Isolated bony metastasis to upper limb from carcinoma of the oesophagus: report of three cases

Joydeep Purkayastha

Published online: 27 November 2013
© American Association for Hand Surgery 2013

Abstract Carcinoma of the oesophagus metastasizes to distant sites in approximately one third of cases and rarely involves the upper limb bones. We describe three such rare cases of isolated metastasis to upper limb bone from oesophageal cancer.

Keywords Esophageal cancer · Metastasis · Upper limb

Introduction

Carcinoma of the oesophagus is one of the dreaded diseases occurring in the human population. The malignant process of oesophageal cancer commonly involves the loco-regional areas. Distant metastasis occurs in approximately one third of cases specifically to the lungs, liver, bone and brain [1]. Hematogenous metastasis to the upper limb bones is a very rare event [2].

Case Report

Case No. 1

A 65-year-old lady with carcinoma of the oesophagus presented with a painful swelling in the right ring finger for a duration of 1 month. The patient was diagnosed as having carcinoma of the upper thoracic oesophagus for which she was treated with chemoradiation therapy 2 years ago. She was on regular follow-up during the period of which there was no clinical or radiological evidence of any residual or recurrent disease.

On clinical examination, there was a firm, tender swelling involving the region of the terminal phalanx of the right ring finger (Fig. 1). The overlying skin of the ring finger was intact. X-ray examination revealed destruction of the terminal phalanx of the right ring finger with surrounding soft tissue swelling that was suggestive of bone metastasis.

On endoscopy, there were post radiation changes in the upper oesophagus without any recurrence of disease. CT scan showed normal oesophageal wall thickening, with no evidence of any disease in the mediastinum, lungs or liver.

In view of the isolated metastatic disease in the ring finger without evidence of any disease elsewhere, the patient was admitted for surgery. Amputation of the right ring finger was done through the head of the middle phalanx.

Histopathological examination of the amputated finger revealed features of metastatic squamous cell carcinoma, consistent with the primary cancer of the oesophagus. There was complete destruction of the terminal phalanx, while the overlying skin was intact. The patient was under regular follow-up and was doing well at 9 months.

Case No. 2

A 72-year-old follow-up female patient of oesophageal carcinoma presented with a painless swelling of the left elbow, 1 year after completion of chemoradiation (Fig. 2). She had a malignant growth in the cervical oesophagus at 18 cm from the incisor teeth. FNAC from the elbow swelling detected features of metastatic squamous cell carcinoma. X-ray of the left elbow revealed soft tissue swelling around the elbow with lytic area in olecranon process suggestive of metastasis. Upper GI endoscopy showed post radiation changes in the oesophagus. There was no evidence of any recurrent disease elsewhere on radiological investigation.

She was treated with radiation therapy and received a total dose of 30 Gy in ten daily doses. At 3 weeks post radiation, the

J. Purkayastha (✉)
Dr. B. Borooah Cancer Institute, Guwahati, Assam, India
e-mail: drjoydeeppurkayastha@gmail.com

Fig. 1 Swelling of the distal phalanx of the ring finger caused by metastasis from oesophageal cancer

tumour in the elbow subsided completely (Fig. 3). X-ray of the elbow showed resolution of the soft tissue swelling with healing of the lytic area in the bone. The patient has been kept under follow-up and is keeping well at 6 months.

Case No. 3

A 70-year-old patient had squamous cell carcinoma of the oesophagus at 25 cm for which she received radiation therapy to a total dose of 60 Gy. After a period of 3 months following completion of radiation, she developed a swelling of the left index finger. The overlying skin was intact. X-ray examination revealed complete destruction of the distal phalanx of the left index finger with soft tissue swelling (Fig. 4). There was no disease recurrence elsewhere on endoscopic and radiological examinations. She underwent amputation of the distal finger. Histopathological examination revealed features of squamous cell carcinoma. She is doing well at a follow-up period of 4 months.

Discussion

Oesophageal cancer is considered to be one of the dreaded diseases because of its adverse effects on swallowing and

Fig. 2 Metastasis from oesophageal carcinoma

Fig. 3 Post radiation therapy

therefore quality of life. In general, the prognosis is poor as most patients present with advanced disease. The 5-year survival rate with localised disease is about 38 %, while with regional spread, it is around 20 % [3]. Patients with distant metastasis have less than 3 % 5-year survival [3]. The disease spreads by local extension to adjacent organs and to lymph nodes in the mediastinum, neck or abdomen, depending upon

Fig. 4 Metastasis to distal phalanx of the index finger

the location of the primary tumour [1]. Distant metastasis has been found to occur in the lungs, liver, bones and brain [1]. Metastasis to the upper limb bone is very unusual. There are a few case reports of metastasis to the phalanx from carcinoma of oesophagus [2, 4, 5]. The mode of spread is by the haematogenous route [2]. It presents as a localised swelling and is at times misinterpreted as infective or inflammatory lesion [4].

Palliative chemotherapy is the preferred treatment for metastatic carcinoma of the oesophagus [6]. Radiation therapy may be considered for the control of isolated localised metastatic disease. Palliative amputation is a good option for metastasis to phalanx for relief of pain and discomfort [3]. In our patients, the primary disease in the oesophagus was controlled by chemoradiation. They developed isolated metastasis to the upper limb bones after remaining disease free for a certain period. Moreover, there was no evidence of any local recurrence or any metastasis elsewhere. Hence, they underwent palliative treatment of the isolated localised disease. In the two patients with metastasis to the distal phalanx, there was complete destruction of the bone that warranted minor amputation. Hence, they underwent palliative surgery without FNAC or biopsy. In the patient with metastatic disease in the elbow, surgery would have required major limb amputation. Hence, she was offered radiation therapy, after tissue diagnosis, to which she responded very well. Systemic therapy was not considered in view of the isolated recurrence, old age and compromised general condition, and they were kept on close follow-up. We conclude that if any patient with carcinoma of the oesophagus presents with localised swelling of the limb, the possibility of metastatic disease should be

considered, and such patients could be managed with local treatment including radiation therapy or amputation.

Conflict of interest Joydeep Purkayastha declares that he has no conflict of interest.

Statement of human and animal rights All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008 [5]. Informed consent was obtained from all patients for being included in the study.

Statement of informed consent Additional informed consent was obtained from all patients for which identifying information is included in this article.

References

1. Marcus VA, Redston M, Cullen JB. Pathology of malignant esophageal neoplasms. In: Pearsons FG, Cooper JD, Deslauriers, editors. Esophageal surgery. London: Churchill Livingstone; 2002. p. 677–83.
2. Dimri K, Rastogi N, Lal P. Carcinoma of esophagus with unusual metastasis to gingiva and phalanx. *Indian J Cancer*. 2003;40(1):37–8.
3. Polednak AP. Trends in survival for both histologic types of esophageal cancer in US surveillance, epidemiology and end results areas. *Int J Cancer*. 2003;105(1):98–100.
4. Levack B, Scott G, Flanagan JP. Metastatic carcinoma presenting as a pulp space infection. *Hand*. 1983;15(3):341–2.
5. Haas O, Bernard A, Cougard P, Viard H. Phalangeal metastasis of cancer of the esophagus. Apropos of a case. *Ann Chir*. 1988;42(1):37–8.
6. Kuperman D, Baggstrom M. Gastrointestinal cancer: esophagus and stomach. In: Govindan R, editor. *The Washington manual of oncology*. Philadelphia: Lippincott; 2008. p. 181–9.