

## Testicular metastasis as the first symptom of colon cancer – a case report

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*Colon cancer develops relatively slowly, while hepatic metastases are the most common form of distant failure. The testicle is not as common site for colon cancer spread, as it has been in the case of other solid malignancies. We present the case of a 76-year-old patient, admitted with painless enlargement of left testicle. He underwent orchidectomy and the pathological examination of the surgical specimen revealed metastatic G2 adenocarcinoma, possibly originating from the alimentary tract. Further diagnostic procedures demonstrated an egzophytic tumor in the splenic flexure of the colon, which was operated and found to be primary G2, T4N1M1 adenocarcinoma. No macroscopically discernible distant metastases were found within the abdominal cavity. Even though metastases to the testes are rare, they should be considered in clinical practice - especially in older men with symptoms suggesting the presence of a non-testicular malignancy.*

**Key words:** testis, metastasis, adenocarcinoma, colon

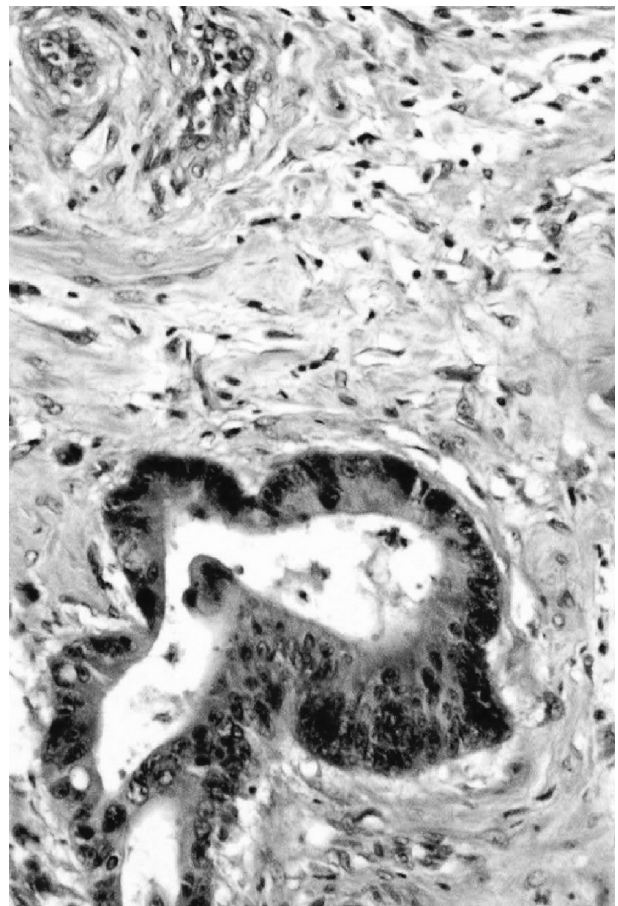
### Introduction

Colon cancer is a malignancy potent to spread to any internal organ, although the liver is the most common site of its metastases. This arises from the anatomical considerations of portal circulation, as well as from the expression of specific adhesion molecules. Lungs, retroperitoneal lymph nodes, bones and the central nervous system constitute the other targets of remote colon cancer metastases. Metastases to the testes are very rare [1-3]. We present the case of a 76-year-old patient, in whom the metastasis of colon cancer to the testicle was the first clinical symptom of illness.

### Case report

A 76-year old patient, with no history of prior illness, was admitted to the Urology Clinic of our hospital in August 2003 because of painless enlargement of left testicle, which he had been observing for 5 months. Preliminary examination (ultrasonography of the testicles and of abdominal cavity, chest X-ray) did not reveal any other pathology and the patient was referred for left orchidectomy. Surgery was performed on September 1<sup>st</sup>, 2003. Pathological examination of the surgical specimen

revealed metastatic G2 adenocarcinoma, possibly of the alimentary tract (Figure 1).



**Figure 1.** Light microscopy; testicular metastasis of glandular colon cancer (HE staining, x200)

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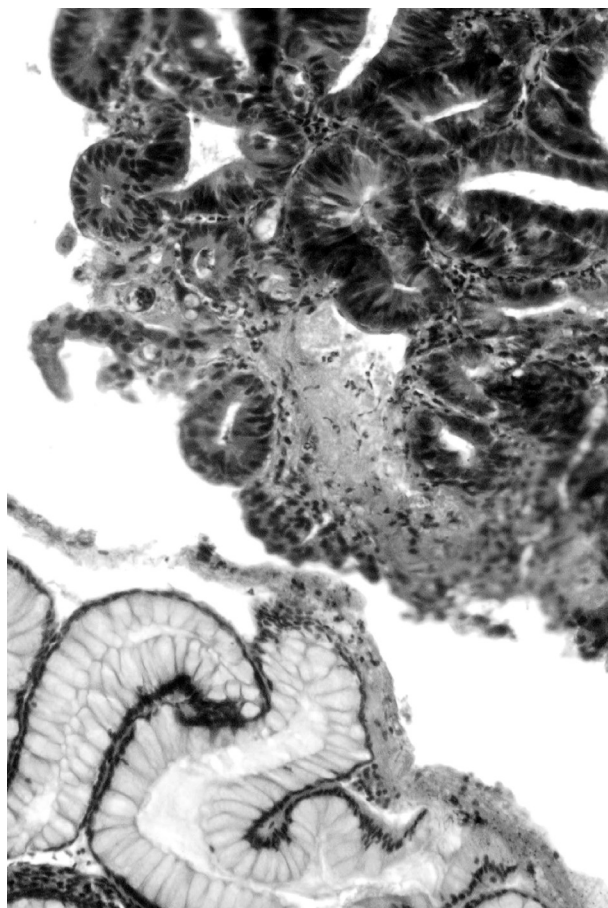
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This unexpected pathology finding resulted in a consultation at the local Department of Gastrology. Additional examination - computed tomography of the abdominal cavity along with the reconstruction of intestinal lumen (virtual colonoscopy), gastroduodendoscopy, colonoscopy, and repeated ultrasonography of the abdominal cavity demonstrated the presence of an egzophytic tumor in the splenic flexure of the colon. The determined profile of biological tumor markers was as follows: carcinoembrional antigen (CEA) - 122 ng/ml (normal values, 0-4 ng/ml); carbohydrate antigen (Ca 19-9) - 102.0 U/ml (0-37 U/ml); alpha-phetoprotein (AFP) - 0.97 ng/ml (0-20 ng/ml); beta subunit of human chorionic gonadotropin (bHCG) - 0.92 mUI/ml (<5 mUI/ml) and, thus, significantly suggestive of the metastatic (intestinal) origin of testicular tumor.

The patient underwent laparotomy and left-side hemicolectomy with intraoperative examination of the organs of the abdominal cavity. Surgery, performed on October 20th, 2003 at the Surgical Clinic of our hospital, was performed without any complications and there was no evidence as to the presence of macroscopic metastases within the abdominal cavity. Histopathological examination confirmed primary G2, T4N1M1 adenocarcinoma of the colon (Figure 2).

Considering the type and the stage of disease, the good performance status of the patient, and the constantly



**Figure 2.** Light microscopy; primary glandular colon cancer (HE staining, x200)

increased CEA titre (within the 60.0 ng/ml range), the patient received chemotherapy acc. to the standard protocol: 5-fluorouracil (425 mg/m<sup>2</sup> for 5 days) with leucovorin (20 mg/m<sup>2</sup> for 5 days) [4]. The treatment is currently being continued in the Outpatient Chemotherapy Clinic of our hospital. Presently, the patient is being administered the fifth course of chemotherapy with no sign of progression.

## Discussion

Discussing this patient case we would like to consider the possible testicular location of colon cancer metastases, accounting for the clinical setting in which this rare and uncommon metastasis is the first manifestation of illness.

Testicular metastases of colon cancer occur rarely, and isolated spread to the testicle, being the first tangible symptom of illness, is even more rare. In the case of our patient the primary, and the only, symptom of cancer of the colon was a tumor in the left testicle. A similar clinical case has been published by Meacham et al. [5], who have reported a case of asymptomatic colon carcinoma presenting as metastases to the testis and epididymis. Polychronidis et al. [6] have reported the case of a 63-year-old man in whom adenocarcinoma of the sigmoid colon manifested initially as metastasis to the left spermatic cord, the capsule of the left testis, and the wall of an associated testicular hydrocele. Recently a case of testicular metastasis from a colon adenocarcinoma was also described by Tiong et al [7].

Brayan et al. [1] have analyzed 11 reports on the testicular metastases of colon cancer. Patient age ranged from 18 to 76 years (mean - 51). In a majority of cases the metastases to the testicle were diagnosed simultaneously with tumor dissemination to other internal organs. In 3 cases however, the testicular tumor was the first manifestation of illness.

Solid tumor metastases to the testicle are rare. Haupt et al. [3] have examined 127 reports of heterogeneous testicular metastases and concluded that the following cancers metastasized to the testicle: prostate cancer (n=45), lung cancer (n=25), malignant melanoma (n=12), colon cancer (n=11) and renal carcinoma (n=10). In case of other malignancies testicular metastases were very rare. Testicular metastases were bilateral in 15% of the cases. The average age of patients with testicular spread was higher than in the case of germ cell tumors [3]. There also exists a report concerning a testicular metastasis of mucinous adenocarcinoma from an undetermined primary site [8].

Literature data suggest that prostate cancer quite frequently spreads to the testicles [9, 10]. Tu et al. [10] have suggested, basing on the analysis of 12 patients with testicular and/or penile metastases of that malignancy, that certain clinicopathological features (including the ductal adenocarcinoma type) might determine the location of metastatic tumor in that organ. Interestingly, in the studied population, the plasma concentration of the carcinoembrional antigen (CEA) was increased

(>6 ng/ml) in 6/9 patients and the level of the prostate specific antigen (PSA) remained normal (<4 ng/ml) in 2/10 subjects only [10].

To conclude, even though the metastatic origin of testicular cancer is not common, it should be considered in clinical practice - especially in older men with symptoms suggesting the presence of a non-testicular malignancy.

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## References

1. Brayan NP, Jackson A, Raftery AT. Carcinoma of the sigmoid colon presenting as a scrotal swelling. *Postgrad Med J* 1997; 73: 47-8.
2. Garcia-Gonzalez R, Pinto J, Val-Bernal JF. Testicular metastases from solid tumors: an autopsy study. *Ann Diag Pathol* 2000; 4: 59-64.
3. Haupt HM, Mann RB, Trump DL et al. Metastatic carcinoma involving the testis. Clinical and pathologic distinction from primary testicular neoplasms. *Cancer* 1984; 54: 709-14.
4. Buroker TR, O'Connell MJ, Wieand HS et al. Randomized comparison of two schedules of fluorouracil and leucovorin in the treatment of advanced colorectal cancer. *J Clin Oncol* 1994; 12: 14-20.
5. Meacham RB, Mata JA, Espada R et al. Testicular metastasis as the first manifestation of colon carcinoma. *J Urol* 1988; 140: 621-2.
6. Polychronidis A, Tsolos C, Sivridis E et al. Spermatic cord metastasis as an initial manifestation of sigmoid colon carcinoma: report of a case. *Surg Today* 2002; 32: 376-7.
7. Tiong HY, Kew CY, Tan KB et al. Metastatic testicular carcinoma from the colon with clinical, immunophenotypic, and molecular characterization: report of a case. *Dis Colon Rectum* 2005; 48: 582-5.
8. Deshpande MS, Kulkarni JN. Metastatic adenocarcinoma in testis presenting as a testicular mass - a case report and review of literature. *Can J Urol* 2003; 10: 1770-1.
9. Giannakopoulos X, Bai M, Grammeniatis E et al. Bilateral testicular metastasis of an adenocarcinoma of the prostate. *Ann Urol (Paris)* 1994; 28: 274-6.
10. Tu SM, Reyes A, Maa A et al. Prostate carcinoma with testicular or penile metastases. Clinical, pathologic, and immunohistochemical features. *Cancer* 2002; 94: 2610-7.

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