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Oncology

Rectorrhagia revealing synchronous colonic adenocarcinoma and papillary renal cell carcinoma type 1, an exceptional case report

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ABSTRACT

Colorectal cancer (CRC) is the most prevalent type of cancer affecting the gastrointestinal tract. The synchronous occurrence of CRC and renal cell carcinoma is rare, and even rarer when the renal cell carcinoma is of papillary origin, with only two cases reported in the literature. The synchronous detection of colon cancer and other primary tumors has been extensively studied and reported in the literature, either falling within the framework of well-defined clinical syndromes such as Lynch syndrome or occurring sporadically. This article aims to report and expose a literature review of the synchrony of colorectal cancer and renal carcinoma.

1. Introduction

The simultaneous occurrence of primary malignant tumors in the same patient is rare, and in most cases, the risk of a patient being treated for one cancer developing a second is similar to that of the general population.[1] However, this possibility raises the question of a possible common carcinogenesis mechanism involving both hereditary, immune, and environmental factors. The synchronous detection of colon cancer and other primary tumors has been documented in various publications, either within the context of well-defined clinical syndromes such as Lynch syndrome or in sporadic cases. The co-occurrence of colon carcinoma and renal cell carcinoma is infrequent, and we report an unusual case of the concurrent presence of papillary type 1 renal cell carcinoma and colorectal cancer.

2. Case report

A 64-year-old patient with a medical history of type 1 diabetes on insulin and arterial hypertension on dual therapy presented to the emergency room with intermittent rectal bleeding for three months, associated with proctalgia but without abdominal pain or hematuria, in the context of a deteriorating general state with apyrexia. The patient was conscious and stable on hemodynamic and respiratory examination, with a normal digital rectal examination. Laboratory analysis showed the patient's hemoglobin was 9.8 g/dL, platelet count was 342,000/ mm^3, and renal function was normal.

The following day, the gastroenterology department performed a colonoscopy with biopsies, revealing a reshaped micro-budding lesion located 35 cm from the anal verge, reducing the light and making it impassable. Histological analysis of the biopsy showed the presence of a moderately differentiated adenocarcinoma with an immunohistochemical profile (CK20+, CDX2+, CK7-) consistent with colorectal origin (Fig. 1). Tumor markers were normal (CA 125; CA 15–3; CA19-9) except for ACE, which was at 80 ng/mL.

A thoracic-abdominal-pelvic CT scan revealed circumferential and partially stenosing thickening of the rectosigmoid hinge with infiltration of the surrounding fat, peritoneal carcinomatosis, lung and bone metastasis, and a lesion in the upper two-thirds of the left kidney with infiltration of the *peri*-lesional fatty space (Fig. 2). A left kidney biopsy was performed, which suggested type 1 papillary renal cell carcinoma (Fig. 3).

Due to the advanced stage of the disease, the patient was started on palliative chemotherapy, and genetic counseling was sought.

3. Discussion

Although colorectal cancer is one of the most common cancers in the world, the simultaneous presence of other neoplasms such as renal cancer is rare. Autopsy series have shown that the incidence of kidney cancer associated with colorectal cancer is only 0.046%–0.1%.[2] The

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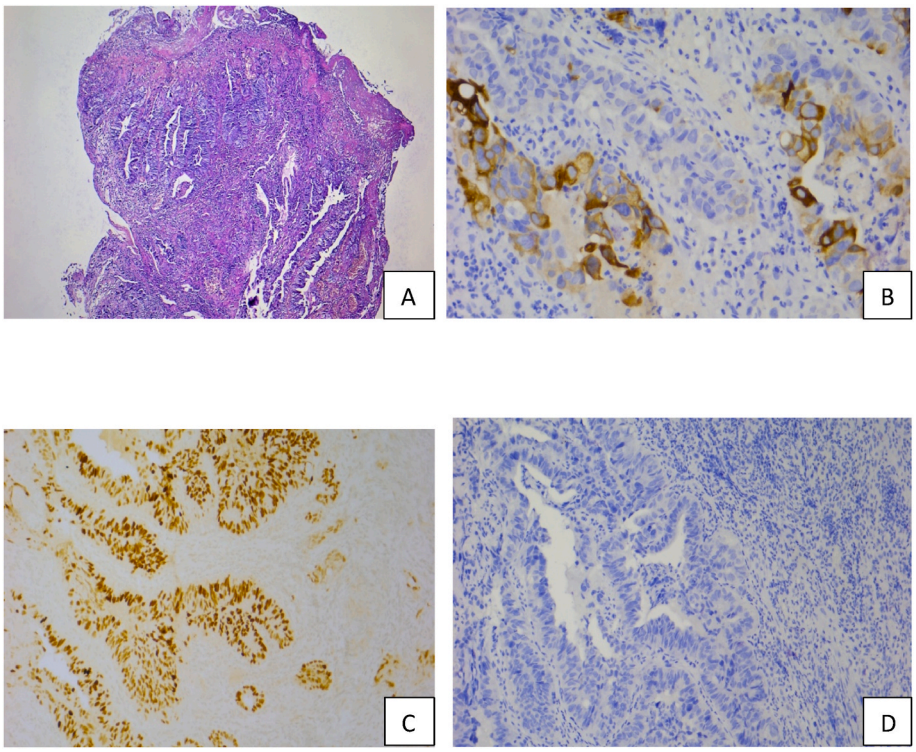

Fig. 1. Low power view showing colonic mucosa infiltrated by a carcinomatous proliferation, of a mainly tubular and cribriform pattern (Magnification ×4) **(A);** Tumor cells showed cytoplasmic expression of CK20 (Magnification ×40) **(B);** Tumor cells showed nuclear expression of CDX2 (Magnification ×20) **(C);** Tumor cells were negative for CK7 (Magnification ×20) **(D).**

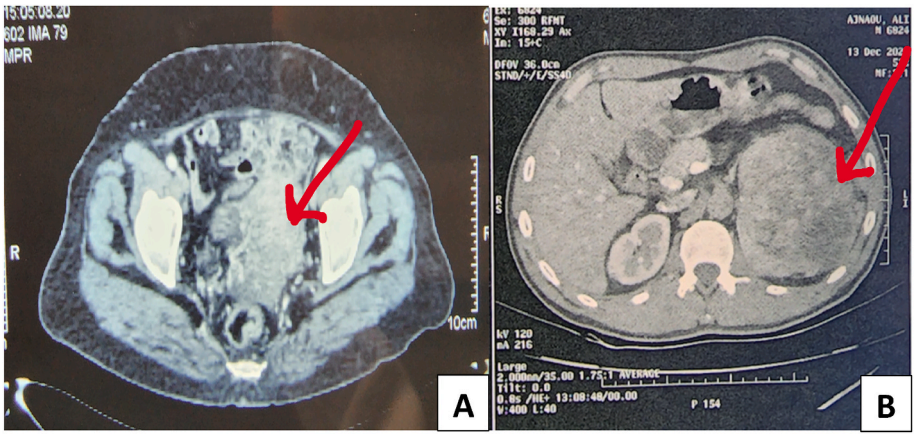

Fig. 2. CT scan demonstrating the presence of a rectosigmoid mass **(A)** and solid renal mass **(B).**

association of renal carcinomas with other cancers has also been the subject of several epidemiological studies, with an incidence ranging from 4.5% to 16.1%.[3] Most colon and renal carcinomas were metachronous.[3] In our case, renal carcinoma was discovered coincidentally during the radiological extension assessment, along with colorectal carcinoma.

The diagnosis of CRC relies on clinical suspicion and colonoscopy with biopsy, which enables the real-time visualization of tumors and synchronous lesions in other parts of the colon.[4] In contrast, diagnosing KC is challenging based on clinical examination, and symptomatic and advanced cases typically have poor prognoses.[5] Therefore, in most cases of synchronous tumors, CRC is diagnosed first, and KC is incidentally discovered, especially during the preoperative period, as was the case with our patient.

Patients with an association of CRC and kidney cancer may have an increased risk of developing other malignancies compared to the general population, suggesting a possible genetic predisposition.[5] In our case, the patient was offered oncogenetic counseling. Steinhagen et al. demonstrated, through a series of 101 patients with CRC and kidney cancer, that 32%, 7%, and 3% of them had one, two, and three other cancerous locations, respectively.[5] The third most commonly found malignancy was prostate cancer in men, with an incidence of 15.5%, and breast cancer in women, with an incidence of 21%. These cancers were discovered at an early stage thanks to close monitoring of this group of patients.[5]

Histologically, papillary renal cell carcinoma has been reported in only two cases, both of which were associated with non-colonic carcinomas and rectal carcinomas.[4] However, in our patient, papillary renal cell carcinoma was associated with colorectal carcinoma. Surgical treatment was not possible due to the advanced stage of the disease, and

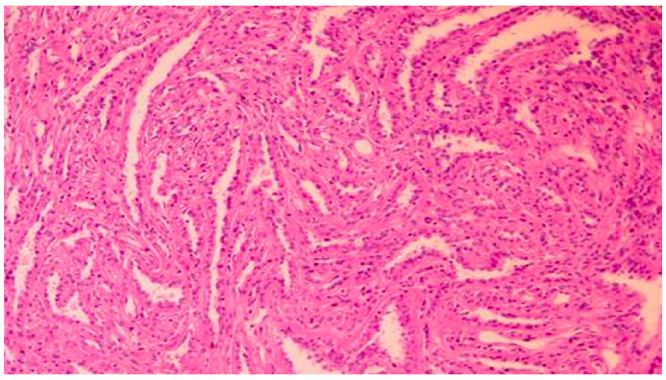

Fig. 3. Papillary renal cell carcinoma type 1: papillary structures centered by a thin conjunctiva-vascular axis with the presence of a psammomatous body (hematoxylin-eosin, magnification ×250).

therefore palliative chemotherapy was recommended.

4. Conclusion

The detection of synchronous primary tumors with colorectal cancer has been extensively studied and reported in the literature. However, the synchronous occurrence of colorectal cancer and renal cell carcinoma is a rare finding. This suggests the need for investigating possible syndromic associations between these two types of cancers. Further research is required to identify a possible genetic basis for this syndrome, which would necessitate conducting large multicenter studies.

Declaration of competing interest

No competing interests were disclosed.

References

1. Thompson RH, Leibovich BC, Cheville JC, et al. Second primary malignancies associated with renal cell carcinoma histological subtypes. *J Urol. Sept.* 2006;176(3):900–903, 904.
2. Polk HC, Spratt JS, Butcher HR. Frequency of multiple primary malignant neoplasms associated with colorectal carcinoma. *Am J Surg. janv.* 1965;109:71–75.
3. Beisland C, Talleraas O, Bakke A, Norstein J. Multiple primary malignancies in patients with renal cell carcinoma: a national population-based cohort study. *BJU Int. avr.* 2006;97(4):698–702.
4. Piao J, Friedman P, Siddiqui S, Veerapong J, Lai J-P. Synchronous type 1 papillary renal cell carcinoma in a patient with rectal adenocarcinoma. *Anticancer Res.* 2016;36(9):4821–4824.
5. Steinhagen E, Moore HG, Lee-Kong SA, et al. Patients with colorectal and renal cell carcinoma diagnoses appear to be at risk for additional malignancies. *Clin Colorectal Cancer. mars.* 2013;12(1):23–27.