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Basal cell adenoma of prostate

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Abstract A case of basal cell adenoma of the prostate accompanying benign prostatic hypertrophy is presented. This is an uncommon, benign lesion which is usually mistaken for a carcinoma. In order to emphasize the importance of differential diagnose and to better define this entity, we present a case report.

Keywords Prostate · Basal cell hyperplasia · Basal cell adenoma · Carcinoma

Introduction

Basal cell adenoma of the prostate is an uncommon benign proliferative lesion usually mistaken for carcinoma. It might develop from the proliferation of basal epithelial cells. Few cases have been described and its clinical significance is uncertain [1, 2, 3]. The histological features and differential diagnoses of basal cell adenoma are reviewed.

Case report

A 67 year old man presented with prostatic complaints. A suprapubic prostatectomy was performed. The prostatectomy specimen was 4×3×3 cm, beige colored, and the cut surface had a nodular appearance.

The formalin fixed tissue was routinely processed and the sections were stained with hematoxylin and eosin.

Histologically, there were multiple foci of basal cell adenomas in the benign adenomatous and fibromuscular

hyperplasia of the prostate. These multiple foci of basal cell adenoma consisted of collections of small, usually solid nests of uniform, small cells with scanty amphophilic cytoplasm (Fig. 1).

Discussion

Basal cell adenomas are often seen with benign prostatic hypertrophy. The lesion showed typical structures and solid nests of basaloid cells. These basaloid cells had scanty cytoplasm and uniform nuclei with finely dispersed chromatin and small nucleoli. There were no cytological atypia and mitoses were very rare. Neither an infiltrative growth pattern nor perineural involvement was seen (Fig. 2). A distinctive feature, seen in all cases, was the peripheral palisading of cells within each nest [1, 2, 3, 4]. Basal cell adenoma is cytologically identical to the adenoid basal form of basal cell hyperplasia [2].

This lesion also has been referred to as “fetalization” of the prostate because of a superficial resemblance to immature epithelial elements seen in the prostates of premature babies [1, 4].

Basal cell adenoma of the prostate has already been described in the German literature and is not a new entity [1]. Although Mostofi and associates described basal cell hyperplasia of the prostate in a World Health Organisation monograph, only Lin et al. have documented this entity in the English literature [1].

Although benign processes, like the normal epithelium of the seminal vesicle, ductus ejaculatorius, prostatic urethra and periurethral ductus, are included in the differential diagnose, some of the malign processes such as prostatic intraepithelial neoplasia and well differentiated adenocarcinoma of the prostate should also be considered [1, 2, 3, 4].

Basal cell adenoma may be confused with adenocarcinoma of the prostate. The multi-layering of the nuclei and scant cytoplasm, however, distinguish basal cell hyperplasia from typical prostatic adenocarcinoma, which has a single cell layer and abundant cytoplasm [2].

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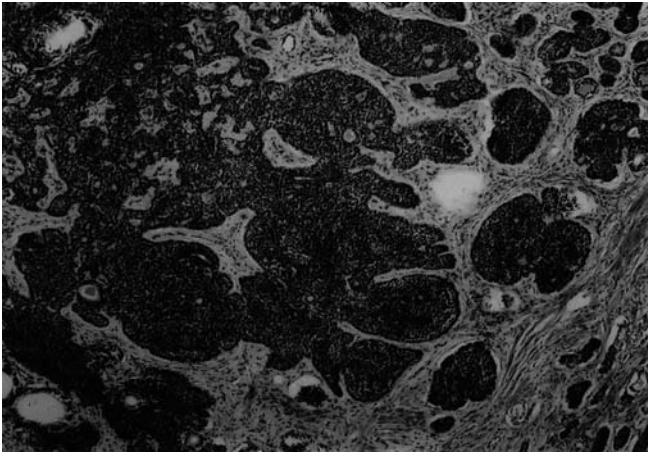


Fig. 1 The collections of small solid nests of uniform basaloid cells in a fibromuscular stroma (hematoxylin and eosin $\times 40$)

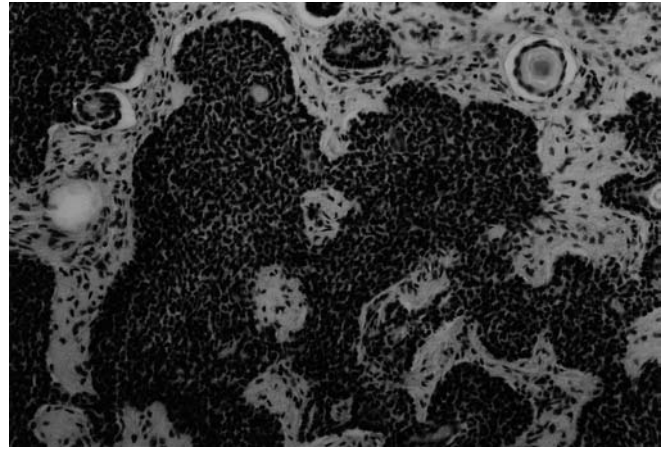


Fig. 2 A distinctive feature is the peripheral palisading of cells within basaloid cell nests (hematoxylin and eosin $\times 100$)

Ductal prostatic adenomas and carcinomas should not be difficult to differentiate, since they usually show an acinar or a papillary-cribriform pattern [1].

Basal cell adenoma also resembles certain salivary gland lesions, such as basal cell adenoma and adenoid cystic carcinoma. It must be distinguished from the uncommon basaloid neoplasms of the prostate [1, 2]. Basaloid carcinomas are more extensive, they infiltrate into the surrounding stroma, smooth muscle and perineural tissue. They also have more irregular basaloid nests and necrosis [2].

The cells in transitional cell hyperplasia and squamous metaplasia have more cytoplasm and usually involve the prostatic ducts. In addition, they are associated with infarction and chronic inflammation [1].

Transitional cell carcinoma of the prostate, while also arising from ducts, has nuclei with anaplastic features and mitoses [1].

Immunohistochemically, the positive reaction to keratin 903 in the basal cell layer within the adenosis verifies its benign nature and helps to differentiate it from malign lesions [2]. On the other hand, the basal

cells of normal and hyperplastic glands are strongly positive immunohistochemically for the high molecular weight cytokeratin 34 beta E12 [3, 5, 6].

In summary, although these lesions are uncommon, they are important pseudoneoplastic lesions that should be recognized and included in the differential diagnoses of prostate carcinoma.

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