1]. On the other hand, melanoma of prostate is a rare tumor; it rapidly metastasizes and has a very bad prognosis. Microscopically, cellular atypia, mitotism and necrosis are seen. Positive HBM-45 and Melan-A staining are helpful to confirm its diagnosis [5].

During macroscopic examination of prostatic melanosis, black-brown areas may be observed in the prostatic tissue. Histopathologically, melanin pigment is present both in the epithelium of the prostatic gland and in the neighboring dendritic stromal cells, unlike the blue nevus where melanin is seen only in the dendritic cells. The pigment stains black with Masson Fontana. Immunohistochemically, the pigment stains positively for S-100 protein, but negatively for HBM-45 and Melan-A [1,5]. Melanin pigment is differentiated from lipofuscin and hemosiderin by morphological, histochemical, and immunohistochemical methods. Lipofuscin is a yellow-brown finely granular pigment staining with Luxol fast blue, Sudan black B, and Ehrlich Ziehl-Neelsen. Hemosiderin is a golden coarsely granular pigment accumulating in the macrophages and reacting with Prussian blue [3].

According to the commonly-accepted theory, the origin of the melanocytic prostatic lesion is the neural crest-derived melanocytes, which are arrested in the prostate during embryogenesis. Another theory suggests that these cells differentiate from Schwann cells [1]. Some consider that the intraepithelial melanin pigment observed in the melanosis was gained through stromal cell transfer [6]. Blue nevus and melanosis can be considered as different stages of the same lesion. Blue nevus can even be described as the previous stage in the development of melanosis [3].

CONCLUSION

We are reporting in the literature the case number 22 of melanosis of prostate. Melanosis and blue nevus of the prostate are very rarely seen. They are not premalignant lesions and they have no clinical significance but they have to be differentially diagnosed from melanoma when they are detected.

REFERENCES

- [1] Paner GP, Aron M, Hansel DE, Amin MB. Non-epithelial neoplasms of the prostate. *Histopathology*. 2012;60:166–86.
- [2] Klock C, Gomes R, João M, Netto G. Prostate melanosis associated with acinar adenocarcinoma. *Int J Surg Pathol*. 2010;18:379–80.

- [3] Gucer H and Bagci P. Prostatic melanosis. Urol Ann. 2014 Oct-Dec; 6(4): 384–386.
- [4] Blue nevus. PathologyOutlines.com www.pathologyoutlines.com/prostatebluenevus.
- [5] Dailey VL, Hameed O. Blue nevus of the prostate. Arch Pathol Lab Med. 2011;135:799–802.
- [6] Prostate Benign lesions, Melanosis. PathologyOutlines.com www.pathologyoutlines.com/prostatemelanosis.

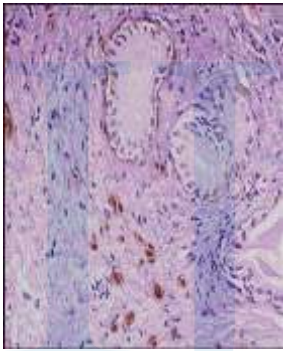


Figure 1:
Brown-black pigment in the dendritic stromal cells and glandular epithelial cells (H and E, ×100)



Figure 2:
Masson Fontana reaction positive for melanin (MF, ×200)

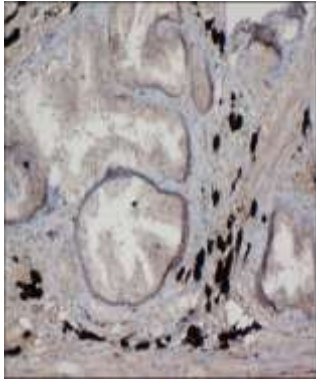


Figure 3:

Dendritic stromal cells and foci of glandular epithelium show immunopositivity for S 100 protein, $\times 200$