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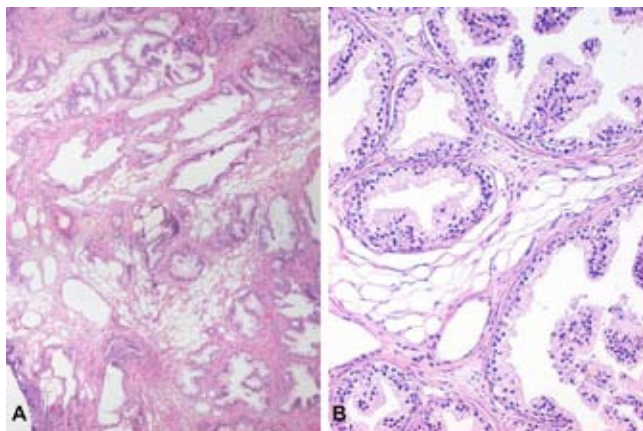
## Benign prostate hyperplasia with fibro-fatty stromal metaplasia

### Hiperplasia benigna de próstata con metaplasia estromal fibroadiposa

Dear Editor,

Benign prostate hyperplasia is a process of high incidence and prevalence that tends to affect males aged as of fifty years. From a histological point of view, it consists of the presence of hyperplastic nodules comprising epithelial (glandular), stromal (fibromuscular) or mixed elements. The presence of metaplasia in the epithelial component is a rare finding in normal prostate, hyperplastic or tumour tissue. The existence of adipose tissue in prostate biopsies is an exceptional finding and, in the majority of the cases is associated with extraprostatic infiltration of prostate carcinoma.<sup>1</sup>

In a sample from a transurethral resection of a 67 year old patient with prostatic symptoms, we had the opportunity to observe benign prostate hyperplasia with extensive areas of fibro-fatty stromal metaplasia, a finding not described in literature to date. For this reason, we abandoned the search for this entity and we want to share our reflection with the readers of the journal that you direct.



**Figure 1** (A) Benign prostate hyperplasia with areas of mature adipose tissue (HE  $\times 20$ ). (B) Hyperplastic fibroadipose tissue between prostatic glands (HE  $\times 100$ ).

The microscopic aspect of benign prostate hyperplasia is very varied<sup>1</sup> and predominantly epithelial, stromal and mixed patterns can be found. Depending on their histological characteristics, hyperplastic nodules can be stromal, fibromuscular, muscular, fibroadenomatous and fibromioadenomatous. On the other hand, metaplasia is a process often described in normal epithelial prostatic, hyperplastic and neoplastic tissue. Transitional metaplasia is a frequent morphological alteration in prostate biopsies, characterized by the presence of elongated ovoid nuclei that occasionally contain longitudinal nuclear cleavages. It is also quite usual to find areas of scaly metaplasia in prostate biopsies, especially in areas close to prostate infarction and following hormonal therapy or radiotherapy. Mucinous metaplasia of the glandular epithelium has also been described, where the presence of tall, column and mucous-secreting cells has been noted in prostate acini, and Paneth-type cell metaplasia.

The stromal cells of benign prostate hyperplasia, fibroblasts and smooth muscular cells also present a varying morphology. On occasions, the stroma may comprise undifferentiated mesenchymal cells or immature fibroblasts. The presence of extensive areas of fibroadipose tissue within the benign prostatic stromal tissue, as we have observed, is an extraordinary finding. In our opinion, it is possible that the origin of the adipose tissue is metaplastic and originates from primitive stromal cells with a differentiation capacity. This type of metaplasia has been described in other locations, some of which are also of interest to urologists.<sup>2</sup> Alternative explanations would be the intravisceral extension of the periprostatic adipose tissue or the hyperplasia of intraprostatic adipose tissue. To date, some works have shown the existence of minimum amounts of adipose tissue inside the prostate gland. Cohen et al found few adipose remains in 2 of 151 radical prostatectomies, both of Polynesian origin.<sup>3</sup>

This observation may seem hardly important; however it is so from a clinical point of view. The presence of adipose tissue in prostatic biopsies is extremely rare. The differential diagnosis of this finding must be made with the infiltration of periprostatic fat due to prostate carcinoma, and with the intraprostatic extension of a well-differentiated liposarcoma. For this reason we believe that clinical urologists must know of this entity.

## References

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