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## CASE STUDY

### ISOLATED SKELETAL MUSCLE METASTASIS AFTER SUCCESSFUL TREATMENT OF CARCINOMA LARYNX: A RARE OCCURRENCE

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#### ABSTRACT

Skeletal muscle metastasis from the squamous cell carcinoma of larynx is very rare. Distant metastasis in squamous cell carcinoma most commonly involve the lungs, liver and bone. We report here on a patient who was diagnosed as carcinoma of larynx with T3N0M0 disease and had been given curative radiotherapy presented with the right lumbar subcutaneous swelling with no evidence of recurrent disease at the primary site. He presented one year after therapy with discrete lump in right lumbar region and diagnosis of metastatic lesion was made by excision and biopsy of the lesion. From stand point of topography, skeletal muscle metastasis is exceptional.

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#### INTRODUCTION

Laryngeal glottis cancer is a common head and neck cancer particularly in smokers. It is unique in that it is essentially localized and equally highly curable disease by radiation therapy or surgery. It accounts for 2% of all head and neck cancers according to alexanria cancer registry and glottis cancer is the commonest of the whole laryngeal tumors (Murakami *et al.*, 2005). The lung is the most common site involved, followed by mediastinum, bone, central nervous system and other organ systems (Spector *et al.*, 2001). There are also some unusual metastatic site reported such as skin, percutaneous gastrostomy site, small intestines, spleen and scapular muscles (Yucel *et al.*, 2003). Distant metastasis occurs in up to 19% of all cases. Soft tissue metastases to muscle and skin generally represent undiscovered disease elsewhere and overall poor prognosis. The case presented here occurred in a patient that had been successfully treated and had no signs of other recurrence on clinical examination or imaging studies. Therefore, this case presented as a rare case and difficult treatment strategy.

#### Case report

A 75-year-old male with a history of laryngeal cancer was presented to outpatient department with complaint of subcutaneous lump in the right lumbar region approximately since 1 month.

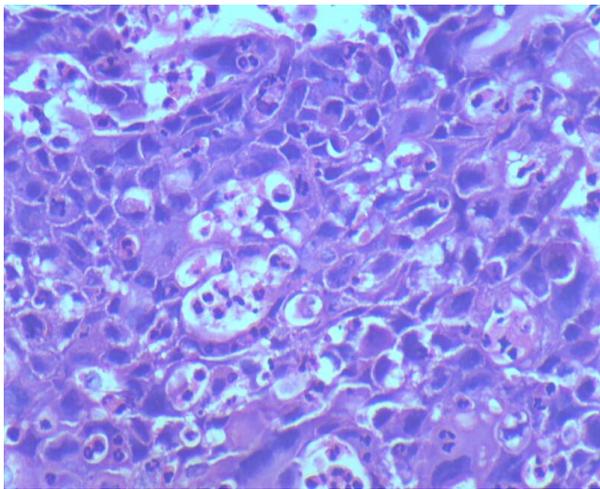
The lump was non-mobile and slightly tender to palpation. There was no erythema, induration, orcutaneous changes. The lesion had been asymptomatic. The radiographic appearance of this was interpreted as a fluid filled lesion, concerning for abscess, hematoma, or seroma. The patient's history was significant for a squamous cell carcinoma of the larynx, treated operatively one year prior to this presentation with a complete 36 cycles of radiotherapy. Pathology revealed a moderately to poorly differentiated squamous cell cancer of the larynx, pathologic stage T3N0M0. The patient was regular follower to his medical oncologist. Clinically, the patient appeared cachexic. Initial laboratory work-up Hb 11.5, TLC 9700, PLT 1.2 lacs/cum, ESR 88, Sr Sodium 138 meq/L, Sr. potassium 4.2 meq/L, Sr. chloride 102 meq/L, LFT & RFT WNL. USG local part s/o Clinically swelling looks like cyst, excision of the swelling (Figure 1) done and sent for HPE.



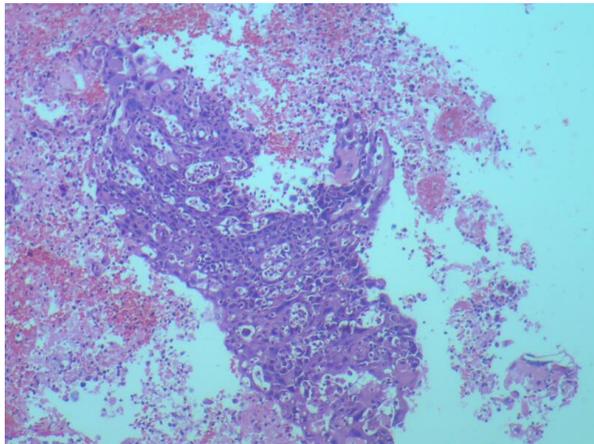
Fig. 1. Excised swelling

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(a)



(b)

**Fig. 2. (a) & (b): section from excised lesion suggestive of squamous cell carcinoma**

## DISCUSSION

The second most common cancer of the head and neck region is laryngeal carcinoma, which is accounting for 25-45% of all head and neck tumors and from which, 90% are the squamous cell carcinoma. The risk factors, which associated 85%, are smoking and alcohol (Klune *et al.*, 2010). This tumor originates from glottis (59%), supraglottis (40%) or infraglottis (1%) and generally spreads to regional lymph nodes or through blood, to the pulmonary system. The incidence of distant skeletal metastasis is very rare with only few reported cases worldwide till now. The exact mechanism of skeletal metastasis is not understood. There are three possible mechanism direct spread, local spread and distant spread. The explanation to unusual sites of metastasis such as the skeletal muscle is even less clear.

The disturbance of lymphatic drainage due to surgery and radiation may result in alternative pathways of drainage. This phenomenon can result in lymphatic metastasis of cancer to sites below the clavicle. Another possible explanation is hematogenous spread of the tumor (Yucel *et al.*, 2003). CT scan of the thorax is the single most important study. Whole body MRI also can be done for evaluation of soft tissue metastasis. however, PET/CT requires further study for its clinical benefit. One recent manuscript contrasts the two modalities and concludes that PET/CT, in offering metabolic information, can be more useful in tumor localization, T-stages and lymphnode assessment (Schmidit *et al.*, 2007).

## Conclusion

We reported this case because of its rarity. Such a skeletal muscle metastasis of carcinoma larynx to skeletal muscle following appropriate treatment for the primary tumor is described in few literature. Because of its rare occurrence, no evidence based guidelines exist. Skeletal muscle metastasis of cancer is generally sign of widespread disease and therefore a poor prognostic indicator.

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