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CASE REPORT | ESOPHAGUS

Esophageal Squamous Cell Carcinoma With Colonic Metastases

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ABSTRACT

Esophageal squamous cell carcinoma (ESCC) is recognized as one of the most lethal malignancies worldwide. The disease's tendency to quickly metastasize precludes many patients from receiving curative therapy. The most common sites of distal metastases include the liver, lungs, bones, and brain. We report a case of ESCC metastasizing to the rectosigmoid region years after treatment with neoadjuvant chemoradiation and esophagectomy. To our knowledge, only a handful of cases of ESCC with colonic metastases have been previously documented.

INTRODUCTION

According to the International Agency for Research on Cancer, esophageal cancer represents the 6th deadliest cancer worldwide; in terms of incidence, it is the seventh highest cancer worldwide.[1] They estimate that by 2030, 200,000 incidental cases of esophageal cancer will be diagnosed.[2] The incidence rates of esophageal squamous cell carcinoma (ESCC) are highest in Eastern Asia, Eastern Africa, and Southern Africa, but 22,689 new cases were diagnosed in North America in 2018.[1] Major risk factors for ESCC include cigarette smoking and alcohol consumption.[3] This aggressive disease has a tendency to metastasize with the most common sites of distal metastases involving the liver (15.6% of cases), lungs (9.7% of cases), bones (7.7% of cases), and brain (1.6% of cases).[4]

CASE REPORT

We present a 71-year-old woman with a recent diagnosis of ESCC, clinical-stage T4N2M0. She had undergone neoadjuvant chemoradiation (2 cycles of cisplatin and fuorouracil with 50 Gy in 25 fractions of radiotherapy). The decision was made to proceed with an Ivor Lewis esophagectomy. Two years after surgery, on a follow-up positron emission tomography (PET) scan, the patient was found to have a right retrocrural lymph node hypermetabolic lesion and a metastasis of the left flexor carpi ulnaris muscle; she next underwent further radiotherapy (25 Gy in 5 fractions), followed by orthopedic surgery to her forearm. A follow-up PET scan, months later, showed progression of the right clinical-stage lymph node metastasis, growing left upper lobe lung nodule, and a new hypermetabolic lesion in the rectosigmoid colon measuring 2.8 × 2.0 cm. The patient did not complain of any changed bowel habits. Colonoscopy performed days later revealed an external and partially obstructing mass at 20 cm from the anus; no adenomatous tissue was visualized. On pathology, superficial fragments of large bowel mucosa with reactive changes were noted, but the specimens were deemed not representative for a submucosal lesion. The patient received additional radiotherapy treatment targeting the PET-avid retrocrural lymph node.

A repeat colonoscopy 3 months later revealed a large rectosigmoid mass at the same site previously identified now externally compressing the lumen and invading the mucosa (Figure 1). The pathology showed fragmented clusters of squamous epithelial cells with necrosis and clusters of squamoid cells within the lamina propria of the colon (Figure 2). The cells stained positive for immunohistochemical markers p40 and cytokeratin 5/6, consistent with metastatic ESCC (Figure 3).

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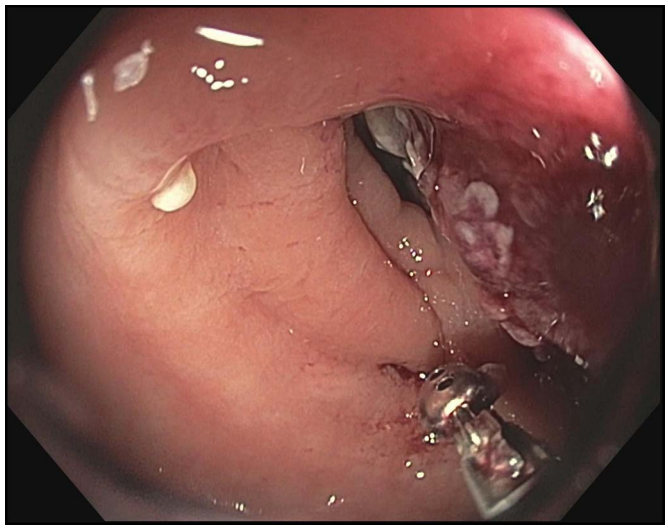

Figure 1. Colonoscopy showing the large rectosigmoid mass externally compressing the lumen and invading the mucosa.

Weeks later, the patient developed tenesmus and hematochezia. After a tumor board meeting and discussion with the patient, the decision was made to adopt a palliative approach with a single radiotherapy treatment targeting the rectosigmoid lesion. She died 6 months later.

DISCUSSION

In their latest guidelines, the European Society of Medical Oncology suggests that all cases of metastatic esophageal cancer be treated with a palliative approach, as opposed to those cases of either limited or locally advanced disease, who may be candidates for curative therapy.[5] The major issue is the disease's ability to spread rapidly. In fact, at the time of diagnosis, over 50% of cases already have metastases and, therefore, are not candidates for curative therapy.[6]

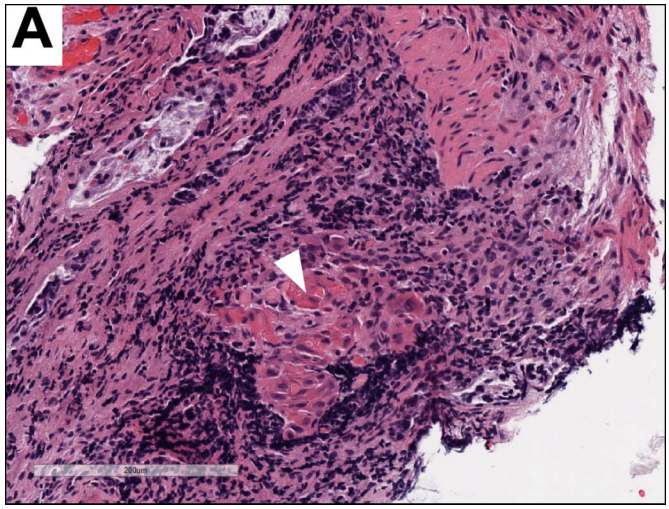

Figure 2. Sigmoid colon biopsy showing superficial colonic type mucosa with chronic inflammation and granulation tissue. Deeper sections show separate fragmented clusters of squamous epithelial cells with necrosis but also clusters of squamoid cells within the lamina propria of the colon at the level of the muscularis mucosae (arrow).

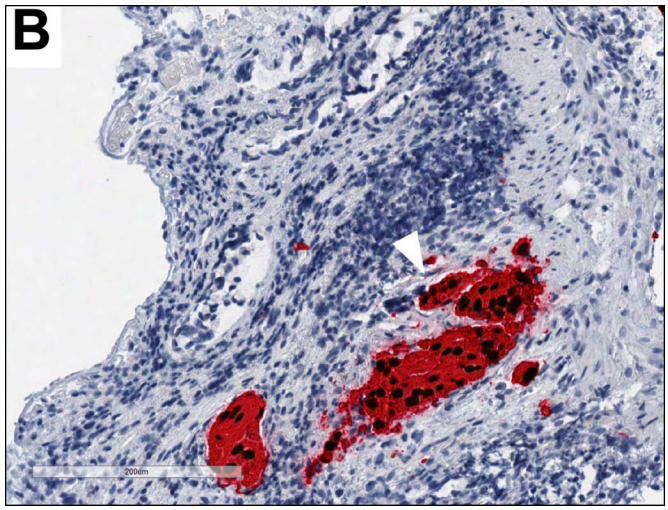

Figure 3. Immunohistochemistry showing that the cells stain positive for p40 (brown nuclear stain) and CK5/6 (red cytoplasmic stain). Given the infiltration of the lamina propria and squamous morphology this is most consistent with metastatic squamous carcinoma.

Yet, the concept of curative therapy should not be perceived as a guaranteed solution. Almost 1 of every 2–3 cases treated with a curative approach will still develop distant metastases within 5 years.[7] Most recurrences seem to occur within the first 2 years after surgery.[8]

Therefore, one significant challenge remains the follow-up of patients who have undergone curative therapy. There are no definitive guidelines for the surveillance of previously treated esophageal cancers; the current guidelines are based on retrospective data and expert opinions. This notion is made clear in the latest National Comprehensive Cancer Network's Esophageal and Esophagogastric Junction Cancers guidelines.[9]

One study by Lou et al evaluated the different methods for detecting recurrences. Interestingly, 50% of recurrences were first detected on history and physical examination alone; however, 45% of recurrences were subclinical and were detected only by routine computed tomography scans.[8] In our case, follow-up imaging nearly 2 and a half years after curative therapy detected a subclinical metastatic site.

There is no algorithm outlining the proper way to proceed in the case of recurrence simply because each case requires a unique assessment considering the metastatic burden of the disease, the functional status of the patient, the patient's wishes, and many other factors. Some studies have shown modest survival benefits with the use of multimodality therapies in recurrent cases.[10,11]

Only a handful of cases of ESCC with colonic metastases have been described in the literature. When compared with our case, 3 of the 4 other cases described synchronous colonic lesions while our patient suffered from metachronous colonic lesions. Similar to 2 of the cases found, our patient was not symptomatic from her colonic metastases at the time of diagnosis. Similar to 2

of the cases found, our patient died less than one year after the time of diagnosis of colonic metastases.[12–15]

The most common sites of distal metastases include the liver, lungs, bones, and brain.[4] Although the rectosigmoid location is uncommon, most recurrences in esophageal cancer present with distant metastases, as did our case.[8] The disease's tendency to distally metastasize was puzzling for years. In more recent literature, the notion of hematogenous spreading of circulating tumor cells and circulating tumor microemboli has been brought to the forefront as a potential explanation for the distant metastases often seen in these cases.[7]

ESCC represents one of the most devastating conditions a patient can be diagnosed with because of the disease's ability to rapidly spread, its physically fierce treatment options, and its high recurrence rate. Future studies may want to evaluate the possible benefits of different follow-up times. Another possibility might be to investigate the clinical utility of circulating tumor cells as tools for detecting recurrences.

DISCLOSURES

Author contributions: All coauthors have contributed equally to this article. T. Bessissow is article guarantor.

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Informed consent was obtained for this case report.

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