CASE NOTE

Esophageal carcinoma presented with a skull tumour

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About 7 cases of esophageal carcinoma per 100 000 men are diagnosed in Taiwan, with variable metastatic tendency to other parts of the body. Esophageal carcinoma frequently metastasizes to the lungs and liver, although the metastatic deposits to the bone are infrequent and metastatic disease in the skull is extremely rare. We encountered a patient with a metastasis of esophageal carcinoma over the right frontoparietal region who presented initially with a huge skull tumour without dysphagia. We report the clinical and radiological features of a skull metastasis from an esophageal carcinoma.

Case report

A 48-year-old man presented to the emergency department with a 1-month history of headache with general weakness of the limbs and 1 enlarging painless mass over the right frontoparietal region. Except for alcoholism, his medical history was unremarkable. On physical examination, there was a subcutaneous mass over the right frontoparietal region. There were several small and nontender lymph nodes in the right supraclavicle region, but no axillary adenopathy.

A chest radiograph showed no nodule lesion. The skull radiograph showed a radiolucent shadow over the right parietal bone (Fig. 1). A computed tomography (CT) scan of the brain showed a skull tumour with destruction of the bone over the right frontoparietal region (Fig. 1). The soft tissue tumour measured about $5.68 \times 4.17 \times 4.8$ cm in size with expansion outward and inward to cause compression of the brain.

The patient underwent a bicoronal approach with a left frontal craniotomy and removal of the tumour for relief of urgent compression symptoms. Pathology results revealed metastatic squamous cell carcinoma. The patient experienced mild dysphagia half a month after surgery. A panendoscopy revealed 1 ulcerative lesion in the middle third of the esophagus, which biopsy results confirmed as squamous cell carcinoma, moderately differentiated. A CT scan of his chest showed lobulated wall thickening of the middle to lower third of the esophagus. The final diagnosis was squamous cell carcinoma of the esophagus with skull metastasis, T4N1M1b, stage IVb. The patient was referred for concurrent chemoradial therapy.

Discussion

Esophageal carcinoma is among the most challenging oncologic problems, and its diagnosis is often delayed until late stages. Quint and colleagues[1] reported an 18% rate of metastases in 838 newly diagnosed esophageal carcinomas by CT scan, plain radiographs and bone scans. It is well known that esophageal cancer may cause distant metastases, most frequently in the lungs, pleura, liver, stomach, peritoneum, kidneys and the adrenal gland. Metastasis

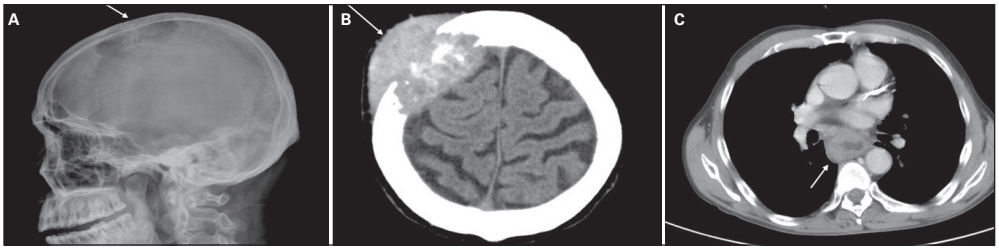

Fig. 1. (**A**) Skull radiograph showing an osteolytic lesion over the right frontal bone. (**B**) Noncontrast computed tomography (CT) scan of the brain showing 1 skull tumour with destruction of the bone over the right superior frontal region; it measured about 5.68 × 4.17 × 4.8 cm in size with expansion outward and inward to cause mild compression of the brain. (**C**) Contrast-enhanced CT scan of the chest showing lobulated wall thickening of the distal portion of the esophagus.

to the bones is infrequent, and the spine is the most common site for bone metastases. Skull metastasis attributed to an esophageal cancer may be a quite rare condition.[2,3]

Stark and colleagues[2] claimed skull metastases have characteristic clinical features that are distinctive from those of primary skull tumours and tumour-like lesions. Skull metastases typically appeared as expansile, osteolytic, hypervascular lesions and magnetic resonance imaging (MRI) scans demonstrated iso- or hypointensity on T_1- and T_2-weighted images with moderate gadolinium enhancement. Metastatic lesions can cause local swelling that is usually painless, and they rarely lead to neurologic dysfunction. However, skull metastases can also lead to severe discomfort and neurologic symptoms, and Ellis and colleagues[3] reported a case of acute epidural hematoma secondary to skull metastasis from esophageal carcinoma. Because of the risk of extradural or intratumoral hemorrhage or even brain compression, which have neurologic consequences, treatment should be considered.

Surgical resection keeps the patients from local pain, general discomfort complicated by spreads of the disease with relatively low morbidity and mortality. It might not cure the underlying disease, but it is a relatively safe treatment for selected patients with cranial metastases.[4,5]

This is a rare report of a solitary skull metastasis from esophageal carcinoma before diagnosis of the primary tumour. Owing to the rarity of this disease, more studies are needed to establish accurate early diagnostic methods and better treatment modalities. Skull metastases from esophageal carcinoma should be considered as a differential diagnosis in patients with subcutaneous masses on the scalp and osteolytic skull lesions on radiographic skull films.

Competing interests: None declared.

References

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