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CLINICAL CASE

Finding a Needle in a Haystack: The Diagnosis of a Rectal Neuroendocrine Tumor by Transrectal Prostate Biopsy

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KEYWORDS
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Abstract
Introduction: Prostate biopsy, usually performed by a transrectal approach, is executed when there is a suspicion of prostate cancer. Neuroendocrine tumors (NETs) are epithelial neoplasms with predominant neuroendocrine differentiation and only 19% of them are localized in the rectum.
Case report: The authors describe a 73-year-old man without a significant past medical history that underwent a prostate biopsy because of urinary complaints and elevated serum levels of prostate specific antigen. The histology revealed a well-differentiated NET characterized as a low-grade tumor (G1). A total colonoscopy revealed a 5 mm sessile rectal polyp and in the splenic flexure a sessile lesion with central ulceration with 5 cm with histological features compatible with an adenocarcinoma.
Conclusion: This is the first case reported in the literature of a rectal NET diagnosed by transrectal prostate biopsy. This case is particularly unique because the diagnosis of the NET lead to the subsequent timely detection of a colonic adenocarcinoma.

PALAVRAS-CHAVE
Biopsia;
Carcinoma Neuroendócrino;
Neoplasias do Reto;
Próstata/patologia

Tumor Neuroendócrino do Reto Diagnosticado por Biopsia Prostática

Resumo
Introdução: A biópsia prostática transretal é realizada na suspeita de cancro da próstata. Os tumores neuroendócrinos (TNE) são neoplasias epiteliais com diferenciação predominante neuroendócrina e em 19% dos casos localizam-se no reto.

Abbreviations: NET, neuroendocrine tumor; PSA, prostate specific antigen; TNM, tumor node metastases.

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Caso: Os autores descrevem o caso de um homem, 73 anos de idade, sem antecedentes médicos prévios, que por elevação dos níveis séricos de antigénio específico prostático realizou biópsia prostática transretal. A histologia revelou TNE bem diferenciado de baixo grau (G1). Foi realizada posteriormente colonoscopia total onde se observou pólipo séssil de 5 mm no reto distal. No ângulo esplénico observou-se ainda um lesão séssil de 5 cm com ulceração central cujas biopsias foram compatíveis com o diagnóstico de adenocarcinoma.
Conclusão: Este é o primeiro caso relatado na literatura de um TNE retal diagnosticado por biópsia prostática transretal. Este caso é peculiar dado que o diagnóstico do TNE do reto permitiu a deteção de um adenocarcinoma do cólon num estadio inicial.

1. Introduction

Prostate cancer is the leading cancer site in males after lung cancer,[1] however screening the general population remains a controversial issue, since improved patient outcomes have not been demonstrated.[2–3] Prostate biopsy, typically performed by an urologist, is a minimally invasive procedure in which tissue samples are obtained through two different anatomic approaches: transrectal (the most common) and transperineal.[4] Patients are referred to prostate biopsy in the presence of abnormal digital rectal exam or when repeated abnormal prostate specific antigen (PSA) values are found.[5]

Neuroendocrine tumors (NETs) are epithelial neoplasms with predominant neuroendocrine differentiation.[6] There are two major categories: well and poorly differentiated gastrointestinal NETs. NETs of the digestive system are relatively rare and 19% of them are localized in the rectum.[11] Despite the low frequency of colorectal NETs, they are frequently associated with synchronous or metachronous other tumors, with an annual incidence reported of 3–15%.[7,8]

The authors describe a case report where a polypoid rectum NET with 5 mm of major diameter was diagnosed by prostate transrectal biopsy. The patient was submitted to a total colonoscopy that revealed not only the rectal lesion, that was removed with a snare, but also a colonic adenocarcinoma in the splenic flexure. This is the first case reported in the literature of a rectal NET diagnosed by transrectal prostate biopsy.

2. Case presentation

We describe the case of a 73-year-old man that complained of nocturia and pollakiuria and had high PSA level. A transrectal prostate biopsy was performed and revealed a well-differentiated NET characterized as a low-grade tumor (G1).

Total colonoscopy showed, in the distal rectum, a polypoid, yellowish, well-circumscribed lesion, measuring 5 mm (Fig. 1) removed with a diathermic snare. Biopsies were taken from a 5-cm ulcerated lesion observed in the splenic flexure occupying half of the circumference of the lumen (Fig. 2).

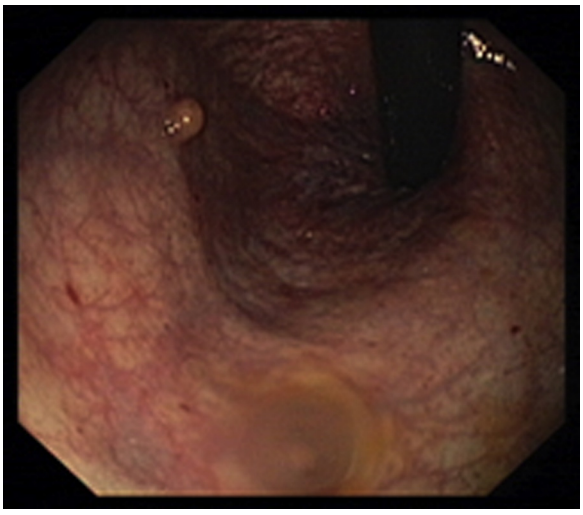

Figure 1 Colonoscopic view, in retroflexed maneuver, showing in the lower rectum a polypoid, yellowish, well-circumscribed lesion, measuring 5 mm compatible with a rectal NET.

Histologically, the rectal lesion was a tumor centered in submucosa and focally in the mucosa with a trabecular and acinar pattern composed by small and monomorphic cells with round and hyperchromatic nuclei and eosinophilic cytoplasm (Fig. 3a). There was no necrosis or lymphovascular invasion. The immunohistochemical study revealed strong and diffuse staining of the tumor cells for synaptophysin without expression of chromogranin A (Fig. 3b and c). Mitotic index was less than 1 mitosis per 10 high-power field. The proliferative index by Ki-67 was less than 1%. With these histological and immunohistochemical features the diagnosis of a well-differentiated of low-grade NET was made.

The rectal NET was completely excised with a diathermic snare without complications (Fig. 4). Colonic biopsies from the splenic flexure lesion showed tubulovillous adenoma with high-grade dysplasia and foci of intramucosal adenocarcinoma (Fig. 5).