

# Intramuscular Sternohyoid Hemangioma: An Unusual Neck Mass

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### SUMMARY

A neck mass with soft consistency suggests the diagnosis of a cyst which is usually congenital in origin. Needle aspiration yielding blood should alert the physician the possibility of hemangioma although it is very rare. Ultrasonography and computed tomography will delineate the extent and nature of the lesion and provide the roadmap for surgical excision. We report a case of a girl who presented with a painless neck mass which was later found to be a hemangioma originating from the sternohyoid muscle. The morphology and immunohistochemical stain were consistent with hemangioma.

### KEY WORDS:

Neck mass, sternohyoid, hemangioma

### INTRODUCTION

The sternohyoid is categorized as an infrahyoid strap muscle which acts to depress the hyoid bone. There is limited pathology related to sternohyoid muscle. Hemangioma though being the commonest head and neck vascular anomaly, rarely affects striated muscle. Intramuscular hemangioma accounts for less than one percent of all hemangiomas<sup>1</sup>.

### CASE SUMMARY

A 12-year-old Malay girl presented with a painless left neck mass which gradually increased in size over the past 3 years. The mass was noted to increase in size whenever she had fever. It was not associated with difficulty in breathing or swallowing.

Examination revealed the 4 x 4 cm mass located anterior to the left sternocleidomastoid muscle. It was bluish in appearance, soft in consistency but did not transilluminate. The mass did not move with tongue protrusion or during swallowing. Oral cavity and oropharyngeal examinations were unremarkable. Fine needle aspiration cytology had made the mass collapsed. However it attained its original size within a few days. Only blood was aspirated. Ultrasonography of the neck revealed presence of a well-defined hypoechoic mass in the anterior triangle, anteromedial to the left sternocleidomastoid muscle. Differential diagnosis of lymphangioma was given. Computed tomography (CT) scan of the neck showed

enhancement post contrast of the mass in the left strap muscle. An intramuscular vascular malformation was considered.

The patient was taken into the theatre. Excision of the mass was commenced. The mass was found at the subplatysmal level above the strap layers. It was bluish in color (Figure 1). The mass was traced and found to arise from sternohyoid muscle. Multiple feeding vessels were encountered and ligated. The mass was completely removed in one block together with the attached part of the sternohyoid muscle.

The patient did well post operatively. She was discharged on day 2 post surgery. On clinic follow up the wound healed very nicely. There was no deformity noted in the neck post-excision. The histopathology report of the mass described a hemangioma.

Macroscopic examination showed a partially ruptured cyst mass in which externally covered by muscular tissue and measured 30 x 20 x 20 mm. Cut sections revealed multiple empty small spaces, separated by thin septa. There was a lymph node identified adjacent to the mass.

Microscopic examination showed multiple, ectatic blood vessels of cavernous type (Figure 2a), lined by flattened benign endothelial cells, which were positive for CD31 (Figure 2b) but negative for D2-40. These blood vessels were separated by thin fibrous septa, devoid of smooth muscle tissue. There is a reactive lymph node identified. However, there was no intratumoral adipocyte and skeletal muscle component or arteriovenous malformation.

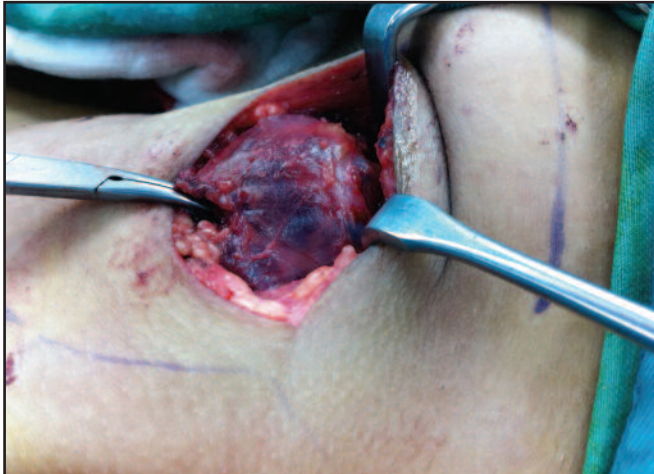
### DISCUSSION

Hemangioma is commonly found in infancy and childhood which usually manifested during the early months of life. As the child grows, the size can progressively increase before it involutes to near complete resolution<sup>2</sup>. The natural history of the lesion has made surgical intervention only required in minority of cases. Despite that, hemangioma which arises from intramuscular location will never regress<sup>3</sup>.

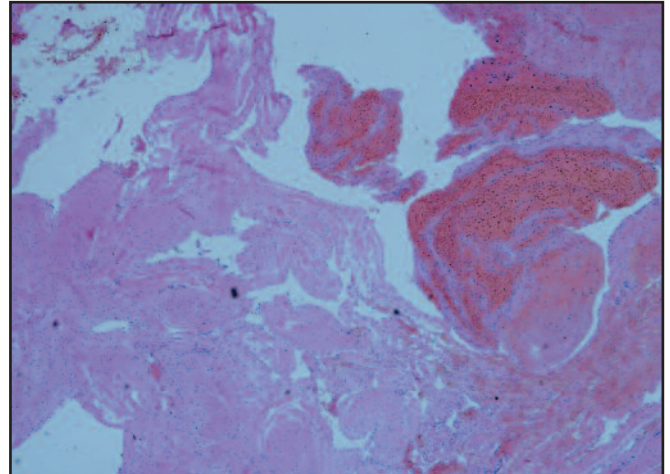
In this case, the mass was noticed when the child was 9 years old. It was complicated by recurrent infection which had made the size increased temporarily with every episode. Besides the size, the location of the mass was cosmetically

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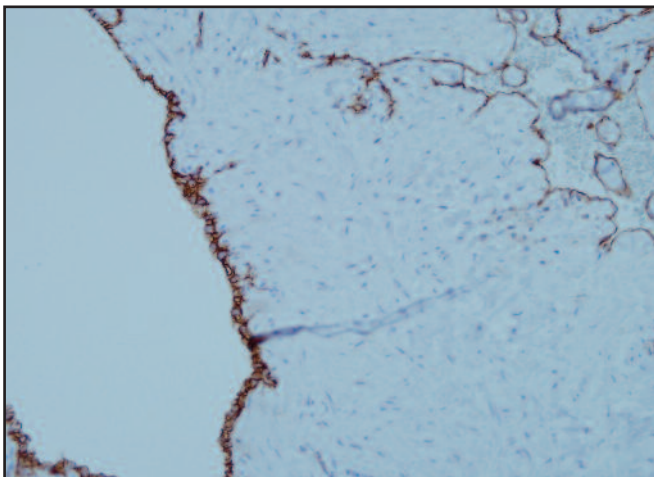
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**Fig. 1 :** The mass appeared bluish with multiple feeding vessels.



**Fig. 2a :** Multiple, ectatic blood vessel spaces of cavernous type.



**Fig. 2b :** The blood vessels were lined by benign endothelial cells which stained positive for CD31.

visible. From ultrasonography and CT scan, the exact location was identified. It was very superficial and confined to the infrahyoid strap muscle. This evidence had made the surgical excision feasible and worth. On top of that, unlike other hemangioma, the definite treatment for intramuscular hemangioma is surgical excision<sup>1</sup>.

Other therapeutic options include sclerotherapy using ethanol or sodium tetradecyl sulfate, for the intramuscular venous malformations<sup>4</sup>. While surgical excision is preferred for venous malformations which are well-localized to a single muscle or muscle group, sclerotherapy is an effective treatment.

From pathology point of view, intramuscular hemangioma shows predilection in deep soft tissue, predominantly in muscle of lower extremities. If it is occur in the head and neck region, masseter and trapezius muscles are the most commonly involved<sup>5</sup>. Morphologically, it presents as capillary type hemangioma, and might confuse with juvenile capillary hemangioma, as the latter usual location is in head and neck region<sup>5</sup>. The adipose tissue component might be prominent and leads to diagnosis of lipoma. However, the removed lesion in this index case was cavernous type, devoid of adipose tissue component.

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