

## Oncology

## Testicular metastasis of colorectal carcinoma: A new observation

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## ABSTRACT

Testicular metastases in colorectal cancer are rare, and pathogenesis still remains unclear. It tends to occur in late stage of disease and has a poor prognosis.

We present a 37-year-old patient complained from abdominal pain with deterioration of performance status and weight loss. Body scan showed a recto sigmoid tumor associated with metastasis in the left liver with pelvic lymphadenopathy and hetero nodular testis.

Colonoscopy showed a stenosing upper rectum tumor. Histology concluded to an adenocarcinoma.

The patient had a transverse colon resection and a right orchiectomy. Histology concluded to an invasive adenocarcinoma with carcinosis, secondary testicular and hepatic metastasis.

## Introduction

Testicular metastases are rare, about 1% of testicular cancers. Excluding leukemia and lymphomas, most frequent primary site is prostate followed by lung, melanoma, kidney and stomach. Testicular metastases from colorectal carcinomas are extremely rare. To our knowledge, only 75 cases have been described. We report a case of a 37-year-old man followed for a recto sigmoid carcinoma with hepatic and testicular metastasis.

## Observation

A 37-year-old man complained from abdominal pain since 2 years with deterioration of performance status and weight loss. The patient had no history of medical diseases. No known relatives had colorectal, endometrial, ovarian, gastric or urethral cancer nor inflammatory bowel disease. Medical examination was normal.

A Thoraco-abdomino-pelvic contrast tomography showed a recto sigmoid tumor with extensive stenosis which is surrounded by a heterogeneous collection of 67\*45 mm, a right external iliac 21 mm node, a left external iliac 11 mm node, right hydrocele with hetero nodular testis (Fig. 1) and 75 \* 46 mm irregular hypodense lesion of left liver lobe.

Testicular ultrasound exam showed hetero nodular right testis with thickened cord and extended hydrocele.

Colonoscopy revealed an obstructing tumor of the upper rectum. Histology concluded to a moderately differentiated liberkhunian

adenocarcinoma.

The patient was operated in emergency in context of acute peritonitis. Laparoscopy showed generalized peritonitis, a locally advanced recto sigmoid tumor with pelvic shielding, second tumor of transverse colon and left liver lobe metastasis.

A transverse colon resection with double stoma, right orchiectomy and biopsy of hepatic mass were performed.

Pathologic colic analyses revealed a 5.5 cm carcinomatous proliferation made of glandular structures organized in clusters and lined by columnar cells with moderately atypical pseudo-stratified nuclei and many mitosis. The stroma was abundant with fibrosis and inflammation. Vascular tumor emboli and peri-nervous entanglement were observed. This tumor infiltrates colic muscular (pT2).

Orchidectomy's pathology examination revealed the same colic carcinomatous proliferation as well as hepatic biopsy of hepatic lesion. Histology showed a dissociated testis parenchyma by carcinomatous proliferation (Fig. 2) done with arranged glandular structures and cribriform clumps. Seminiferous tubes were preserved. They are free form of NTIG. Tumor cells expressed CK20 (Fig. 3) and ACE confirming the colic origin of metastasis.

At diagnosis, CA19-9 and ACE rate were respectively 6742 and 590. Patient had 3 Folfox cycles with clinical and radiological progression by appearance of necrotic inter-aortico-vena cava adenomegaly compressing totally the inferior vena cava explaining the edema of the lower limbs, stoma carcinomatous infiltration, rectosigmoid tumor with mesenteric, retro-peritoneal, iliac, inguinal adenomegaly, appearance of

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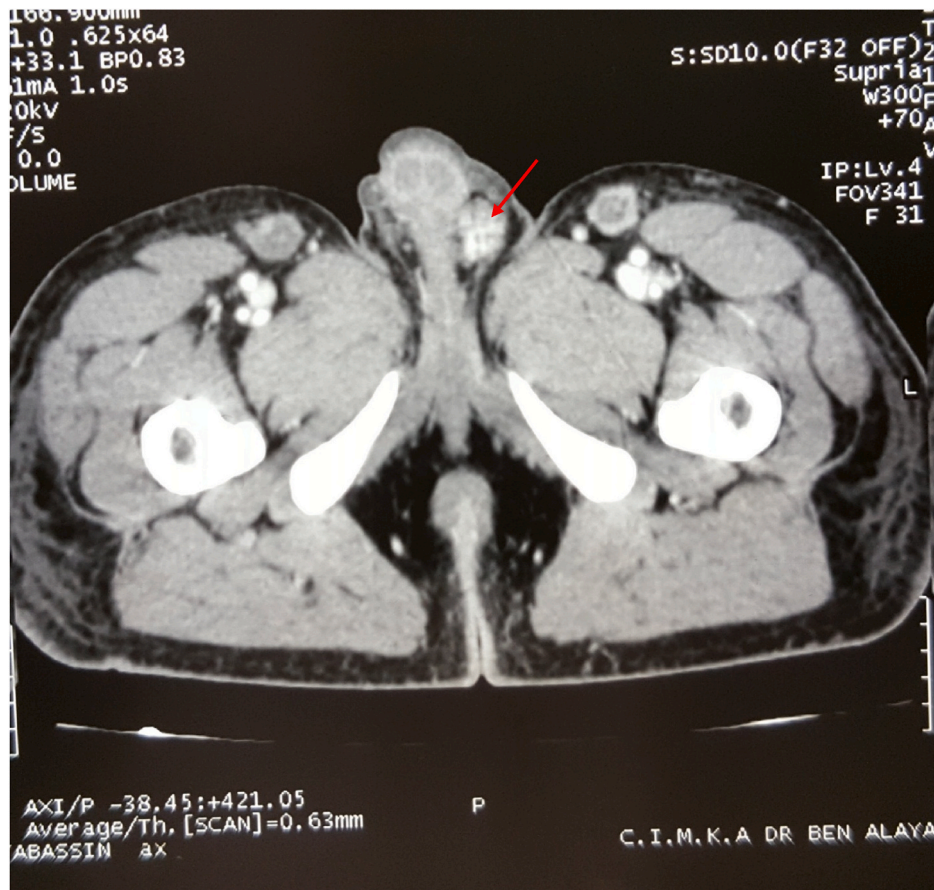


Fig. 1. Right hydrocele with hetero nodular testis.

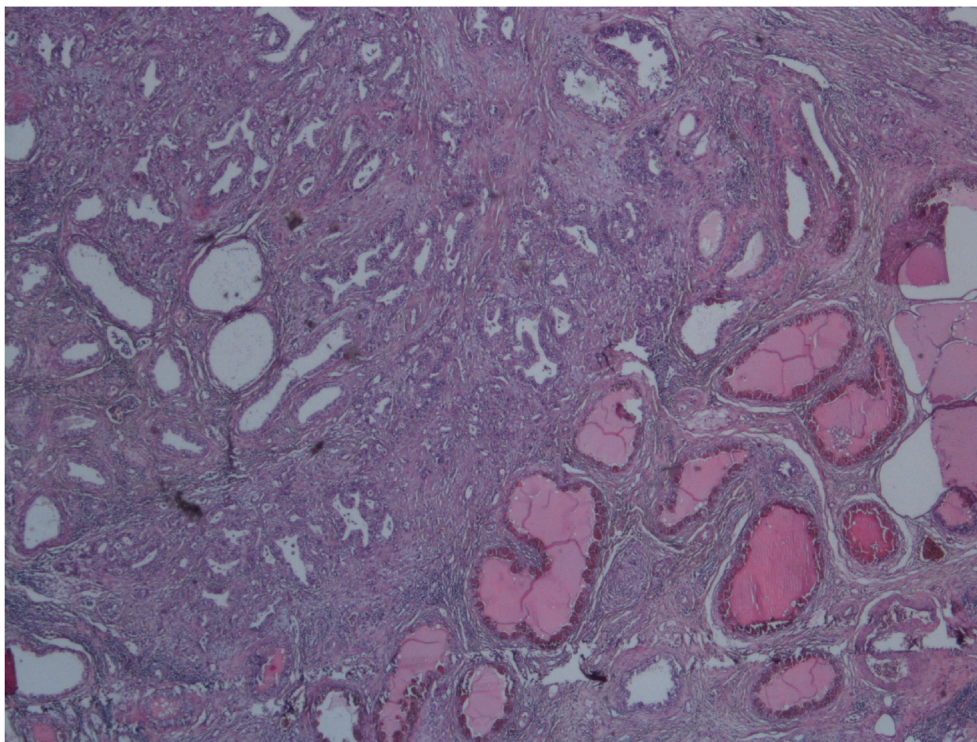


Fig. 2. Carcinomatous proliferation with preserved seminiferous tubes structures.

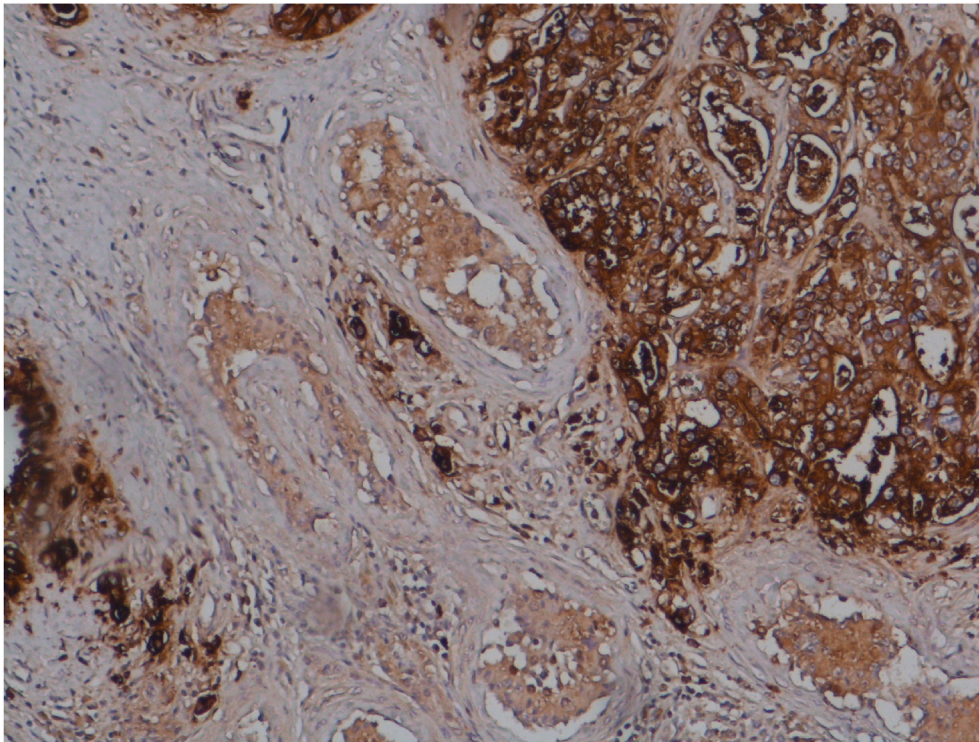


Fig. 3. Positive CK20 cells expression.

bilateral renal metastases and stability of the hepatic metastasis.

### Discussion

Colorectal cancer is the third diagnosed cancer in males and the second in females.

Colorectal cancer metastasizes in lung, liver and lymph nodes, but testis metastasis is rare and usually found on autopsy.

In two large autopsy series, metastasis have been reported in 0.02%–2.5% of autopsy specimens. Most frequent cancers who metastasize in testes are prostate in 35% of cases followed lung in 18%, melanoma in 18%, kidney in 9% and finally colorectal cancers with a rate under than 8%.

Testicular mass has been described as first sign revealing colorectal cancer.

In 1988, Meacham reported the first case of a 32-year-old man with a colon cancer revealed by testicular pain.

To our knowledge, 200 cases of non lymphomatous testis metastasis were reported. From 1950 to 2017, 75 cases of colorectal metastasis in testis were reported.<sup>1,2</sup>

Lot of theories have been suggested to explain mechanism of those metastasis.

Some authors suggest a microscopic communication between the testes and peritoneum when others suggest retrograde lymphatic and venous extension, arterial embolism and direct invasion.<sup>3</sup> Testicular metastasis can be explained also by a sign of peritoneal metastasis.<sup>4</sup>

Low scrotum temperature limit metastases dissemination to the testes through the blood could explain rarity of testicular metastasis.

Testis can be the site of distant relapse. Relapses after chemotherapy can be explained by the presence of a blood-testis-barrier which is an impermeable for cytotoxic drugs.<sup>5</sup>

Some authors suggested that testicular relapse may have a poor prognosis, while others suggest that testicular relapses have a better one than relapses in other organs.

Surgery of testicular metastasis with adjuvant chemotherapy can achieve a better overall survival while chemotherapy alone can't improve survival (poor diffusion of chemotherapy).

Prognosis depend in this case on presence of other metastases.

### Conclusion

Testis metastasis in colorectal cancer is rare. Prognosis of this pathology is still unknown. Testicular examination may be a part routine examination in post-chemotherapy follow-up in patients treated for colorectal cancer as well those with lymphoproliferative disorders.

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