Intraprostatic Adipose Tissue

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Prostatic adenocarcinomas exhibiting extraprostatic extension (EPE) have a worse prognosis when compared with those confined to the prostate.[1] Criteria for EPE in prostatectomy specimens include involvement of adipose tissue by tumor, and in tumors associated with desmoplasia or in areas devoid of adipose tissue, extension of the tumor beyond the contour of the prostate constitutes EPE. The presence of tumor in adipose tissue in prostate needle biopsies has been traditionally considered as evidence of EPE because intraprostatic adipose tissue was considered extremely rare[2-4] or nonexistent.[1]

Up to 2006, there are 3 large series dedicated to finding intraprostatic adipose tissue.[2-4] Of the 614 prostates in these 3 studies, only 3 cases (0.48%) were found to contain adipose tissue. More recently, in a series of 427 prostates in 2009, 17 cases (3.98%) were demonstrated to have intraprostatic adipose tissue.[5] The foci of adipose tissue in these 17 cases were small, consisting of 5 to 13 adipocytes and measured 0.1 to 1.5 mm. These are located in the peripheral zone or central zone.[5]

We herein describe an intraprostatic adipose tissue in a 67-year-old patient who underwent prostatectomy (see Figure 1). The prostatectomy specimen has 5 foci of adenocarcinoma with Gleason scores of 6 or 7 located in the peripheral and transition zones. The dominant tumor nodule has a Gleason score of 7 (4 + 3), measuring 1.5 × 0.8 cm in its largest cross-sectional dimensions and is identified in the right posterior and posterolateral peripheral zone. The intraprostatic adipose tissue measured 2.2 mm in maximum dimension, located in the peripheral zone 2 mm from the right lateral surface. Similar to the previously described cases, this focus of adipose tissue is associated with few small nerves and small blood vessels but not prostatic glands.

Although we believe that prostatic adenocarcinomas involving adipose tissue in prostate needle biopsies should be considered to represent EPE of the tumor, the increasing detection of adipose tissue within prostates warrants some degree of caution before calling such foci as outright EPE.

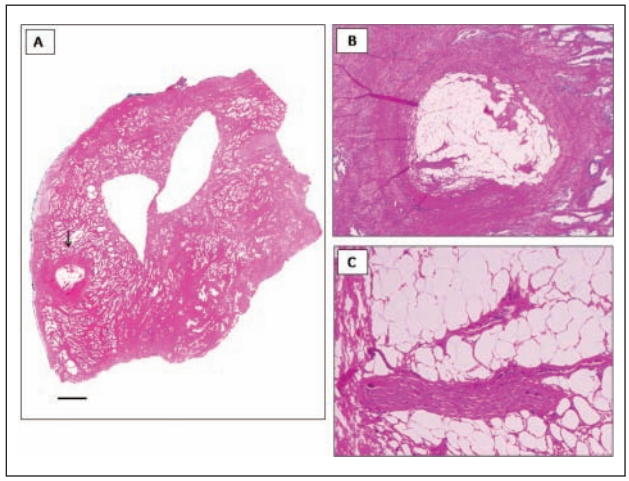

Figure 1. Intraprostatic adipose tissue: (A) The intraprostatic adipose tissue (arrow) in the right peripheral zone about 2 mm from the lateral surface (bar = 2 mm). The 2 holes medial and superior to the intraprostatic adipose tissue are sites where fresh tissue was obtained by punch biopsy. (B) A low-power view of the intraprostatic adipose tissue. (C) Small nerves and vessels associated with the intraprostatic adipose tissue

References

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