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Case Report / Olgu Sunumu

Hemangioma arising from external jugular vein mimicking neck mass

Boyun kitlesini taklit eden eksternal juguler ven kökenli hemanjiyom

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Hemangiomas are common benign tumors which can develop in any part of the body. Despite their common nature, hemangiomas arising from blood vessels are very rare. In this article, we present a very rare case of hemangioma which was originated from external jugular vein. The hemangioma was totally excised after the external jugular vein was ligated from both sides and no complication was observed.

Key Words: Excision; hemangioma; jugular vein; neck.

Hemanjiyom vücudun herhangi bir bölgesinde sıkça görülebilen, iyi huylu tümörlerdir. Sık görülmelerine karşın, kan damarlarından gelişen hemanjiyomlar oldukça nadirdir. Bu yazıda, eksternal juguler venden köken alan çok nadir bir hemanjiyom olgusu sunuldu. Hemanjiyom, eksternal juguler venin her iki ucundan bağlanması suretiyle tamamen eksize edildi ve komplikasyon gözlenmedi.

Anahtar Sözcükler: Eksizyon; hemanjiom; juguler ven; boyun.

Hemangioma is one of the most common benign tumors in the head and neck region. Hemangiomas are generally encountered in skin and mucous membranes. Three types of hemangioma have been described according to the vessel type involved: capillary, cavernous and mixed. Although hemangiomas are commonly seen tumors, hemangiomas arising from blood vessels are very rare and should be differentiated from other vascular tumors. In this article, a very rare case of hemangioma that originated from the external jugular vein (EJV) is presented. Definitive diagnosis could not be done with laboratory and imaging studies and the diagnosis was established by histopathological examination after excisional biopsy.

CASE REPORT

A 19-year-old woman was referred to our clinic from another center with a complaint of a painless mass at left side of her neck. She noticed the mass approximately three years ago and reported that the lesion has been gradually growing in size since then. She had no pain or tenderness

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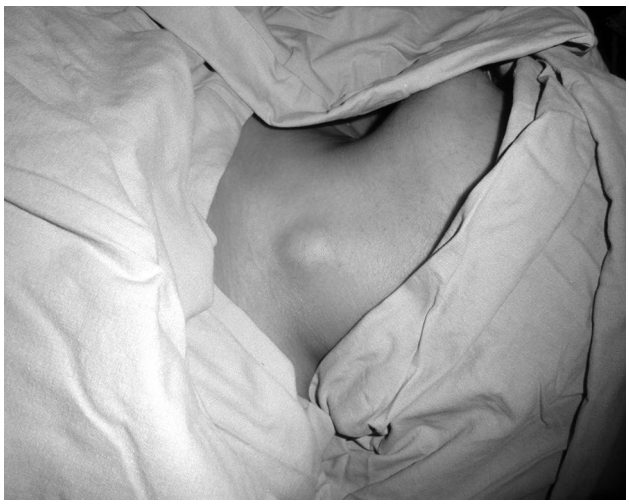

Figure 1. *A mass is seen at the left side of the patient's neck.*

over the mass. She had no history of trauma to her neck region. Her physical examination was normal except for a firm, mobile and nonpulsatile mass approximately 3 cm in diameter at the left side of her neck (Figure 1). The mass was obvious at rest and the overlying skin was also normal. Palpation revealed that the mass was located along the course of the EJV. Lymphadenopathy was not palpated. Computed tomography revealed a well-demarcated hypodense 3x2 cm mass at the anterior middle-third of the sternocleidomastoid muscle (SCM). Angiography was normal. The patient was operated on and the mass excised totally under general anesthesia. A transverse incision over the mass was done. Intraoperatively, the mass was located on the surface of the middle-third of the left SCM. A 3x2.5x2 cm mass arising from the EJV was isolated by careful dissection (Figure 2). Peripheral feeding vessels were coagulated and ligated. The EJV was ligated on both sides and the mass was totally excised. Because of careful dissection, no significant bleeding was seen during operation. Macroscopically, the tumor was reddish, not encapsulated and not infiltrated beyond the surrounding tissue (Figure 3). Histopathological examination showed capillary type hemangioma. Postoperative complications were not seen. She was discharged uneventfully and no recurrence was seen during one-year follow-up.

DISCUSSION

In vascular lesions, Mulliken and Glowacki[1] use the classification which was established in 1982. According to this, vascular anomalies are divided into two groups; hemangiomas and vascular malformations.

Hemangiomas are characterized by benign neoplastic proliferation of vascular endothelial cells while vascular malformations are morphogenic anomalies of capillary, venous, arterials and lymphatic vessels. Hemangioma is composed of endothelial cells which proliferate by dividing. In vascular malformation, cellular hyperplasia is no seen but there is progressive ectasia at vessels. Three histopathologic types of hemangioma have been described according to the vessel type: capillary type is characterized by predominantly capillary structures with proliferative activity, invasion to surrounding tissue and short clinical history. Cavernous type is characterized by large vessels and longer clinical history. Mixed type is characterized by having both capillary and cavernous structures and resembling the cavernous type clinically.[2] Capillary hemangiomas are more commonly localized in the head and neck region

Figure 2. *External jugular vein origin of hemangioma is demonstrated.*

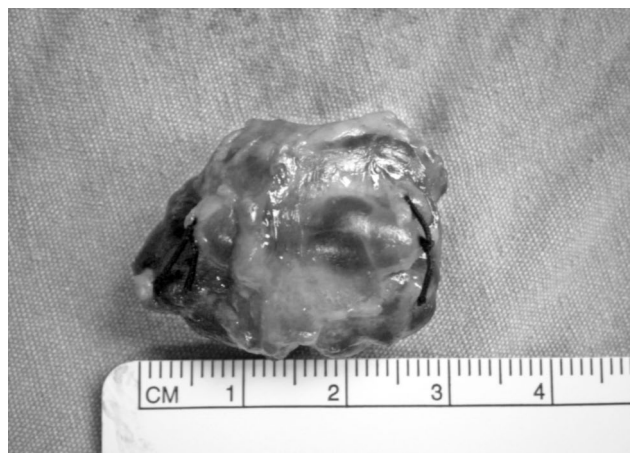

Figure 3. *Mascroscopic view of hemangioma.*

while other types are found in the lower part of the body and extremities.[3,4] Cavernous and mixed types reach greater size in comparison to capillary hemangiomas.

Hemangiomas are generally seen on the skin and mucousal membranes in childhood. Head and neck hemangiomas are generally localized in the parotid, tonsils and larynx. Childhood hemangiomas mostly regress spontaneously between 18 months and 3 years. Although the real cause of hemangioma development is not known; congenital, traumatic and hormonal factors have been implicated.[3]

Although hemangiomas are widely seen tumors in body, primary intrinsic hemangiomas arising from the EJV are very rare. We found only four reports described in the English literature previously.[5-8] The first description of a hemangioma of the EJV was reported in 1967.[6] In 1999, Sarteschi et al.[7] first reported a case of right EJV hemangioma in which color-coded duplex sonography contributed significantly to the diagnosis. The first magnetic resonance (MR) imaging appearance of EJV hemangioma was demonstrated by Ahuja et al.[8] These three reports[6-8] are radiological studies and there is only one report[5] similar to our case.

Preoperative ultrasound (US), computed tomography (CT), MR imaging and angiography provide anatomic details to plan surgical treatment and prevent excess vascular trauma and bleeding during operation. Although these imaging studies provide important features to differentiate, none of them is diagnostic for tumor.[9,10] Preoperative biopsy is not preferable because of possible extensive bleeding. Definitive diagnosis of hemangioma is by histopathologic examination.[11]

Preoperative differential diagnosis includes other malignant vascular tumors (i.e. malignant hemangioendothelioma, hemangiosarcoma and leiomyosarcoma). If the lesion shows rapid enlargement or local infiltration, malignancy should enter the differential list.

Treatment modality for hemangioma is determined according to patient's age, whether there is pain or not, cosmetic deformity, functional defect, probability of malignancy, and type, size, accessibility and rapid growth of tumor.[9,12] Steroid injection, embolization and cryotherapy are the first choices in the treatment of neonatal hemangiomas.[4] Generally, because of small size and no invading to surrounding tissue properties of hemangiomas, surgery and CO_2 laser surgery are preferred in adults. Total excision is curative for EJV hemangiomas.

In our patient, we performed surgery because of cosmetic care of patient and to obtain a definitive diagnosis. The EJV was ligated on both sides and the hemangioma was excised totally after small feeding vessels were coagulated and ligated. Serious bleeding may occur during operation. A patient and careful surgery should be done to avoid bleeding. Postoperative complications were not seen. She was discharged uneventfully.

It is important to keep in mind that an intravascular benign tumor can present as a neck mass. Biopsy should not be done as a routine procedure if there is suspicion of vascular lesion. Therefore, physical examination and imaging studies are helpful in differential diagnosis but the exact diagnosis can only be made by histopathologic examination. Recurrence is inevitable without total excision.

Declaration of conflicting interests

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REFERENCES

1. Mulliken JB, Glowacki J. Hemangiomas and vascular malformations in infants and children: a classification based on endothelial characteristics. Plast Reconstr Surg 1982;69:412-22.
2. Lee JK, Lim SC. Intramuscular hemangiomas of the mylohyoid and sternocleidomastoid muscle. Auris Nasus Larynx 2005;32:323-7.
3. Moumoulidis I, Durvasula VS, Jani P. An unusual neck lump: intramuscular haemangioma of the sternocleidomastoid muscle. Eur Arch Otorhinolaryngol 2007;264:1257-60.
4. Güneş D, Çeçen E, Özgüven AA, Kocaoğlu S, Kenan Y, Gül S, et al. Hemangiomas of childhood: Analysis of 116 Cases. Turkiye Klinikleri J Med Sci 2009;29:1137-48.
5. Lin YC, Tsai YT, Lin CY, Lee CY, Hong GJ, Tsai CS. Haemangioma arising from external jugular vein. ANZ J Surg 2010;80:755-6. doi: 10.1111/j.1445-2197.2010.05465.x.
6. Meyers MA. Hemangioma of the external jugular vein. Radiology 1967;89:483-5.
7. Sarteschi LM, Bonanomi G, Mosca F, Ferrari M.

External jugular vein hemangioma occurring as a lateral neck mass. J Ultrasound Med 1999;18:719-21.
8. Ahuja AT, Yuen HY, Wong KT, King AD, Abdullah V, To E, et al. External jugular vein vascular malformation: sonographic and MR imaging appearances. AJNR Am J Neuroradiol 2004;25:338-42.
9. Werner JA, Dünne AA, Folz BJ, Rochels R, Bien S, Ramaswamy A, et al. Current concepts in the classification, diagnosis and treatment of hemangiomas and vascular malformations of the head and neck. Eur Arch Otorhinolaryngol 2001;258:141-9.
10. Yıkılmaz A, Mavili E. Vascular Anomalies in Childhood: Radiologic Approach: Review. Turkiye Klinikleri J Pediatr 2011;20:232-40.
11. Odabasi AO, Metin KK, Mutlu C, Başak S, Erpek G. Intramuscular hemangioma of the masseter muscle. Eur Arch Otorhinolaryngol 1999;256:366-9.
12. Ermiş B, Ökten A, Zülfikar B, Yılmaz K, İlter M, Söğüt A. Hemangiomas. Turkiye Klinikleri J Med Sci 1996;16:423-6.