

Cutaneous Metastasis of Gastrointestinal Cancer

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Abstract- Occurrence of cutaneous metastasis of gastrointestinal cancer is uncommon, with a reported frequency of less than 5 percent. They can occur as the first sign of disease recurrence in a treated patient or as a sign of terminal disseminated cancer or rarely as the first manifestation of an occult malignancy. The cases reported here represent three different manifestation of cutaneous metastasis of gastrointestinal cancers.

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Introduction

Cutaneous metastasis of the abdominal malignancies is uncommon, presenting in fewer than 5% of patients and heralding a widespread disease and poor prognosis (1, 2).

Although skin metastases are generally an ominous sign of widespread terminal disease, they can occur in the early stages of the gastrointestinal cancers. Most often they appear after surgery of the gastrointestinal carcinoma as a small subcutaneous or intradermal nodular lesion. These usually asymptomatic nodules tend to be firm, rubber and not painful, they can mimic cysts, lipomas, neurofibromas, granulomas and rarely cellulitis (3). In rare cases such metastases may be the only sign of disease in the postoperative patient or the first manifestation of an unsuspected asymptomatic occult neoplasm in an otherwise healthy person. Occasionally patients present with skin metastases with no evidence of visceral involvement (4, 5).

Herein we present three cases of different gastrointestinal cancer with cutaneous lesion as the sole site of metastatic disease.

Case Report

Case one

An 80 years old man admitted in our department because of progressive dysphagia over the last four months. he was diagnosed to have T3N0M0 well differ-

entiated squamous cell carcinoma of lower third of esophagus (36 cm from incisor). Because of his age and his not suitable general condition he was treated only by 50 gray external beam radiation (200 rad/20 fraction). one month later, he was admitted again because of ulcerative and necrotic wound of second finger of his right foot, amputation of this finger was done under regional anesthesia (nerve block). His pathologic study confirmed metastatic squamous carcinoma. In further evaluation we couldn't find any other site of metastasis, but his general condition deteriorated and he died in two months.

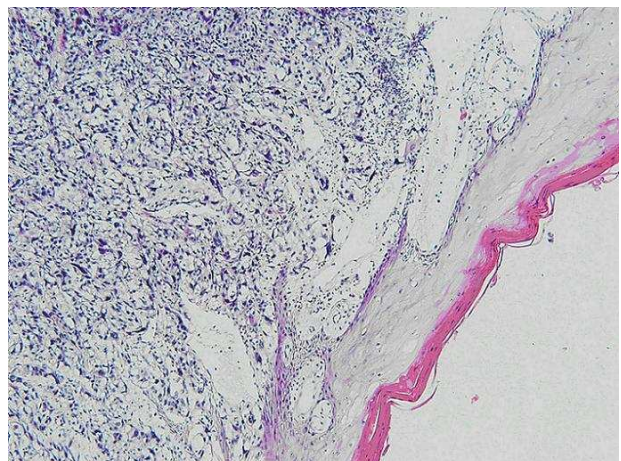


Figure 1. Skin with metastatic adenocarcinoma. Hematoxylin and eosin staining. Original magnification $\times 40$

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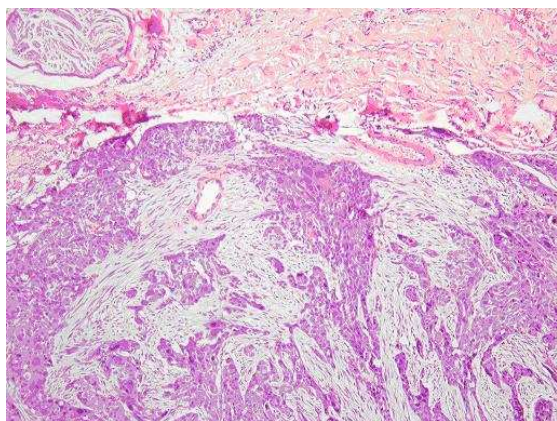


Figure 2. Adenocarcinoma in the esophageal mucosa identical to that in the dermal infiltration . Hematoxylin and eosin staining, original magnification×200

Case two

A well being 62 years old woman presented with a small non painful subcutaneous nodule in left cheek which was appeared recently after a minor trauma. Biopsy of this nodule showed metastatic adenocarcinoma (Figure 1, 2). History and physical exam was completely normal. Endoscopic examination of upper gastrointestinal tract revealed adenocarcinoma of lower third of esophagus and esophago-gastric junction. She was undergone systemic chemotherapy, but in less than three months the liver and lung metastases were appeared and now she is in terminal phase of her disseminated disease.

Case three

A 55 years old man was referred because of partial intestinal obstruction due to a locally advanced adenocarcinoma of the right colon. CT scan of the chest and abdomen showed a large tumor adhere to abdominal wall with mesocolic lymph nodes enlargement. There was no liver or lung or Para aortic metastasis. On clinical examination he had a pigmented nevus like lesion 1 1 centimeter with small satellite on his right arm, his wife mentioned that this old lesion was enlarged recently.

He was undergone radical right hemicolectomy with partial resection of the abdominal wall and also excisional biopsy of the arm lesion. Pathologic study confirmed poorly differentiated adenocarcinoma with signet ring cells and metastatic skin involvement. Systemic chemotherapy was started early after surgery but rapid progressive dissemination of the disease occurred in four months and the patient died.

Discussion

Cutaneous metastasis from internal malignancy is uncommon but not rare and is reported most frequently after the fourth decade of life. Their frequency ranges between 0.7% and 10.4% of all patients with cancer. (1, 2, 6-11).

Cutaneous metastases can occur anytime in the course of malignancy. Especially in an extensively metastatic disease, they may also represent failure of ongoing therapy, recurrence of neoplasm thought to have been eradicated, or the first manifestation of asymptomatic unsuspected occult malignancy (12).

Every cancer can cause skin metastases, but some do so more frequently than others. The most frequent primary nondermatological tumors associated with skin metastases include breast, lung and colorectal cancers. Skin metastasis from upper GI tract is relatively infrequent (7,8,11-13), esophageal cancer rarely metastasize cutaneously. In a study of 7316 cancer patients with cutaneous metastases, there was no report of esophageal origin for any metastases (7) and in a study of 4020 cancer patients by the same authors only 3 metastases were of the esophageal origin (8). Most reported esophageal cancers were squamous cell carcinoma but there were some case reports of skin metastases from esophageal adenocarcinoma (14, 15).

Cutaneous metastases from gastric carcinoma may be solitary or multiple and have been reported to appear on the head, eyebrow, neck, axilla, chest and fingertip (11). The commonest site of skin metastases is around the umbilical region usually referred to as the Sister Mary Josephs nodule (3). Dr .William Mayo's surgical assistant, Sister Mary Josef, noted the association of the presence of an indurated umbilical nodule in the setting of gastric cancer with poor prognosis.

Skin involvement from a primary colorectal tumor at the time of diagnosis was present in 0.05% of patients in the large retrospective study of Lookingbill(7). This study covered 7316 cancer patients and found 367(5%) skin involvement. When only patients with metastatic disease are considered, the frequency of skin involvement was 9.6%.

These authors distinguished between skin involvement as the first clinical sign of latent cancer (0.8%) and skin metastases at the time of identification of the primary malignancy (1.3%).

Lookingbill et al. (1972) in the second study examined the records of 4020 metastatic cancer patients, 420 (10%) skin involvement was identified: most likely from melanoma, breast cancer and nasopharyngeal carcinoma.

In another study (16) covering 724 cases of metastatic malignancies, the most frequently observed cutaneous metastatic cancers were breast (69%), colorectal (9%), malignant melanoma (5%), ovary (4%) in women and lung (24%), colorectal (19%), malignant melanoma (13%), oral cavity (12%) in men. Cutaneous metastatic disease as the first sign of internal cancer is most commonly seen with cancers of the lung, kidney and ovary.

The most frequent site of skin metastases from gastrointestinal cancer is the skin of the abdominal wall. Scalp is also a common site for cutaneous metastatic disease. The extremities and the face are very rare sites for skin metastasis

In a cohort study of 413 patients with metastatic colon cancer, there were 18 patients (4.4%) with skin metastases, of whom eleven having only local metastases, mostly in the abdominal incisions (8). Cutaneous metastases occur in less than 4% of all cases (5, 17) and can emerge through lymphatic or hematogenous routes or by direct extension or by implantation during surgery.

Metastatic spread of colonic adenocarcinoma appears to favor site of previous incisions of the perineum and abdomen (8, 12). There are few case reports of colon carcinoma presenting as a cutaneous metastasis in an old operative scar. (18, 19). Early recognition of tumour relapse from a suspicious skin lesion may lead to initiation of treatment before widespread metastases occur.

Sometimes cutaneous metastases disappear spontaneously probably because the skin provide a poor site for their growth, but often they serves as an indicator of widespread metastatic disease with poor prognosis.

Survival after diagnosis of the skin metastases is very short, range from 1 to 34 months. Lookingbill et al found an average survival of 18 months in colorectal cancers with cutaneous metastases. In general, skin metastasis is a poor prognostic sign. If the primary tumour is the lung, the cervix or the oesophagus most patients die within three months. In the case of colorectal cancer, however, skin involvement is not

preterminal event. Treatment involves radiotherapy or excision and patients may survive up to a year (20).

In our study like other case reports, the prognosis of the patients presenting with skin metastases is poor in view of the advanced and disseminated nature of the disease (6, 11, 13).

Although metastatic skin cancers often require no more than symptomatic therapy and tend to respond to systemic chemotherapy, local treatment like surgery and /or radiotherapy may be considered. Rarely long-term survival after systemic chemotherapy has been reported (12, 21).

In conclusion, in patients with internal malignancies, every skin nodules, nonhealing ulcers and persistent indurated erythema must be examined. Recognition of these cutaneous metastases can lead to diagnosis of an underlying malignancy, help in accurate staging of the disease and enable life-prolonging therapy and meaningful palliation.

References

1. Reingold IM. Cutaneous metastases from internal carcinoma. *Cancer* 1966; 19(2): 162-8.
2. Abrams HL, Spiro R, Goldstein N. Metastases in carcinoma; analysis of 1000 autopsied cases. *Cancer* 1950; 3(1): 74-85.
3. Rendi MH, Dhar AD. Cutaneous metastasis of rectal adenocarcinoma. *Dermatol Nurs* 2003; 15(2): 131-2.
4. Foo KF, Tao M, Tan EH. Gastric carcinoma presenting with cellulitis-like cutaneous metastasis. *Singapore Med J* 2002; 43(1): 37-8.
5. Kilickap S, Aksoy S, Dinger M, Saglam EA, Yalçin S. Cutaneous metastases of signet cell carcinoma of the rectum without accompanying visceral involvement. *South Med J* 2006; 99(10): 1137-9.
6. Spencer PS, Helm TN. Skin metastases in cancer patients. *Cutis* 1987; 39(2): 119-21.
7. Lookingbill DP, Spangler N, Sexton FM. Skin involvement as the presenting sign of internal carcinoma. A retrospective study of 7316 cancer patients. *J Am Acad Dermatol* 1990; 22(1): 19-26.
8. Lookingbill DP, Spangler N, Helm KF. Cutaneous metastases in patients with metastatic carcinoma: a retrospective study of 4020 patients. *J Am Acad Dermatol* 1993; 29(2 Pt 1): 228-36.
9. McWhorter JE, Cloud AW. Malignant tumors and their metastases: summary of necropsies on 865 cases performed at the Bellevue Hospital of New York. *Ann Surg* 1930; 92: 434-43.
10. Enticknap JB. An analysis of 1,000 cases of cancer with special reference to metastasis. *Guys Hosp Rep* 1952; 101(4): 273-9.
11. Schwartz RA. Cutaneous metastatic disease. *J Am Acad Dermatol* 1995; 33(2 Pt 1): 161-82.
12. Sarid D, Wigler N, Gutkin Z, Merimsky O, Leider-Trejo L, Ron IG. Cutaneous and subcutaneous metastases of rectal cancer. *Int J Clin Oncol* 2004; 9(3): 202-5.
13. Brownstein MH, Helwig EB. Metastatic tumors of the skin. *Cancer* 1972; 29(5): 1298-307.
14. Stein RH, Spencer JM. Painful cutaneous metastases from esophageal carcinoma. *Cutis* 2002; 70(4): 230-2.
15. Roh EK, Nord R, Jukic DM. Scalp metastasis from esophageal adenocarcinoma. *Cutis* 2006; 77(2): 106-8.

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16. Brownstein MH, Helwig EB. Patterns of cutaneous metastasis. *Arch Dermatol* 1972; 105(6): 862-8.
17. Abrams HL, Spiro R, Goldstein N. Metastases in carcinoma; analysis of 1000 autopsied cases. *Cancer* 1950; 3(1): 74-85.
18. Wright PK, Jha MK, Barrett PD, Bain IM. Colonic adenocarcinoma presenting as a cutaneous metastasis in an old operative scar. *J Postgrad Med* 2003; 49(2): 157-8.
19. Iwase K, Takenaka H, Oshima S, Kurozumi K, Nishimura Y, Yoshidome K, et al. The solitary cutaneous metastasis of asymptomatic colon cancer to an operative scar. *Surg Today* 1993; 23(2): 164-6.
20. Brady LW, O'Neill EA, Farber SH. Unusual sites of metastases. *Semin Oncol* 1977; 4(1): 59-64.
21. Früh M, Ruhstaller T, Neuweiler J, Cerny T. Resection of skin metastases from gastric carcinoma with long-term follow-up: an unusual clinical presentation. *Onkologie* 2005; 28(1): 38-40.