



STROMAL MICROCALCIFICATION IN PROSTATE

Pathology

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ABSTRACT

Prostatic calcification is most commonly encountered as calculus or intraluminal calcifications within atypical small glandular proliferations. This study was undertaken to detect stromal microcalcifications in prostate tissue. All slides from 56 biopsies were retrospectively reviewed. Association with prostatic glands was not seen in any of the microcalcification foci. Two cases had simultaneous adenocarcinoma and one had high-grade prostatic intraepithelial neoplasia, all of which were apart from the microcalcification foci. In conclusion, stromal microcalcification is a dystrophic, inflammation-mediated, benign process.

KEYWORDS

prostate, stromal microcalcification, needle biopsy

INTRODUCTION

Calcification in the prostate gland has been most frequently encountered as prostatic calculi or as intraluminal microcalcifications infrequently associated with prostatic carcinoma. However, microcalcifications within the prostatic stroma has not been pathologically focused on as a specific topic. In this study we aimed to clarify the incidence and significance of stromal microcalcifications in both neoplastic and nonneoplastic prostate.

MATERIAL AND METHODS

Consecutive biopsies of prostatic tissue from 56 patients were reviewed, and the pattern of stromal microcalcifications was recorded in all specimens. The cases were diagnosed between January 1998 and January 2000.

There were 1329 Haematoxylin-eosin stained slides. (mean = 6.9/case). The number of foci of microcalcification in Haematoxylin-eosin stained slides were recorded and the diameter of each focus was measured by an ocular micrometer.

MATERIAL AND METHODS

Consecutive biopsies of prostatic tissue from 56 patients were reviewed, and the pattern of stromal microcalcifications was recorded in all specimens. The cases were diagnosed between January 2017 and January 2018. There were Haematoxylin-eosin stained slides. The number of foci of microcalcification in each case was recorded and the diameter of each focus was measured by an ocular micrometer. were specifically apart from the glands and located within the inflamed stroma. In the closest glands, no evidence of inflammatory glandular destruction or intraglandular microcalcification was seen. Accompanying glandular lesions in the same sections were adenocarcinoma with Gleason pattern 3 in three cases and high-grade prostatic intraepithelial neoplasia (PIN) in one case, none of which were close to the microcalcification area. Basal cell hyperplasia and collagenous micronodules were not detected in any of the cases. No foci of ossification or chondrocalcification were seen with any of the microcalcifications.

DISCUSSION

Prostatic calculi are present in 70-100% of glands studied, most commonly in men over 50 years of age. Calculi form by the consolidation and calcification of corpora amyloacea or by calcification of precipitated prostatic secretions. They are frequently multiple and small mostly less than 5 mm in diameter. Exceptionally, Taylor reported gross prostatic calculi occupying an area of >3 cm² associated with hyperparathyroidism. In atypical small glandular proliferations, intraluminal microcalcifications are uncommonly detected. The significance of intraluminal microcalcifications was analysed by Woodset al³ who concluded that microcalcifications can infrequently occur in foci of prostatic carcinoma. Besides, basal cell hyperplasia was reported as the most common lesion containing laminated calcifications resembling psammoma bodies. A special form of stromal microcalcification is described in the collagenous

micronodule, which has been described only in association with prostatic carcinoma, usually of the mucin-producing type.⁴ In our

cases, foci of stromal microcalcifications were not associated either with collagenous micronodules or adenocarcinoma. The constant finding was the presence of mononuclear inflammatory cells around the foci of microcalcification. No evidence of glandular destruction was detected in association with microcalcifications. The coexistence of stromal microcalcifications with malignant and precancerous lesions of the prostate is not uncommon. In half of the cases with stromal microcalcifications, there were foci of adenocarcinoma within the same section but apart from the calcification. This is probably a coincidental finding as patients with high serum PSA levels and in the older age-group constitute the majority of biopsied patients. These are also at risk of prostate cancer. We conclude that stromal microcalcification is an, asymptomatic, inflammation mediated, dystrophic lesion that might be taken as indicative of an independent benign process

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