

SYNCHRONOUS RECTAL ADENOCARCINOMA AND BILATERAL CLEAR CELL RENAL CARCINOMA

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SUMMARY – A 69-year-old man was admitted for resection of rectal adenocarcinoma diagnosed by colonoscopy. Preoperative computed tomography scan and abdominal ultrasonography revealed bilateral renal tumors measuring up to 2 and 2.8 cm in largest diameter, respectively. The patient underwent partial colectomy and bilateral partial nephrectomy. Microscopically, rectal adenocarcinoma penetrated the submucosa, without invasion of the muscularis propria. Both renal tumors were clear cell renal carcinomas of Fuhrmann nuclear grade 2. To our knowledge, this is the first case of synchronous adenocarcinoma of the rectum and bilateral clear cell renal cell carcinoma described in the literature to date.

Key words: *Adenocarcinoma – diagnosis; Adenocarcinoma – surgery; Carcinoma, renal – surgery; Colonic neoplasms – diagnostic; Colonic neoplasms – surgery; Kidney neoplasms – surgery; Case report*

Introduction

According to literature, synchronous unilateral renal clear cell carcinoma and rectal adenocarcinoma are occasionally encountered. Presentation of synchronous bilateral renal clear cell carcinoma and rectal adenocarcinoma is extremely rare.

The incidence of multiple primary malignancies with synchronous and/or metachronous occurrence is not very rare and there is a great need of extensive diagnostic approach for patients with solitary cancer, especially of the kidney or colon^{1,2}.

Synchronous primary tumors are usually detected during preoperative work-up of a tumor, most often

by physical examination and improved radiological imaging, or on follow up examinations. Most reports suggest that treatment should be performed simultaneously, especially if the lesions are relatively small and require a single incision and if the patient's medical condition allows for longer anesthesia exposure. If these prerequisites are not met, most investigators agree that treatment should be directed at the more aggressive lesion first. Such an approach may improve the condition and/or survival, and perhaps warrant a second operation¹.

We report a case of synchronous rectal adenocarcinoma and bilateral clear cell renal carcinoma in a 69-year-old man following the initial diagnosis of rectal adenocarcinoma by colonoscopy. The aim of this report is to stress the importance of extensive diagnostic approach to patients with rectal or renal carcinomas.

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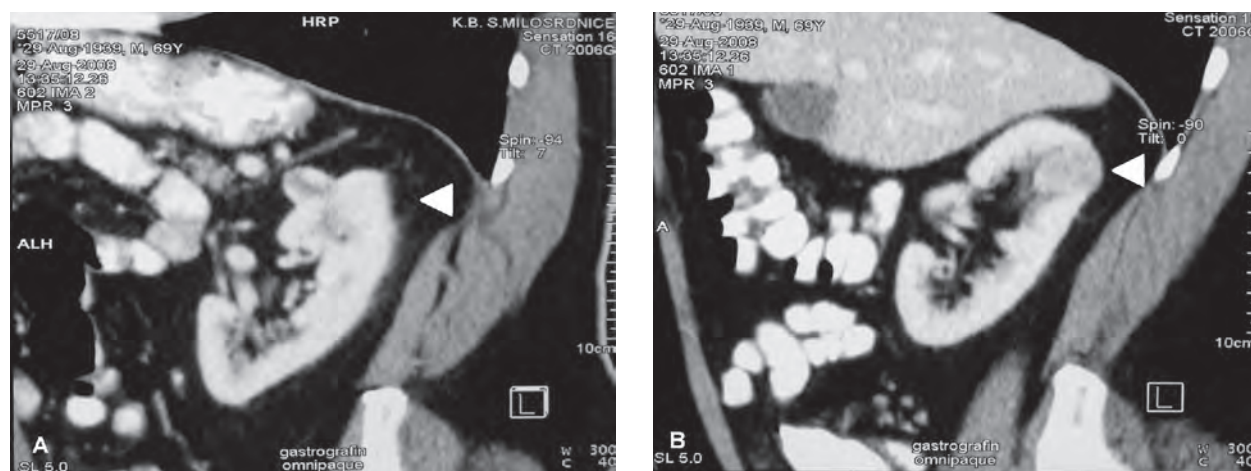


Fig. 1. CT scan revealing the presence of oval tumors in the upper pole of the right (A) and left (B) kidneys. Arrows pointing to the tumor site.

Case Report

Colonoscopy biopsy of a polypoid rectal tumor measuring up to 1 cm in a 69-year-old man raised suspicion of adenocarcinoma. The patient was admitted to our hospital for removal of the tumor by partial colectomy. A preoperative computed tomography (CT) scan revealed no signs of tumor infiltration beyond the rectal wall, but also disclosed bilateral oval tumors of smooth contours in the upper poles of both kidneys, measuring approximately 2.5 cm in largest diameter each (Fig. 1A and B). The presence of renal tumors was confirmed by abdominal ultrasonography. Therefore, in addition to partial colectomy, simultaneous bilateral partial nephrectomy was performed. The resected specimens were referred to pathology department.

The colectomy specimen included the anus, the rectum, and part of the sigmoid colon, measuring 49 cm in total length. A polypoid tumor measuring up to 1 cm in largest diameter was located 7 cm from the anus. Microscopically, it was composed of irregular gland-like formations lined by atypical epithelial cells featuring irregular and hyperchromatic nuclei, which penetrated the rectal submucosa. No muscularis propria invasion was observed in the microscopic sections examined (Fig. 2). The surrounding adipose tissue contained 7 lymph nodes measuring 0.2-0.4 cm, which did not contain tumor cells.

On gross examination, both renal tumors were oval, cystic and hemorrhagic, surrounded by a thin

rim of unremarkable renal tissue. The right kidney tumor measured 2.8x2.4x2 cm, and the left kidney tumor 2.1x1.5x2 cm. Both tumors were microscopically composed of pseudotubular, cystic and solid collections of atypical epithelial cells with abundant clear cytoplasm, whose nucleoli were evident at high magnification (X400), which corresponded to Fuhrmann grade 2 clear cell renal carcinoma (Fig. 3A and B). Neither tumor extended to the respective edges of excision.

The patient had no complications during the post-operative course and was discharged eight days after the surgery. No additional therapy besides resection was

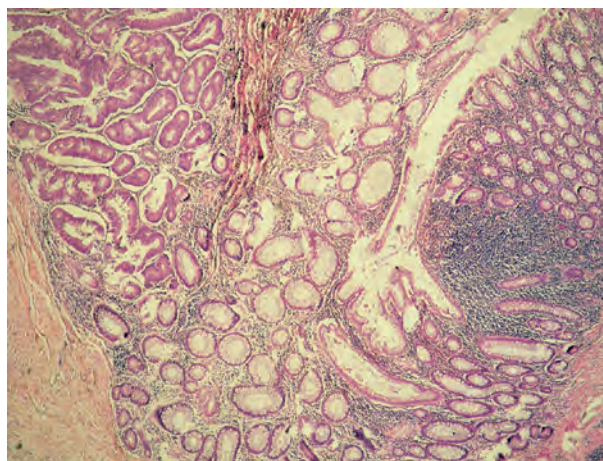


Fig. 2. Well differentiated adenocarcinoma infiltrating submucosa but not muscularis propria of the colonic wall (HE, X40).

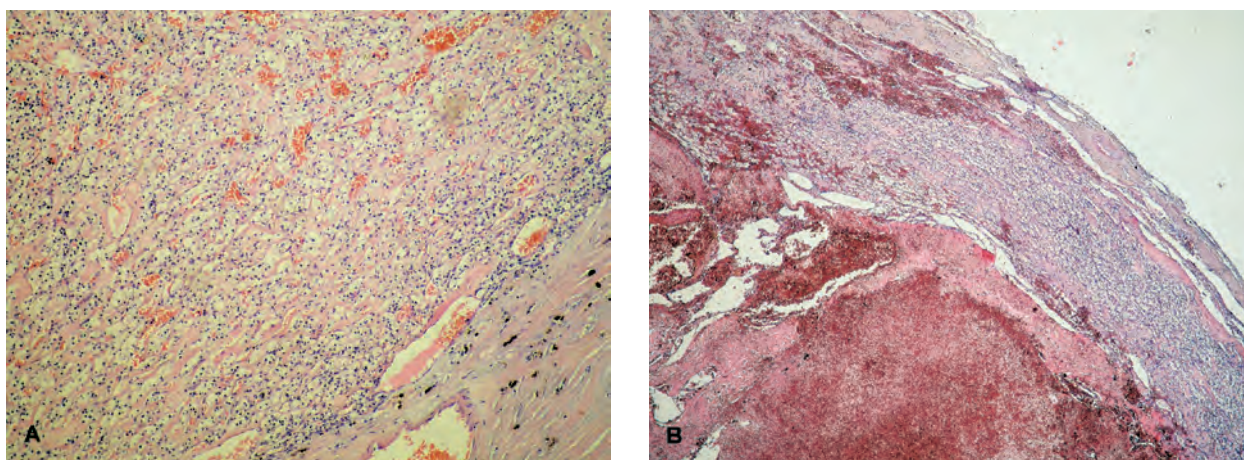


Fig. 3. (A) Tumor of the right kidney was mostly made of solid sheaths of moderately differentiated atypical clear cells (HE, X100); (B) tumor of the left kidney was focally cystic and hemorrhagic (HE, X40).

suggested. One year after the surgery, two CT scans and follow up colonoscopy were performed. There were no signs of recurrence or metastatic progression of either renal cell carcinoma (RCC) or rectal carcinoma.

Discussion

Advances in early detection, treatment, and supportive care have led to a significant number of cancer survivors or individuals living with a cancer history. With a prolonged survival of cancer patients, the number of people who will go on to have additional tumors is also rising. In the majority of cases, this will be simply due to a longer lifespan². A number of hospital based case series have reported an increasing incidence of synchronous second malignancy incidentally diagnosed on imaging or on clinical examination for rectal carcinoma. However, there are few reports of combined surgical procedures for RCC and other intra-abdominal pathologies^{3,4}. Cullinane *et al.*³ report seven cases of simultaneous rectal and renal carcinoma during a 10-year period, which represented 3.8 per cent of all rectal cancer patients and 4.7 per cent of all renal cancer patients. All renal neoplasms were detected as incidental findings on preoperative staging CT.

Recent studies suggest that postoperative morbidity after combined surgical procedures for RCC and other intra-abdominal pathologies in comparison with surgical procedures for RCC alone is slightly higher but there is significant survival advantage⁴.

It is feasible to offer simultaneous resection of synchronous intra-abdominal pathologies to RCC patients. Modest advantage can be achieved by simultaneous resection of both primaries, albeit at a higher morbidity. Further large prospective cohort studies are required to find out the best approach to surgical resection of synchronous intra-abdominal pathologies⁴.

In the present case, the patient did well postoperatively without any complications. This case report as well as data published in the literature so far suggest a great importance of continuous lifetime follow up of surgically treated patients with urinary tract or colon carcinoma, as there is a significant possibility of synchronous and/or metachronous appearance of another primary carcinoma⁵⁻⁹.

Frequently, the second primary tumor is found on CT scans done for determination of the extent of primary carcinoma. According to the above mentioned facts, we suggest a comprehensive and multidisciplinary diagnostic approach in patients with RCC and in those with colonic adenocarcinoma. A clinician should perform additional diagnostic treatments as part of the standard procedure: colonoscopy in patients with RCC and ultrasonography of the kidneys and upper abdomen or even CT in patients with colonic cancer⁹.

The study by Czene and Hemminki¹⁰ clearly indicates that patients with RCC have a greater risk of other cancers not only in the first year after the primary diagnosis, but also after more than 10 years. For

males, the cumulative risk of a second cancer reached 26.6% after 15 years; indeed, 7.2% died from the second cancer. This observation may influence the follow up of patients with RCC. Most current follow up schedules are discontinued 5 years after surgery because further follow up is not cost-effective for detecting recurrent RCC. Due to the increased risk of second primary malignant tumors, these patients should perhaps be followed up with examinations that are more general upon completion of the specific follow up for RCC. Urine analysis, tests for occult blood in the stool and general physical examination, including skin inspection, digital rectal examination and lymph node palpation every other year by a general practitioner seem to be an appropriate regimen for such a long-term follow up. To use more invasive screening tools, e.g., cystoscopy or colonoscopy, would probably be less cost-effective, although colonoscopy at 10-year intervals might be considered, as proposed by some authors for the general population¹¹.

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Sažetak

SINKRONI ADENOKARCINOM REKTUMA I BILATERALNI KARCINOM BUBREGA TIP A SVIJETLIH STANICA

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U radu je prikazan slučaj bolesnika kojemu je kolonoskopski dokazan adenokarcinom rektuma. U prijeoperacijskoj obradi kompjutorskom tomografijom su dijagnosticirani obostrani tumori bubrega promjera do 2,8 cm. Bolesnik je podvrgnut lijevostranoj hemikolektomiji, a u istom aktu je učinjena resekcija obaju bubrega. Patohistološki nalaz na oba bubrega je bio karcinom svijetlih stanica. Budući da simultano pojavljivanje karcinoma rektuma i bubrega nije tako rijetko, želimo upozoriti na potrebu proširene dijagnostičke obrade u bolesnika s karcinomom rektuma i/ili bubrega.

Ključne riječi: *Adenokarcinom – dijagnostika; Adenokarcinom – kirurgija; Karcinom, bubrežni – kirurgija; Novotvorine kolona – dijagnostika; Novotvorine kolona – kirurgija; Novotvorine bubrega – kirurgija; Prikaz slučaja*