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Case Report

Cavernous Hemangioma Presenting as a Giant Cervical Mass: A Case Report

Dev Servikal Kitle Olarak Ortaya Çıkan Kavernöz Hemanjiom: Olgu Sunumu

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ABSTRACT

Intramuscular hemangiomas of the head and neck are rare congenital vascular tumors and are sparsely reported. Hemangiomas account for approximately 7% of benign tumors and usually present as a mass that suddenly enlarges. Hemangiomas are mostly seen on the trunk and extremities, but can also appear on the head and neck region. A 10-year-old boy was referred to our clinic for puffiness and swelling on the right side of his neck. Neurological examination was normal, but we observed an advanced degree of restriction in neck movement. An MRI study showed a soft tissue mass 9x8x5 in size. The mass was totally extracted by surgical intervention and pathological analysis revealed that it was a cavernous hemangioma. The patient's neck movement returned to normal after surgery. No relapse occurred during 1-year follow-up.

KEYWORDS: Cavernous hemangioma, Cervical mass, Pediatric mass

ÖZ

İntramusküler hemanjiomlar baş ve boyun bölgesinin ender rastlanan konjenital vasküler tümörlerindendir ve seyrek olarak raporlanmıştır. Hemanjiomlar benign tümörlerin yaklaşık %7'sini oluşturur ve aniden genişleyen kitle etkisi ile ortaya çıkar. Hemanjiomlara genelde gövde ve extremitelerde rastlanmasına rağmen daha az oranda baş ve boyun bölgesinde rastlanır. Vakamızda 10 yaşında erkek hasta boynunun sağ tarafında şişlik şikayeti ile geldi. Nörolojik muayenesi normaldi fakat boyun hareketerinde ileri derecede kısıtlanma gözlemledik. Yapılan MR görüntülemede 9x8x5 cm boyutlarında yumuşak doku kitlesi saptandı. Cerrahi müdahale ile total olarak çıkarılan kitlenin patolojik incelemesi kavernöz hemanjiom geldi. Cerrahi sonrası hastanın boyun hareketleri normale döndü. Bir yıllık takipte tekrarlama olmadı.

ANAHTAR SÖZCÜKLER: Kavernöz hemanjiom, Servikal kitle, Pediatrik kitle

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INTRODUCTION

Intramuscular hemangiomas are rare congenital vascular tumors accounting for less than 1% of all hemangiomas. They are frequently seen on the trunk and extremities, but up to 20% of hemangiomas are located in the head and neck region (1,8,4,6). Intramuscular hemangiomas often present in the second or third decade of life. Hemangiomas are classified into three groups, depending on their vascular structure: capillary, cavernous and mixed type (3,8,7,10).

A case of a cavernous hemangioma involving the muscles on the right side of the neck is reported here. Surgical treatment was used to achieve a successful outcome.

CASE REPORT

A 10-year-old boy referred to our clinic had been complaining of puffiness on the right side of his neck for a period of 6 years (Figure 1). We found an immobile soft tissue mass of approximately 9 cmx8 cm located in the right posterior cervical region. The neurological examination of the patient was normal. However, there was advanced restriction of his neck movements due to the mass. A magnetic resonance imaging (MRI) study revealed a soft tissue mass, with signal void areas that were hyperintense in T2-weighted images and isointense in T1-weighted images (Figures 2,3). In comparison to the neighboring muscular tissues that exhibited homogeneous contrast, irregular retention in contrast images was evident, revealing a lobule-contoured mass of 9 cmx8 cmx5 cm in the right posterior cervical region. The mass was totally extracted by surgical intervention under general anesthesia (Figure 4).

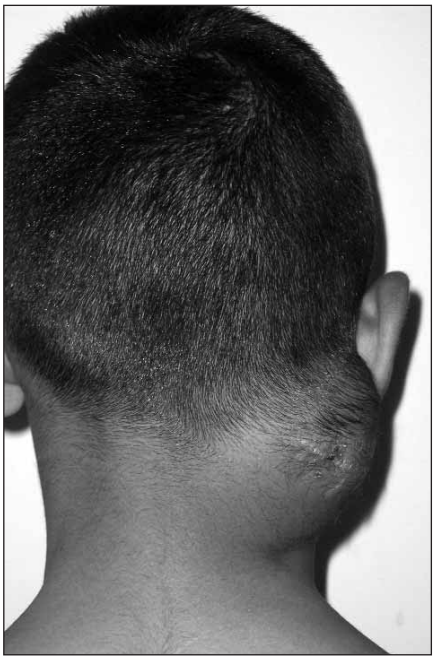

Figure 1: *Rear view of the patient showing the cervical mass.*

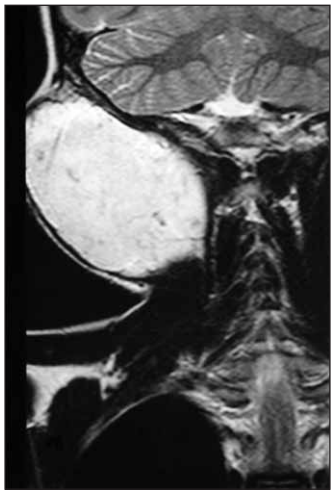

Figure 2: *MR image of the cervical mass (T2 weighted coronal cross-section).*

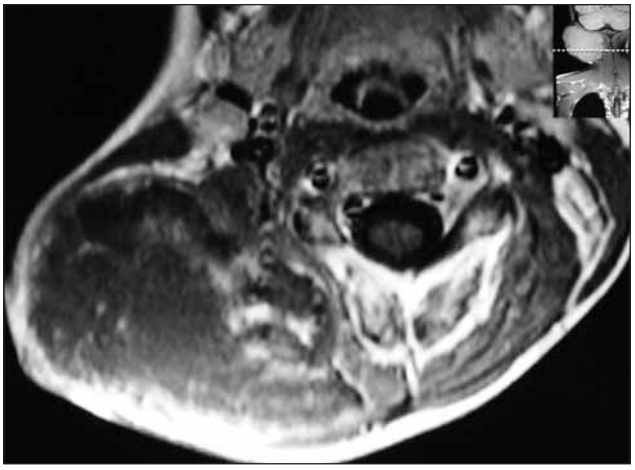

Figure 3: *Contrast MR image of the cervical mass (T1 weighted axial cross-section).*

Pathological study of the extracted mass indicated the presence of a cavernous hemangioma. Diagnosis was based on the presence of spontaneously crossing fibers, a wall thickness of approximately 1 cm, serous fluid mixed with blood, and a cystic component (Figure 5A,B). No post-operative complications developed and the patient's restricted movement was totally resolved. No relapse occurred during the 1-year follow-up period.

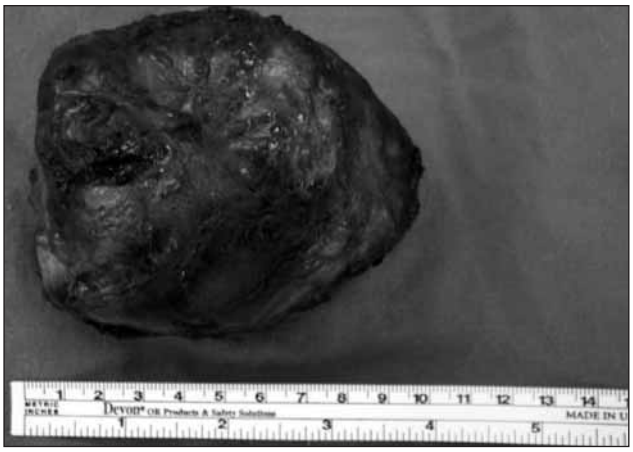

Figure 4: *Total cervical mass extracted.*

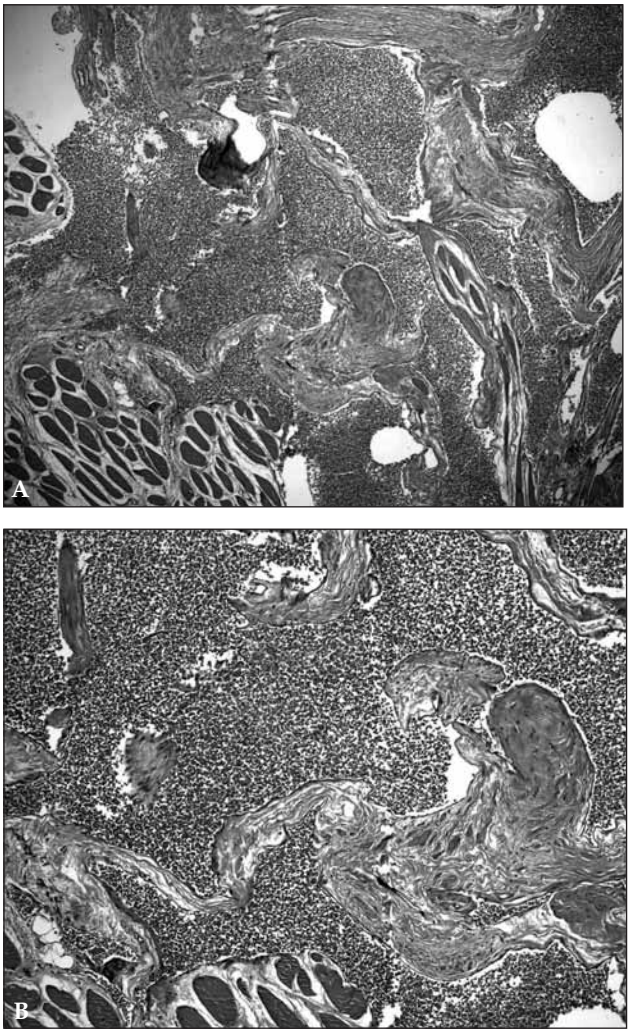

Figure 5 A,B: *Histopathological appearance of the cervical mass compatible with cavernous hemangioma (hematoxylin-eosin staining, magnification 100x).*

DISCUSSION

Hemangiomas are benign vascular tumors that likely occur due to abnormal development of embryonic vascular structures (3). Intramuscular hemangiomas account for less than 1% of all hemangiomas (1). They are most commonly found on the trunk and extremities. Up to 20% of hemangiomas are found in the head and neck region, where the masseter, trapezoid and sternocleidomastoid muscles are typically involved (3,1,2,7,10). Intramuscular hemangiomas are characterized by multicentric proliferation of endothelial cells (10). Hemangiomas are classified into three histopathological types according to the vascular structures involved:

C) Capillary type: characterized by a capillary structure with proliferative activity and can surround tissues in its vicinity. It may have a short clinical history.

D) Cavernous type: characterized by mitotic activity, large vascular structures and a long clinical history.

E) Mixed type: containing both capillary and cavernous hemangiomas and clinically resembling a cavernous type hemangioma (3).

Intramuscular hemangiomas are non-metastatic benign congenital tumors that may remain undetected for a long time. These tumors are likely to show spontaneous growth during the second or third decade of life. Almost 50% of cases remain silent until the mass grows and then pain suddenly occurs (1,7). In our case, the patient was 10 years old and had complained only of puffiness or swelling on his neck for a period of 6 years. The tumor then showed a sudden increase in growth that led to restriction of the patient's neck movement.

Various diagnostic methods, such as ultrasonography, computed tomography, MRI and arteriography, are used in the diagnosis of intramuscular hemangioma. Of these, MRI provides better information on the localization and size of intramuscular tumors. MRI findings for hemangioma include a moderate degree of signal enhancement in T1-weighted images and a strong signal increase in T2-weighted images. However, not all intramuscular hemangiomas exhibit a strong signal increase in T2-weighted images (1,2,7,10). In our case, MRI revealed a soft mass of 9x8x5 cm

located in the right posterior cervical region.

Haemangioma should be considered in the differential diagnosis whenever a mass of soft tissue density is encountered in the region of skeletal muscle in a young adult. Haemangioma could be distinguished from other soft tissue lesions by tbe features of abundant vascularity and high blood flow velocity. Haemangioma with arterial flow can be distinguished from arteriovenous malformations (AVM) by the presence of solid parenchymal tissue.

Lipomas are one of the mesenchymal tumours that must be considered in the differential diagnosis. Lipomas can be seen in all parts of the body but rarely in the cervical area. The clinical presentation is an asymptomatic, painless and slow growing mass . Lipomas are rarely seen in the first and second decades. The incidence of lipomas increases especially in the fifth and sixth decades with the combination of a sedantary life and low activity that raises the total body fat. It is usually seem in the obese population and its size is related to fast weight gain periods .

Hemangiomas are usually asymptomatic in the first decade and become symptomatic in the second and third decades with increasing tumour growth.

Lipomas are seen as homogenous and low density masses in the computed tomography (CT). There is no capsule formation. CT images are sufficient for diagnosis of lipomas and there is no need for advanced tecniques such as magnetic resonance imaging (MRI).

When considering a treatment regime for an intramuscular hemangioma, it is mandatory to consider the size of the mass and cosmetic and functional aspects, as well as the patient's age (1,4). Multiple therapeutic methods are used depending on the state of the tumor. Treatment may involve radiotherapy, systemic steroid administration, intralesional steroid or sclerosant injection, cryotherapy, vascular ligation, embolization and surgical excision. Total surgical excision is usually preferred, since the rates of success with other methods are limited (1,5,4,10). However, Wolf et al. and Tang et al. reported local relapse rates of 18% and 19% after total surgical intervention (9,11). In another study carried out by Buetow et al., a relapse rate of 18% was identified after incomplete surgery (4).

Total surgical excision was used under general anesthesia in our case. The restriction in neck movement was entirely resolved and no any relapse occurred during 1-year follow-up of the patient. In conclusion, the most suitable treatment method for intramuscular hemangioma is surgical excision. The risk of relapse can be minimized by total surgical excision.

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