



# Old Appendectomy Scar Metastasis of Colon Adenocarcinoma: A Rare Case Report

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## ÖZET

*Eski apendektomi skarında kolon adenokarsinom metastazı: Nadir bir olgu sunumu*

Subkutan metastaz kolon kanserinde nadir rastlanan bir durumdur. Bu durum genellikle primer kolon karsinomu sonrasında ortaya çıkar, hastalığın yaygınlığını ve kötü prognozunu gösterir. Karaciğer metastazı olmaksızın cilt metastazı çok nadir görülür. Laparotomi ve laparoskopi sonrasında insizyon skarında kutanöz ve subkutanöz metastazlar rapor edilmiştir fakat eski insizyon skarında metastaz sadece birkaç tane rapor edilmiştir. Bu makalede, eski apendektomi skarında kutanöz metastaz şeklinde presente olan kolon kanseri olgusunu ve olası patofizyolojik mekanizmaları tartışmaktayız.

**Anahtar kelimeler:** Kolon kanseri, subkutanöz metastaz, eski ameliyat skarı

## ABSTRACT

*Old appendectomy scar metastasis of colon adenocarcinoma: a rare case report*

In colorectal cancer, subcutaneous metastasis is a very uncommon event. Generally, this metastasis is described after primary colon carcinoma and signifies widespread disease and poor prognosis. Skin metastasis without liver metastasis is very rare. Cutaneous and subcutaneous metastases in laparotomy or laparoscopy scar are reported but there are only a few reports about metastasis to old incision scar. In this article, we described a case of colon cancer presenting as a cutaneous metastasis in an old appendectomy scar and discussed possible pathophysiological mechanisms.

**Key words:** Colon cancer, subcutaneous metastasis, old operation scar

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## INTRODUCTION

Skin metastasis of colon cancer is very rare, but it is an indicator of widespread disease (1,2). Skin metastasis is seen with many types of cancer but it seems to be more common in some particular cancer types. Breast (24%) and colorectal cancer (9%) in women, lung (24%) and colorectal cancer (9%) in men, are the most common types with skin metastasis. However, skin metastasis in colon malignancies is quite rare (3).

## CASE REPORT

83-year-old female patient admitted to our clinic with abdominal pain, bloating and constipation. She had an appendectomy 60 years ago and coronary artery by-pass 9 years ago. Physical examination revealed distention, tenderness and rigidity all over the abdomen. There was no evidence of abdominal rebound. Abdominal X-ray revealed air-fluid levels. Thickening of the colonic hepatic flexure's wall was noticed in abdominal computed tomography (CT). In colonoscopy, a tumoral mass, projecting into the lumen and causing partial obstruction was detected at the level of colonic hepatic flexure. Endoscopic biopsy was taken from the mass. Biopsy material was reported as adenocarcinoma. There was no metastasis in pre-operative images and surgery was performed. The abdomen was opened by right paramedian incision. The exploration revealed a mass of

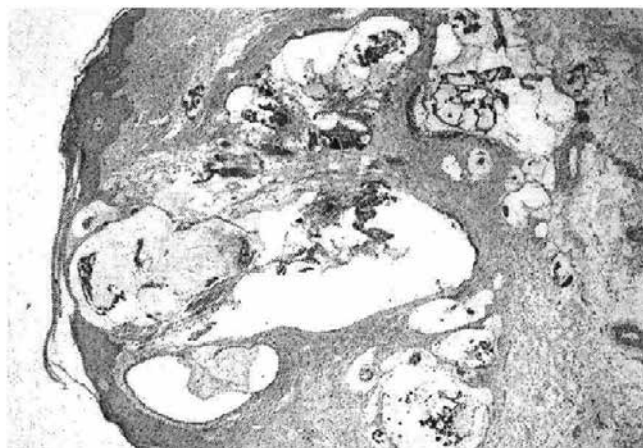
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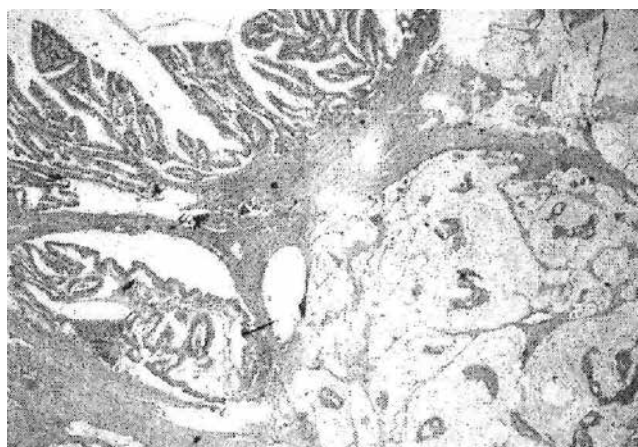
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**Figure 1:** Pathological appearance of mucinous adenocarcinoma of colon.



**Figure 2:** Well-differentiated mucinous adenocarcinoma infiltration of Mc Burney incision.

5x6 cm in size at the lumen, which has not reached the serous membrane of colonic hepatic flexure. There was no acid on abdominal cavity, no metastasis to liver and other solid organs, however there were multiple tumor implants on the surface of omentum. Biopsy was taken from the implants on omentum, and frozen samples of the implants reported as infiltration of adenocarcinoma. Right hemicolectomy, ileotransversotomy and omentectomy were performed. In postoperative evaluation; laboratory test results were carcinoembryonic antigen (CEA): 2.39 ng/ml, Ca 19-9: 30.43 U/ml. Patient was discharged on the 7th day after surgery. According to pathological evaluations, the right hemicolectomy specimen was a mucinous adenocarcinoma (Figure 1), two of 33 dissected lymph nodes were metastatic and there was no tumor on surgical margins. Result of pathology was reported as T2N1M1. The patient received adjuvant chemotherapy of 6 cycles of 5-fluorouracil and folinic acid. 8 months later after the surgery, a nodular mass was detected on the McBurney appendectomy scar. A hypodense, heterogeneous, skin adherent mass of approximately 4x2,5 cm in size was found in the subcutaneous fat tissue on the Mc Burney incision line. There is no incisional herniation at the Mc Burney incision. There was no metastasis to lungs and other intraabdominal organs. The blood tests results were CEA: 10.25 ng/ml, Ca 19-9: 45.19 U/ml. An incisional biopsy material was taken from the mass. Pathological examination of the material was reported as a well-differentiated mucinous adenocarcinoma infiltration (Figure 2). The patient underwent surgery with a diagnosis of skin metastasis of adenocarcinoma. The lesion in the Mc Burney incision

was resected by wide-excision with a tumor free border. Adjuvant FOLFOX-4 (5-fluorouracil+leucovorin+oxaliplatin) treatment of 12 cycles was planned but 4 cycles of adjuvant FOLFOX-4 was administered to the patient because the patient did not accept more treatment. The patient is still under regular follow-up and free of disease 31 months after the chemotherapy.

## DISCUSSION

Colon cancer usually metastasize to lymph node, liver, lung and bones. Colon cancer metastasis to the skin is uncommon and its exact incidence is unknown (4). In fact, the incidence of skin metastasis of all intra abdominal organ malignancies is 0.7-10.4% (5). In some series, colon cancer metastasis to the skin is known to be less than 4-5% (1-5). Skin metastasis is usually revealed within the first 2 years after identifying primary tumor, along with other metastases (1,6). Cutaneous metastasis of incision scar resulting from laparoscopy or laparotomy for tumor resection is rare but still reported, however cutaneous metastasis to old incision scar is very rarely reported (7). In general, metastatic skin lesions are characterized by a single or multiple, mobile or fixed, dermal papules and nodules (1). The skin propagation mechanism of internal malignancies is not fully understood. Many theories are presented to explain the issue. Among them, direct extension, lymphatic spread, hematogenous spread and plantation during surgery have been reported to be possible mechanisms (4-7). The most likely pathogenesis of the laparoscopic or laparotomic tumor resection scar metastasis is cell implantation (7). However, a metastasis

to an old incision scar (before 60 years) as in our case seems to have a different and more complicated mechanism.

Some studies emphasized that ligaments of embryonic origin (liver round ligament, urachus, median umbilical ligament, vitello-intestinal duct remnant) may play role in metastasis or they may be microscopic changes and lymphatic channels in scar tissue, or scar tissue cells may have more receptors on their surface for tumor cells (7,8). It has been said that the level of EGF receptor on the cell surface of the scar tissue, may constitute an appeal for malignant cells (2). In addition, levels of CEA in blood circulation have been reported to be associated with the prevalence of colorectal cancer and this level is reported to be increased in 75% of patients with recurrence or disseminated disease (4). In accordance with these studies, in our case, CEA levels

are above normal when the skin metastasis is detected (10.25ng/ml). Cutaneous metastasis is a poor prognostic sign and shows widespread disease (9). Recent studies have reported a short time of survival after the diagnosis of cutaneous metastasis. This period was found to be between 3-6 months in some studies and 18-21 months in some others (1). In a study of colon cancer patients with skin metastases, chemotherapy after resection have been reported to prolong the survival (2). Our case, is still living disease-free 31 months after the resection of skin metastasis and adjuvant chemotherapy.

Cutaneous and subcutaneous metastases in surgical laparotomy or laparoscopy scar are reported but there are only a few reports about metastasis to old incision scar. Incision metastasis shows widespread disease and poor prognosis.

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