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Colorectal Adenocarcinoma with Involvement of the Prostate: Report of 9 Cases with Immunohistochemical Analysis and Long Term Follow Up

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Background: Spread of colorectal carcinoma to the prostate is rare with few case reports in the medical literature. The distinction between prostatic duct adenocarcinoma and spread of colonic adenocarcinoma to the prostate is critical but challenging, especially if the possibility of the latter is not considered on needle biopsy. We present the largest series to date on this phenomenon.

Design: 9 cases of colorectal adenocarcinoma with metastasis or direct extension to the prostate were retrieved from the consult files of one of the authors.

Results: Clinical: Mean age of patients at diagnosis was 61 years (range 42 to 78 years). 6 cases (66.7%) were initially diagnosed on needle biopsy and the others by TURP. 3 cases (33.3%) were diagnosed prior to biopsy of the colon and lead to the discovery of the colonic primary. The mean interval between the detection of the primary tumor and prostatic involvement in the other 6 cases was 30 months (range 1 to 52 months). Stage of colorectal carcinomas ranged from T1-T4 (T1=2, T2=2, T3=2 and T4=3) at primary diagnosis. 2 cases (22.2%) were associated with prostatic spread of rectal adenocarcinoma following recurrence at the anastomotic site of previous colonic cancer. 3 patients (33.3%) had simultaneous microscopic foci of usual type prostatic adenocarcinoma. Follow up was available on all patients with a mean of 29.2 months (range 3 to 88 months). 5 patients (55.5%) died of disease. **Histology:** Variable features were present including, necrosis n=7 (77.8%), chronic inflammatory response n=7 (77.8%), cribriform pattern n=6 (66.7%), villous architecture n=2 (22.2%), mucin production n=2 (22.2%), signet ring cells n=1 (11.1%) and perineural invasion n=1 (11.1%). **Immunohistochemistry:** Stains were positive for Beta-catenin in 6/6 cases (100%), CDX2 6/6 cases (100%), CEA 7/7 cases (100%), CK20 5/6 cases (83.3%), HMWCK 5/6 cases (83.3%), and Racemase 3/6 cases (50%). Stains were negative for PSA in 9/9 cases (100%), P501S (prostein) 6/6 cases (100%), and CK7 6/6 cases (100%).

Conclusions: The distinction between prostatic adenocarcinoma and spread of colorectal carcinoma to the prostate is critical in view of both therapeutic and prognostic implications. It should be considered in the differential diagnosis when there is a prostatic carcinoma with necrosis, mucin production, mucin-positive signet ring cells, villous architecture, or associated inflammation. IHC for Beta-catenin, CDX2, CEA, HMWCK, PSA, P501S, CK20 and CK7 can be helpful in making the distinction.