

Crystalloids of Prostatic Adenocarcinoma on Prostatectomy

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Abstract

Reaching a diagnostic decision based on a prostate biopsy specimen is often a daunting challenge. Some of the factors contributing to the difficulty in diagnosing a prostatic adenocarcinoma with a lower Gleason grade arises from rare structural atypia, low nuclear atypia, and limited atypical foci in the specimen. Crystalloids, the red substance seen inside the glandular cavity of prostate cancers, serves as a useful diagnostic clue for prostatic carcinoma in biopsy specimens. It is rectangular or acicular shaped and can be easily identified in hematoxylin and eosin (H&E)-stained specimens. In the present study, we examined 113 cases with total extirpation of prostatic adenocarcinoma. The purpose of the study was twofold: (1) to assess the frequencies of prostatic crystalloids and (2) to identify whether crystalloid deposition occurs in glands other than the carcinomatous glands. Crystalloids in the glands of adenocarcinoma were detected in 78 (69.0%) out of 113 cases. We observed crystalloid structure without prostatic adenocarcinoma in 4 out of 113 cases with high-grade PIN (3.5%) and 3 out of 113 cases in benign glands (2.7%). Glands not affected by prostatic cancer with crystalloids were all located adjacent to the prostatic carcinoma. Even when small atypical foci are detected, glands with crystalloids are highly likely to be confirmed as being affected by prostatic carcinoma. Furthermore, prostatic carcinoma should be suspected in surrounding regions when crystalloids are observed in high grade PIN or benign glands.

Key words: Prostatic adenocarcinoma, Crystalloids, P63, 34βE12, P504s