

Omentum: An unusual site for distant metastasis for post-surgery radiotherapy treated squamous cell carcinoma larynx

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ABSTRACT

Squamous cell carcinoma of the larynx is the most common histologic type, accounting for up to 90% of cancers with more predilections to spread locoregionally to the cervical lymph nodes. Distant metastasis, usually to lungs, bone, and liver is seen much less frequently, with an overall incidence of 6.5–7.3%. A case of 55-year-old male with the previous history of surgery and radiotherapy treated squamous cell carcinoma of the larynx, presenting with a chief complaint of pain abdomen is hereby reported for its unusual diagnosis of metastatic deposits of squamous cell carcinoma in the omentum. Though there are reference available for peritoneum as the distant metastatic site for hypopharyngeal carcinoma, reference for laryngeal carcinoma metastasizing to omentum were not found even with an extensive search of literature. Awareness of unusual sites of distant metastasis such as omentum must be kept in mind for treated laryngeal carcinoma patients presenting with non-specific symptoms like pain abdomen. And also, chances of involvement of unusual site of the distant metastasis increases with advanced tumor-node-metastasis stage and nodal status.

Key words: Distant metastasis, larynx, omentum, squamous cell carcinoma

INTRODUCTION

Laryngeal cancer is the second most common type of cancer of head and neck region, accounting for 25–45% of all head and neck tumors. Squamous cell carcinoma by far the most common histologic type, accounting for up to 90% of cancers in this region.^[1,2] Cancer of the larynx usually occurs in middle-aged men, representing about 1.6% of all malignant tumors in men and 0.4% in women.^[3,4] Moreover, frequency of cancer of the larynx in urban areas is much higher than that in rural areas.

The risk factors for the development of cancer of the larynx are usually smoking, alcohol consumption, passive

smoking, chronic laryngeal irritation from gastroesophageal reflux, and viral infection.

Laryngeal cancer has more predilections to spread locoregionally to the cervical lymph nodes. Distant metastasis is seen much less frequently, with an overall incidence of 6.5–7.3%.^[5,6] The most common sites of involvement in distant metastases are lungs (66%), bone (22%), liver (10%), mediastinum, and bone marrow. Other than these, some unusual sites such as the chest wall and skeletal muscle metastases from laryngeal carcinoma are also on record.^[7,8] Moreover, rate of metastasis from laryngeal carcinoma patients treated with surgery and adjuvant therapy is much less than radiation and chemotherapy treated patients.^[9]

Though there is reference available for peritoneum as the distant metastatic site for hypopharyngeal carcinoma,^[10]

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reference for laryngeal carcinoma metastasizing to omentum were not found even with an extensive search of literature. This case report raises the awareness of omentum as an unusual site of distant metastasis in a case of postchemo-radiotherapy treated laryngeal squamous cell carcinoma.

CASE REPORT

The history dates back 1½ years when a 55-year-old male patient presented with chief complaint of progressively increasing hoarseness of voice, a decrease in appetite, and weight loss since last few months. The patient was a chronic smoker with a history of consumption of 5–6 cigarettes/day since 25 years.

The patient was subjected to indirect laryngoscopy, which revealed an ulcerated lesion on the upper surface of the vocal cord resulting in the fixity of the cord. On clinical examination, bilateral cervical lymphadenopathy was noted. An endoscopic biopsy was taken from the lesion that on histopathological examination confirmed the diagnosis as squamous cell carcinoma of the larynx. He was staged as T₃N₃M₀ and was treated by total laryngectomy with neck dissection followed by radiotherapy. He was on regular follow-up and disease-free for about 1½ years.

At present, the patient presented with diffuse pain in the abdomen. The pain was vague, and of mild intensity not associated with bowel movements. The patient was subjected to ultrasonography of the whole abdomen that revealed multiple hypoechoic masses of variable sizes in the omentum. Multiple dense hypoechoic spaces occupying lesion was also seen in the liver [Figure 1]. A wedge biopsy was taken from the peritoneal nodule and sent to the Department of Pathology for histopathological examination.

Pathological examination

Grossly, two irregular tissue bits were received. The whole of the tissue was processed, and slides were stained with routine hematoxylin and eosin (H and E) stain.

Microscopic examination of the H and E stained section showed groups and sheets of malignant squamous cells with moderate to high degree of nuclear and cellular pleomorphism. The desmoplastic reaction was also evident [Figure 2].

Immunohistochemistry for cytokeratin showing strong cytoplasmic positivity of the neoplastic cells confirmed our diagnosis [Figure 3].

DISCUSSION

Laryngeal carcinoma constitutes 2.63% of all cancers in India, and it is 10 times more common in males than

females. It is mostly seen in the age group of 40–70 years. Smoking and alcohol consumption are significant risk factors associated with approximately 85% of all laryngeal



Figure 1: Multiple hypoechoic masses of variable sizes in the omentum

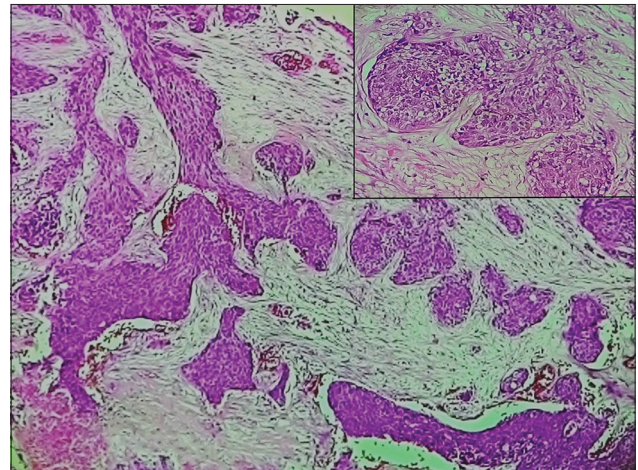


Figure 2: H and E section showed groups and sheets of malignant squamous cells with moderate to high degree of nuclear and cellular pleomorphism with desmoplasia. Inset shows malignant squamous cells

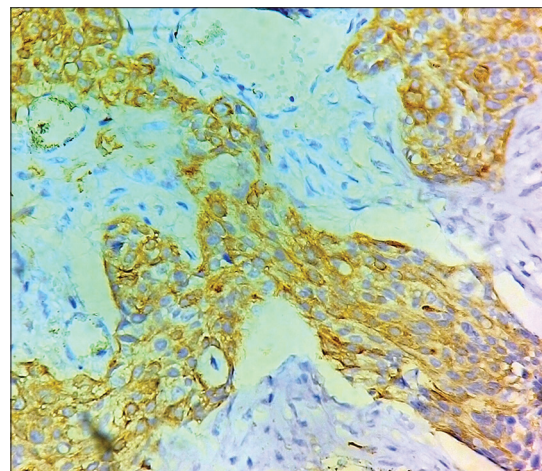


Figure 3: Metastatic squamous cells showed strong cytoplasmic positivity for cytokeratin

carcinomas.^[1,2] Laryngeal carcinoma is subdivided into supraglottic, glottic and subglottic depending on the location of the lesion. In majority of cases, laryngeal cancer originates from the glottic region. Free edge and the upper surface of the vocal cord in its anterior and middle third is the most frequent site. The present case is a 55-year-old male, a chronic smoker presenting with an ulceroproliferative lesion on the upper surface of the vocal cord.

Distant metastasis in a case of laryngeal carcinoma, though uncommon, has been found to occur at lungs, bone, liver, mediastinum, etc. However, omentum as a metastatic site of laryngeal squamous cell carcinoma, as seen in the present case, has not been reported in the literature. However, the most common omental pathologic condition is a metastasis from an abdominal or pelvic malignant neoplasm. In men, the most common types of cancer leading to omental metastases are neoplasms of the gastrointestinal tract, including the stomach, colon, and pancreas; in women, however, the most common cause of omental metastases is ovarian carcinoma.^[11,12]

Intraperitoneal spread of neoplasms can occur in four different ways: Direct spread through mesenteric and ligamentous attachments, intraperitoneal seeding, lymphatic extension, and embolic hematogenous dissemination. Primary tumors within the abdomen frequently spread to the mesentery and omentum, but these deposits may not cause symptoms until they grow large enough to displace organs or cause intestinal obstruction. The authors believe that the omentum involvement in the present case must have been through embolic hematogenous dissemination as the angiolymphatic invasion was evident in the representative sections from the primary tumor.

Hsu and Chen studied 52 cases of laryngeal carcinoma in patients from Eastern Taiwan, and found distant metastases in 9.6% ($n = 5$) cases. Predominantly, distant metastases were found in Stage IV disease (23.1%) followed by Stage I (8.3%) and Stage II (6.7%) but, surprisingly, none in Stage III disease. During follow-up, they found that only 3 out of the total 51 (5.9%) M₀ laryngeal carcinoma cases had isolated distant metastases. Liver followed by lung and bone were the different sites of metastases from laryngeal carcinoma. They concluded that the most significant risk factors for distant metastasis are N classification and tumor-node-metastasis (TNM) stage with an odds ratio for distant metastasis being 3.00, 2.48, and 1.26 for patients with for patients with N3, N2, and N1 disease, respectively. Compared with

Stage I disease, the odds ratios of distant metastasis for Stages IV, III, and II disease were 3.03, 1.90, and 2.48, respectively.^[13] The present case of laryngeal carcinoma had N3 and Stage IV status, hence, more predilection for distant metastasis.

Currently, the recommended treatment for distant metastases from head and neck cancer is either enrollment into a clinical trial or systemic chemotherapy with cetuximab and platinum-based agents. Treatment should always be individualized in such cases and, for patients with poor performance status and multiple comorbidities, palliative measures should be offered to improve the quality of life. Various options were explained to the present case also, but unfortunately patient was lost on follow-up.

CONCLUSION

Awareness of unusual sites of distant metastasis such as omentum must be kept in mind for treated laryngeal carcinoma patients presenting with nonspecific symptoms such as pain abdomen. And also, chances of involvement of unusual site of distant metastasis increases with advanced TNM stage and nodal status.

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Conflicts of interest

There are no conflicts of interest.

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