The Giant Neck Myolipoma in a Child

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Abstract

Aim: Pediatric lipomas of the head and neck are rarely seen. When reported, they are generally seen as isolated case reports. Here we report an extremely rare type of giant childhood neck lipoma.

Background: Lipomas are a group of benign mesenchymal soft tissue tumors formed due to abnormal and excessive proliferation of adipose tissue. They are most common in the age-group of 40–60 years. They are infrequent in the pediatric age-group and rarely occur under the age of 10 years.

Case description: A 140 × 80 × 80 mm, 1011 grams lipoma involving both anterior and posterior triangles of the neck with attachments from mastoid process to mediastal pterygoids (base of the skull), the substance of submandibular gland, and platysma. The tumor was removed from the neck of 8 years old pediatric patient. Posterior auricular, occipital, and ascending pharyngeal arteries had an aberrant route because of the huge mass. The nasopharynx and the entire viscera of the neck were pushed to one side. The mass was adherent to the submandibular gland and in close relation with the lingual nerve.

Conclusion: This is the first case report of a giant lipoma of the neck in a pediatric patient which involved both anterior and posterior triangles. To the best of our knowledge, this is the largest neck lipoma reported to date in a child.

Clinical significance: Excision of a large neck lipoma should be planned after imaging studies and in a fully equipped operation theater preferably under general anesthesia. Cases of carotid injury and thoracic duct injury have been reported even with utmost precautions and with all modern facilities.

Keywords: Case report, Child, Dissection, Excision, First, Giant, Largest, Lipoma, Myolipoma, Neck, Pediatric.


Introduction and Review of Literature

Lipomas are a group of benign mesenchymal soft tissue tumors formed due to abnormal and excessive proliferation of adipose tissue. They are most common in the age-group of 40–60 years. They are rare in the pediatric age-group and rarely occur under the age of 10 years. They are more common in obese individuals. They are commonly reported from the trunk and limb region. Only 13–15% of lipomas have been reported from the head and neck region. A lipoma that is more than or equal to 10 cm in maximum dimension or is more than or equal to 1 Kg in weight is said to be a giant lipoma. Lipomas are one of the most common soft tissue tumors, which are classified into various subtypes, namely fibrolipoma, angiolipoma, myxoid lipoma, spindle cell lipoma, pleomorphic lipoma, and chondroid lipoma. Myolipoma of soft tissue is a rare benign neoplasm characterized by the admixture of mature adipocytes and well-differentiated smooth muscle cells. The most frequently affected sites are the retroperitoneum, followed by the pelvis, abdominal wall, and intra-thoracic sites.

When classified as per their location, lipomas can be subcuteaneous, intramuscular, intermuscular, visceral, or may arise from carotid sheath. Most of them are seen in the posterior neck. Less than 13% are seen in the anterior neck. This is the first reported case of giant myolipoma in the pediatric age-group which involved both the neck triangles. Even though it was giant in size, it was completely reducible.

Case Description

An 8-year-old male presented to our outpatient department with slow-growing neck swelling first noticed 3 years back. The swelling involved the right side of the neck and face. It was soft, non-tender, easily compressible and appeared reducible as on pressing it easily squeezed into potential dead spaces of the neck. There was no other abnormal swelling noticed in any other part of the body. Ultrasonography neck, contrast-enhanced computerized tomography neck, and fine needle aspiration cytology favored the presence of a lipoma. Contrast-enhanced computed tomography (Somatom Sensation 16, Siemens, Erlangen, Germany) revealed a huge, relatively well-defined, heterogeneously hypodense mass, most of which showed minimal enhancement with multifocal low attenuated areas (from –15 to –40 Hounsfield unit) in all axial, coronal and sagittal sections. It occupied large areas of anterior and posterior triangles of the neck on the right side, from the base of the skull to the lower border of the cricoid on the right side, producing a huge bulge of neck skin and subcutaneous tissue on the right side, pushing entire neck viscera and nasopharynx to the left and...
distorting the neck anatomy. However, the tissue architecture of the neck was maintained and no signs of malignancy could be appreciated (Figs 1 to 3). The maximum dimensions of the entire tumor were $14 \times 8 \times 8$ cm. Multiple aspirations into swelling did not yield anything. Excision was planned in general anesthesia. After general anesthesia was induced, a transverse 8 cm incision was given on the right side 2 fingerbreadths below the right angle of the mandible to avoid injury to the marginal mandibular nerve. The incision was deepened through the subcutaneous plane and platysma. The surface of the lipoma was reached in the subplatysmal plane, lipoma was carefully dissected off surrounding structures. It had attachments to the mastoid process, sphenoid process, styloid process, and petrous and squamous part of the temporal bone. It was intermingling into the substance of the submandibular gland and was in intimate relation with branches of the external carotid artery. It was carefully dissected from branches of the external carotid artery and from the substance of the right submandibular gland in a monobloc fashion. The lipoma was encapsulated, well-circumscribed, lobulated, and yellowish brown in color with a heterogeneous gross appearance. While the yellowish adipose tissue floated on the water, brownish fibrous tissue sunk in the kidney tray (Figs 4 to 6). No tissue was left behind to prevent any recurrence. There was no injury to any vessel, nerve, or viscera. The cavity was washed with betadine and tissue was sent for histopathology. A suction drain was put and the incision was closed in three layers. The patient cried for feeding even before the routine NPO period was over. There was no postoperative pain and suffering. The histopathology confirmed the presence of lipoma, classified as myolipoma (Figs 7 to 9). The patient has been in routine surgical follow-up for the last 1 month. There is complete resolution of presenting symptoms and no signs and symptoms of any complication recorded to date.

**Discussion**

During development various molecular triggers can lead to uncontrolled division of adipose tissue present in deep fascia and salivary glands to form giant lipomas. This particular lipoma was very yielding, entered the deep spaces of the neck and disappeared completely on applying pressure as it was completely pushed into

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**Fig. 1:** Contrast-enhanced computerized tomography-axial section at the level of nasopharynx showing pushing of the nasopharynx to the left

**Fig. 2:** Contrast-enhanced computerized tomography-axial section at the level of oropharynx showing its huge dimensions forming a palpable swelling in the lower face and whole of the neck on the right side

**Fig. 3:** Contrast-enhanced computerized tomography-coronal section showing a huge mass pushing entire neck viscera to the opposite side

**Fig. 4:** Intraoperative picture showing excised lipoma filling the large kidney tray
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It was in intimate relation to three branches of the external carotid artery. It involved both anterior and posterior triangles. It was safely excised without causing any vessel and nerve injury by meticulous dissection. Such lipomas can spread to any extent. The extent must be confirmed by imaging before planning surgery. This came out to be a myolipoma on histopathology. To prevent recurrence, complete excision with a capsule should be done. Any injury to the external carotid or its branches can be fatal. The excision of a deep lipoma must be planned in a modern OT in general anesthesia. Cautery should be kept available. There is a case report where the carotid artery was injured during lipoma excision and carotid grafting was needed.\textsuperscript{13} Many cases of thoracic duct injury and repair have been reported with neck dissection.\textsuperscript{14,15}

**Conclusion**

This is the first case report of giant lipoma of the neck in a pediatric patient which involved both the neck triangles. This is probably the largest neck lipoma reported to date in a child.

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