**ABSTRACT**

Objective: 1. Differentiate between spindle cell lipoma & liposarcoma 2. Discuss the diagnosis and management of liposarcoma of the larynx 3. Review the literature regarding these rare tumors and questions of malignant transformation

Study Design: A case report and literature review


Case Presentation: Patient was transferred from another facility intubated with history of gradual worsening hoarseness, dysphagia, and dyspnea. His past medical history included a laryngeal spindle cell lipoma and more recently interferon therapy for Hep C. Initial physical exam revealed an irregular shaped mass arising from the left arytenoid, obstructing the airway. CT of the neck showed the mass with no extension to the soft tissues of the neck and no cartilage invasion. The patient underwent endoscopic resection. Histology revealed a well-differentiated liposarcoma.

Conclusions: Liposarcoma of the larynx is rare. It is commonly diagnosed histologically after resection and is similar to spindle cell lipoma. Imaging is helpful in determining the extent of the lesion and assessment of local invasion. A wide local excision of the lesion with clear margins is the mainstay of treatment. Long term surveillance is necessary due to a high incidence of recurrence.

**INTRODUCTION**

- Liposarcoma are the 2nd most common soft tissue malignancy accounting for 15-18% of all sarcomas. In the head and neck region, they often occur in the soft tissue of the neck. Liposarcoma occurring in the larynx is rare with approximately 30 report cases in the English literature. There are 44 reported lipomas of larynx. Spindle cell lipoma is extremely rare with only 5 reported cases in the literature.

- The following case involves a 52-year old male, with history of spindle cell lipoma & recurrence 12 years later with well differentiated liposarcoma.

**Case Report**

- 52-year old male presented with six months of gradually progressive hoarseness, dysphagia, and intermittent dysphonia & stridor.

- Past medical history:
  1. Excision of spindle cell lipoma of the larynx 12 years prior.
  2. Hepatitis C s/p Interferon alfa-2b therapy five years prior.

- On examination, flexible laryngoscopy & video stroboscopy showed a large lesion behind the left arytenoid (Fig. 1) with occasional ball-valve effect into the larynx.

- A CT scan: Encapsulated soft tissue mass in the posterior larynx/hypopharynx without extension into surrounding structures.

- The patient underwent Suspension Microlaryngoscopy (SML) with excision of the mass and esophagoscopy. Intraoperative examination revealed a lesion 4 cm in size and originated from the posterior aspect of the left arytenoid (Fig. 2, 3, & 4).

- Pathology: Well Differentiate Liposarcoma (Fig. 5 & 6).

**Discussion**

**Laryngeal Lipomas/Liposarcomas Evaluation:**

- History: Typically gradual onset of dysphonia & dysphagia with stridor present as a late sign of enlarging mass. Rapid onset & constitutional symptoms suggest a high grade liposarcoma subtype (See Table)

- Physical Exam: Smooth, non ulcerating lesion of the larynx found on indirect/flexible laryngoscopy or videostroboscopy. Vocal fold paralysis suggests a high grade liposarcoma.

- Imaging: CT or MRI shows the extent of the lesion, including infiltration into surrounding structures suggestive of an high grade lesion.

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Well differentiated</td>
<td>Most common subtypes (50% of liposarcoma)</td>
</tr>
<tr>
<td>Intermediate grade</td>
<td>Low grade (does not metastasize)</td>
</tr>
<tr>
<td>Myxoid/Round cell</td>
<td>Intermediate grade</td>
</tr>
<tr>
<td>Pleomorphic</td>
<td>High grade</td>
</tr>
<tr>
<td>Dedifferentiated</td>
<td>High grade</td>
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**Table 1: Characteristics of the four subtypes of liposarcomas**

- Surgical Treatment: SML with excision for smaller lesions or external approach for large or infiltrating lesions.

- Pathology:

  - Very Similar, Both Contain: Lobules of atypical lipocytes of various size separated by fibrous bands with atypical stromal cells. Multivaculolar lipoblasts are commonly found.

  - Liposarcoma: More cellular spindle cells, more nuclear pleomorphism, CD 34-

- Spindle Cell Lipomas: Irregular distribution of collagen bundles, CD 34+

- Follow Up: Lipomas & Well Differentiated Liposarcomas can be observed. High Grade Sarcomas must have a metastatic work up & Radiation & Medical Oncology consultations

**CONCLUSIONS**

Liposarcoma and spindle cell lipoma of the larynx are rare with only 31 and 5 reported cases, respectively. The work up is generally straightforward. Imaging is helpful in determining the extent of the lesion and assessment of local invasion. It is commonly diagnosed histologically after resection. A wide local excision of the lesion with clear margins is the mainstay of treatment. Radiation and chemotherapy is needed for high grade sarcomas. Malignant transformation of spindle cell lipomas has not been reported in the literature and likely represents different pathologist interpretations on recurrent tumors.

**REFERENCES**