

## Ileostomy Site Cutaneous Metastasis of Colorectal Carcinoma without Visceral Involvement: An Unusual Case

Ilker Ozgur<sup>1\*</sup>, Emre Balik<sup>2</sup>, Ali Sahin<sup>1</sup>, Emel Dasgin<sup>3</sup> and Ali Akyuz<sup>1</sup>

<sup>1</sup>Department of General Surgery, Acibadem International Hospital, Bakirkoy, Istanbul, Turkey

<sup>2</sup>Department of General Surgery, Koc University Hospital, Topkapi, Istanbul, Turkey

<sup>3</sup>Department of Pathology, Acibadem International Hospital, Bakirkoy, Istanbul, Turkey

\*Corresponding author: Ilker Ozgur, M.D., Department of Surgery, International Hospital, Istanbul Cad. No: 82 Yesilkoy, Bakirkoy, 34149, Istanbul, Turkey, Tel: +90(536) 829 9992; Fax: +90 (212) 468 4444; E-mail: [ilkerozgur@gmail.com](mailto:ilkerozgur@gmail.com)

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### Abstract

**Introduction:** The development of cutaneous metastasis during the course of colorectal carcinoma occurs very rarely (4% of patients with rectal carcinoma) and indicates widespread disease. The abdominal wall and perineal area are frequently the sites of cutaneous metastasis.

**Case presentation:** A 64-year-old woman who received series of daily radiotherapy over 30 days in 1974 due to cervical carcinoma underwent surgery for stage IIA sigmoid colon adenocarcinoma in 1995. In 2001, she underwent abdominoperineal resection, total abdominal hysterectomy, bilateral salpingo-oophorectomy, and left-sided end colostomy for stage IIIC distal rectal tumor. In 2004, the colostomy site changed to the right lower abdominal quadrant due to unsuccessful parastomal hernia repair in 2003. In 2008, she underwent right hemicolectomy due to stage IIA cecal tumor with end ileostomy in the right lower quadrant. In 2015, she was hospitalized due to the development of a mass at the end ileostomy site; other organ involvement was not observed. The abdominal wall and segmental small bowel were resected and an end ileostomy in the left lower quadrant was performed. Her pathology report revealed middle dermal invasion of moderately differentiated mucinous adenocarcinoma at the ileocutaneous junction with clear margins.

**Conclusion:** Isolated skin metastasis in colorectal cancer after primary surgery occurs rarely but it must be excluded during follow-up visits by careful examination.

**Keywords:** Colorectal cancer; Cutaneous metastasis

### Introduction

The most common sites to which colorectal carcinomas metastasize are the liver and lungs. Skin metastasis is very rare: between 4% and 6.5% of patients with colorectal carcinoma develop skin metastasis [1,2]. Its presence demonstrates widespread disease. The most common skin metastasis sites in colorectal carcinoma are the lower abdominal wall and the perineal area. The present case report describes a patient who was admitted for isolated ileostomy site metastasis 7 years after the last primary surgery.

### Case Report

In 2015, a 64-year-old woman was admitted to hospital with a mass at a terminal ileostomy site. She did not have any pain. An examination revealed a round mass at the ileostomy site (Figure 1). Her blood tests results were nonspecific. Radiological analysis did not reveal any other pathological signs. The patient had a history of radiotherapy for cervical adenocarcinoma at 1974. Twenty years later, in 1995, she underwent anterior resection of stage IIA sigmoid colon adenocarcinoma followed by chemotherapy for 6 months. In 2001, she underwent abdominoperineal resection, total abdominal hysterectomy, bilateral salpingo-oophorectomy, and left-sided end colostomy for stage IIIC distal rectal tumor. This was followed by chemotherapy for

another 6 months and close follow-up. In 2004, the colostomy site was changed to the right lower abdominal quadrant due to unsuccessful parastomal hernia repair in 2003. In 2008, a stage IIA cecal tumor was detected and the patient underwent right hemicolectomy with end ileostomy in the right lower quadrant. Finally, in 2015, she was admitted to hospital due to the development of a mass at the end ileostomy site; other organ involvement was not detected. Serum levels of carcinoembryonic antigen was in normal range. A biopsy of the mass revealed metastasis of adenocarcinoma. The patient underwent laparotomy via an infra-umbilical midline incision. No other signs of metastasis were observed during the exploration. The end ileostomy was excised. Moreover, 20 cm of distal ileum and 2 cm clear margins of all abdominal wall layers were included to the pathological specimen by elliptical incision around the ileostomy (Figure 2). An end ileostomy was generated in the left lower quadrant. The patient was discharged from hospital 6 days after surgery without any complications. Histopathology of the resected specimen revealed middle dermal invasion at the ileocutaneous junction by a moderately differentiated mucinous adenocarcinoma. The margins were clear and lymph node invasion was not detected (Figures 3 and 4).

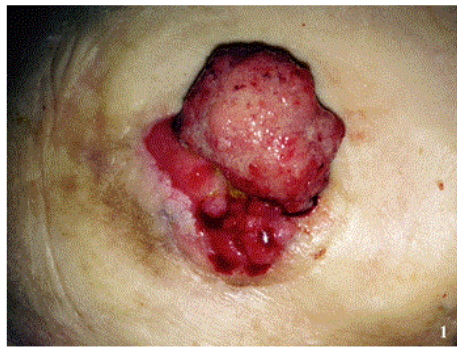


Figure 1: Tumor at end ileostomy.

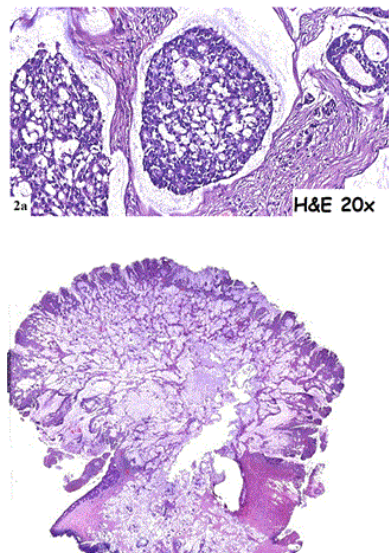


Figure 2: Pathology specimen.

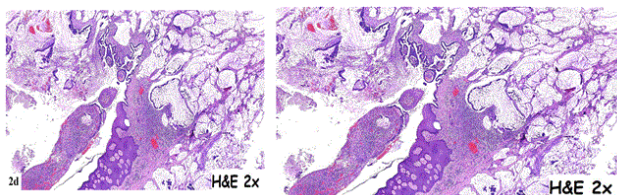


Figure 3: Microscopic view of tumor.

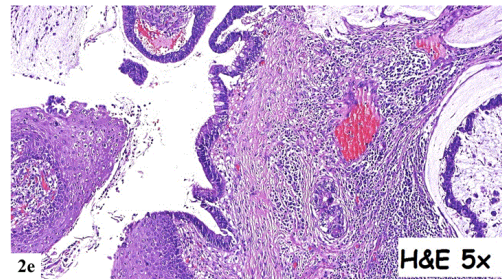


Figure 4: Cohesive tumor cells in mucine islets and mucinous adenocarcinoma at junction of squamous epithelium and intestinal mucosa.

## Discussion

Cutaneous metastasis during the course of colorectal cancer is extremely rare. The majority of cutaneous metastases occur in the abdominal wall [3], although they have also been reported to occur in decreasing order in the extremities [4], head and neck [5,6], and operative scars [7-9]. Cutaneous presentation of colorectal carcinoma is particularly uncommon when visceral metastasis is absent [8-11]. Alexandrescu et al. [12] previously reported two cases of large cutaneous and subcutaneous metastasis of colon cancer in operative scar tissues. Both cases had above normal serum levels of carcinoembryonic antigen.

To date, several mechanisms of cutaneous metastasis have been proposed. They include hematogenous and lymphatic spread, direct involvement, spread via embryonic ligaments, and seeding of exfoliated tumor cells during surgery. In our case, it remains rather unclear how, despite receiving chemotherapy and radiotherapy, the mucinous adenocarcinoma of the patient metastasized to an operative scar 7 years after multiple surgeries that changed the anatomic structure and lymphatic drainage of the abdominal wall. It seems unlikely that the cancer spread via the lymphatic system and embryonic ligaments because the many surgeries that were performed altered the lymphatic drainage of the abdominal wall. It also seems unlikely that the cutaneous metastasis reflects direct involvement because the patient was followed up for 7 disease-free years after the last surgery. It is possible the cutaneous metastasis arose because of seeding of exfoliated tumor cells during surgery, but it is unclear why it developed so many years later and why other visceral organ involvement was not seen. However, exfoliated tumor cells may turn into resting forms that become activated in the incision scar years later. Notably, Alexandrescu et al. [12] found that the tumor cells of their patients expressed high levels of epidermal growth factor receptors; and concluded that this may explain why the tumor cells adhered to the cutaneous tissue.

Thus, while rare, cutaneous metastasis can arise during the course of colorectal cancer. Patients who have a new diagnosis of colorectal cancer and patients who are being followed up should be assessed meticulously for the presence of nodules that arise in cutaneous or subcutaneous tissue. The presence of these metastatic cutaneous nodules at colorectal cancer diagnosis usually indicates a disseminated disease [4]. However, if these nodules develop in patients who have already been treated for colorectal cancer and other organ involvement

is not detected, the patient may have a reasonable chance of disease-free survival after resection of the cutaneous metastatic tumor [13,14].

## Conclusion

Although metastatic lesions to the skin occur rarely in colorectal cancer, it is important to detect them as early as possible, as this will allow proper therapeutic intervention, thereby improving prognosis.

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