Duplicate Omohyoid Muscle Causing Progressive Dysphagia and Dyspnea: A Case Report

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ABSTRACT

Introduction: Duplicate omohyoid muscles are uncommon anomalies and exceedingly rare causes of progressive clinical symptoms. The goals of this case report are to describe the clinical characteristics, cross-sectional imaging, intraoperative findings, and curative treatment of our patient, to develop a differential diagnosis for this condition, and to review the pertinent literature regarding this particular type of anomalous omohyoid muscle as one among many variations.

Case Presentation: A 20-year-old man presented with progressive limited neck range of motion followed by dysphagia and then dyspnea caused by his duplicate omohyoid muscle. He underwent curative surgery in 2015 at our tertiary care center.

Discussion: Although rare, a duplicate omohyoid muscle should be considered in the differential diagnosis of dysphagia and dyspnea with concurrent central neck deformity. We report the first case, to our knowledge, of an anomalous omohyoid muscle that caused significant progressive clinical symptoms. Direct excision of the restrictive anomalous tissue proved curative.

CASE PRESENTATION

Presenting Concerns

A 20-year-old man first presented to our institution for evaluation of progressive neck distortion, limited range of motion in the left side of the neck, and positional dysphagia. The patient was born via a normal atraumatic vaginal delivery and had no early torticollis. His clinical examination revealed neck distortion with prominent right-rotated, inferiorly displaced larynx (arrow) caused by a palpable tense tissue band from the right hyoid to the ipsilateral clavicle.

After reviewing the results, we suspected the patient to have a muscular anomaly, and surgery was planned for exploration and possible excision of abnormal tissue.
Multiple omohyoid anomalies are described according to the origin, insertion, course, number of bellies, and contribution of surrounding muscles. In fact, in 1931, Loth attempted to develop a classification scheme for the various subtypes. However, exceptions to this classification scheme have subsequently been identified. In the more recent 2008 anatomical study by Rai et al, among the 35 cadavers dissected, a double omohyoid was present in 1 cadaver, the inferior belly originated from the clavicle in 3 cadavers, the superior belly merged with the sternohyoid in 2 cadavers, and the omohyoid received additional muscle fibers from the sternum in 1 cadaver. Standard attachments and position of the omohyoid were observed in the remaining 28 cadavers (85%). Indeed, the number of variations in the development and position of the muscle have caused the muscle to be questioned as a reliable surgical landmark. Mizen and Mitchell attempted to define the reproducibility of the position of the omohyoid muscle through a study of 30 cadavers and 88 patients undergoing neck dissections and found the position of the omohyoid muscle in relation to the clavicle and internal jugular vein to vary considerably. The authors suggest that the omohyoid is an unreliable surgical landmark during neck dissection and its use should be abandoned.

Descriptions of a duplicated omohyoid muscle are exceedingly rare. We found 4 cadaveric and 1 incidental description during a neck dissection of this duplicate muscle.

Table 1. Timeline of the case

<table>
<thead>
<tr>
<th>Date</th>
<th>Summaries from initial and follow-up visits</th>
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<tr>
<td>12/20/12</td>
<td>Initial presentation to Head and Neck Surgery at age 20 found the patient to have distorted neck anatomy and dysphagia. An MRI scan was ordered.</td>
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<tr>
<td>11/4/14</td>
<td>The patient re-presented with increasing dysphagia. He had some difficulty breathing. The patient was offered neck exploration with possible lysis of scar or muscle band.</td>
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<tr>
<td>6/12/15</td>
<td>The patient was interested in pursuing surgery, which was planned for October 2015. He underwent preoperative laryngoscopy as well as repeat MRI.</td>
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<td>10/26/15</td>
<td>The patient underwent transcervical excision of duplicate omohyoid muscle in the operating room.</td>
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<tr>
<td>11/3/15</td>
<td>At the first postoperative visit, the patient's swallowing function had improved. There was some expected neck pain.</td>
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<tr>
<td>12/3/15</td>
<td>At the second postoperative appointment, there was no further difficulty with swallowing; the neck incision was well healed. Laryngoscopy was performed and was normal.</td>
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<tr>
<td>12/1/18</td>
<td>Per a phone call with the patient, there were no symptoms of dysphagia. Appearance of the neck was normal to the patient.</td>
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MRI = magnetic resonance imaging.
The omohyoid muscle may demonstrate a variety of anomalies. The muscle may rarely be duplicated. The exact frequency of omohyoid variations is unknown, but these variations perhaps are more common than reported because of the complex embryologic and anatomic features of the muscle. However, few of these anomalies will present clinically. Ours is an extremely rare and interesting case of a duplicate omohyoid that caused progressive symptoms, produced a challenging intubation, and was cured through surgical excision.

CONCLUSION


References