Lower-extremity liposarcoma metastatic to the larynx: Case report

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Abstract
Distant metastases to the larynx are rare. We describe the case of a 46-year-old man who was referred to our head and neck surgery clinic with a 6-week history of sore throat and otalgia. He was found to have a laryngeal lesion that was consistent with a primary myxoid liposarcoma that had been extirpated from a lower extremity earlier. To the best of our knowledge, no case of myxoid liposarcoma metastatic to the larynx has been previously reported in the English-language literature.

Introduction
Squamous cell carcinomas account for 95% of all laryngeal neoplasms. Involvement of the larynx by the spread of tumors from contiguous structures (e.g., thyroid, esophagus, etc.) is well known and much less common. Metastatic lesions or secondary tumors of the larynx are rare. We describe a case of a metastasis to the larynx of a lower-extremity liposarcoma.

Case report
A 46-year-old man was referred to the Department of Otolaryngology—Head and Neck Surgery at Johns Hopkins University with a 6-week history of sore throat and otalgia. The patient had initially been treated with antibiotics, which resulted in some alleviation of his symptoms, especially the otalgia. However, he reported increasing dysphagia for solids, a raspy voice, and increased snoring. The patient’s history was significant for excision of a left lower-extremity liposarcoma more than 2 years earlier (figure 1, A); surgery had been followed by external-beam radiation and brachytherapy. Some 18 months later, he underwent excision of another liposarcoma from the upper aspect of his left thigh, which probably represented a recurrence of the first rather than a new primary. He denied any current or previous tobacco or alcohol abuse.

On physical examination, a 5 × 7-cm right neck mass was observed extending from the thyroid cartilage to the ipsilateral sternocleidomastoid muscle. The mass was nontender and nonfluctuant. Flexible fiberoptic laryngoscopy demonstrated mild edema of the right tongue base that extended down to the right aryepiglottic fold, obliterating the piriform sinus and subtly shifting the right arytenoids toward the midline. Both vocal folds were mobile.

Computed tomography (CT) performed 2 weeks prior to presentation had detected a 3 × 5 × 7-cm mass that was intimately associated with the right thyroid cartilage. CT also demonstrated probable hyoid bone involvement and extension of the mass to the right tongue base. No lymph nodes appeared suspicious for metastasis. Fine-needle aspiration cytology identified a malignant spindle-cell lesion that was morphologically consistent with the patient’s previous liposarcomas of the thigh. CTs of the head, chest, abdomen, and pelvis were negative for other sites of metastasis.

The patient elected to undergo a right modified radical neck dissection and total laryngectomy (figure 1, B). Pathology confirmed the operative specimen as a myxoid liposarcoma that had invaded the ossified thyroid cartilage and surrounded the right true and false vocal folds (figure 2). The resected neck lymph nodes and hyoid bone were negative for tumor, as were all surgical margins.

The patient refused postoperative chemotherapy and radiation. Approximately 6 months postoperatively, he began complaining of lower back pain. A workup suggested further metastatic disease.

Discussion
In 1997, Puxeddu et al reviewed 149 cases of secondary laryngeal neoplasm, including their own case of a colonic adenocarcinoma. Since then, 10 more cases have been added to the English-language literature, for a total of 160. In another review published in 1998, Ferlito et al reported a slight predilection toward men but no age predilection (age range: 24 to 83 yr). The most common primary in these cases was skin melanoma, followed by renal cell, breast, and prostate carcinomas. To the best of
our knowledge, our patient represents the only case to date of a myxoid liposarcoma metastatic to the larynx.

Metastasis to the larynx can occur via hematogenous or lymphatic spread; there is even 1 report of the metastasis of a pulmonary primary that was seeded by expectoration.\textsuperscript{14} Cavicchi et al suggested that laryngeal metastases migrate via a vascular route to the right lung and then via regional lymphatics to the subglottis.\textsuperscript{15} Many authors have drawn attention to the work of Batson, who in the 1940s demonstrated retrograde flow through prevertebral and vertebral plexuses.\textsuperscript{13} This flow may have played a role in the metastasis in our patient.

Laryngeal cartilage undergoes bony metaplasia around the third decade of life. Because true ossification with a marrow cavity is present in the larynx, some authors believe that primary malignancies that have a penchant for bony metastasis use the laryngeal infrastructure at their disposal.\textsuperscript{13} This has been demonstrated by the appearance of submucosal tumors that involve the bony framework. Reports reveal that the supraglottis was involved in 38% of these cases, the subglottis in 18%, the glottis in 5%, and the preepiglottic space in 3%; 35% of cases involved sites not otherwise specified.\textsuperscript{13,16}

Diagnosis of a secondary laryngeal tumor is based on clinical suspicion and a finding that a biopsy or surgical specimen is consistent with the patient’s primary. Surgeons who treat metastases to the larynx must take into account the behavior of the primary and whether it represents a single focus. Prognosis is ultimately related to tumor histology; survival has been reported to range from 1 month to 13 years.\textsuperscript{13,17}

References

Continued on page 189