

Pathological sub-trochanteric fracture of femur: A rare metastatic manifestation in supraglottic carcinoma

Sir,

A 55-years old male patient with history of smoking and drinking for 20 years presented with history of right sided neck swelling and hoarseness of voice for two month. Direct laryngoscopy revealed a growth involving the right ary-epiglottic fold, vestibular fold and arytenoid extending to right vocal cord with impaired movement. The fine needle aspiration from the neck swelling was suggestive of metastatic squamous cell carcinoma. The CECT Scan of head and neck region revealed a right sided supraglottic mass with multiple ipsilateral cervical lymphadenopathy, largest one measuring four centimeters in greatest diameter. The CT scan of the chest and ultrasonography of abdomen were negative for any metastatic or second primary cancer. Blood counts and biochemistry profiles were normal. The pathological examination of biopsy from the growth revealed—moderately differentiated squamous cell carcinoma [Figure 1]. The patient received external beam radiation of 66 Gray in conventional fractionation over 6 weeks with concurrent intravenous cisplatin of 120 mg on days 1 and 22 of treatment. Post treatment re-evaluation at 6 weeks revealed no evidence of residual disease at the primary site and at the neck. After four months, he complained of sudden pain at right side of hip and inability to walk. The X-ray of pelvis revealed a right sided sub-trochanteric fracture [Figure 2]. Technetium-

99^m whole body bone scan revealed mild to moderately increased concentration of radiotracer over the proximal half of right femur. Laryngoscopic examination and CT scan of head and neck region revealed no locoregional recurrence. CT scan of thorax and abdomen did not reveal any primary or metastatic lesions. The fracture site was curetted and tissue material was sent for histopathological examination. The fracture was fixed with Dynamic Hip Screw (DHS)–135° Barrel plate, and bone cement was used to obliterate the defect [Figure 3]. The biopsy from the fracture was positive for metastatic carcinoma. He received radiation of 8 Gray in single fraction to the fracture site and had complete pain relief, assessment made by Brief Pain Inventory. With good performance status he received 6 cycles of Cisplatin and 5-FU based palliative chemotherapy along with 6 courses monthly intravenous zoledronic acid 4 mg. At present, he is asymptomatic and on follow up.

Laryngeal cancer is the second most common type of head and neck malignancy. The occurrence of distant metastasis from primary head and neck cancer in general and from larynx cancer in particular, are infrequent.^[1] Only the 7-12% of the larynx cancer patients present with distant metastasis at the time of the disease presentation.^[2] The metastatic incidence of laryngeal carcinoma to distant sites

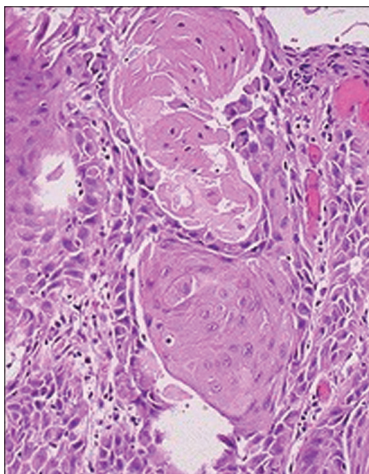


Figure 1: Hematoxylin eosin staining of biopsy specimen from right ary-epiglottic growth shows moderately differentiated squamous cell carcinoma, 40x magnification



Figure 2: The X-ray of right pelvis and upper end of right femur revealed a sub-trochanteric fracture

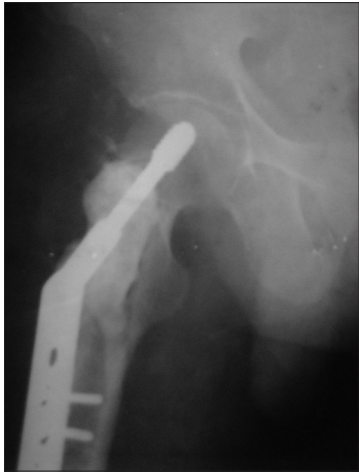


Figure 3: The sub-trochanteric fracture was fixed with DHS 135° barrel plate and cortical screws with bone cement

increases with advanced tumor size, extensive cervical lymphadenopathy and extra-capsular extension.^[3,4] There are very few documented cases of lung, liver, bone, cutaneous and central nervous system secondaries. The incidence of bone metastases from primary laryngeal cancer has is very low accounting for less than 5% of metastases with likely sites being the lumbosacral spine. Rare cases of bone involvement have been reported at patella, clavicle, ethmoid bone, phalanxes and the temporal bone. To our knowledge this is first case of involvement of trochanteric femoral bone in a patient of supraglottic carcinoma. The bone lesions are osteoblastic or osteosclerotic with evidence of soft tissue mass and periostitis on radiological imaging. The pathological fractures at the sites of bone metastasis in weight bearing bones like pelvis, femur and sacrum contribute to severe pain and restricted movements, often necessitating urgent surgical intervention.^[5,6]

Metastatic laryngeal cancer necessitates a palliative approach with radiation directed at metastatic bone lesions for pain relief. The dose of palliation of painful bone metastases remains unresolved with doses of 8 Gray in single fraction, 20 Gray in five fractions and 30 Gray in ten fractions providing equal pain relief.^[7,8] For most patients with metastatic or advanced recurrent disease, treatment options include single agent chemotherapy, combination chemotherapy, targeted agents either alone or in combination with conventional chemotherapy, and best supportive care.^[9,10] The zoledronic acid inhibits osteoclastic resorption of bone and calcium release induced by tumor cytokines in bone metastases.^[11] The outcome of metastatic disease for head and neck region is poor with median survival of six to nine months, dependent upon patient-related and disease-related factors.

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