**Congenital Cavernous Hemangioma of the Skull**

**Kafatasının Konjenital Kavernöz Hemanjiomu**

**INTRODUCTION**

Cavernous hemangiomas (CHs) of the skull are rare tumors arising from the intrinsic vasculature of the bone and are mostly seen in middle age (3,7,8,9,11,13,14,21,25). The incidence of CH in infancy is quite low (6,16,17,25). They comprise 0.7% of all bone neoplasms and the most common site is the vertebral body, followed by the skull (12,15). According to our knowledge, only two cases of congenital primary CH of the skull without intracranial invasion have been reported in the literature (23,25). Herewith we report a 4-month-old infant harboring a CH of the parietal bone.

**CASE REPORT**

A 4-month-old female infant, delivered vaginally, presented with a right 3cm solid mass lesion located in the parietal bone. This lesion was first noted at her birth and was diagnosed as caput succedaneum. However this solid mass had remained stable even after the resolution of caput succedaneum.

Her neurological examination revealed no abnormality except the right parietal solid mass lesion, three cm in diameter. CT showed a soft tissue density mass that expanded the diploic space on the right side. Both inner and outer tables were increased in the thickness and there were some defective areas on the cortex of the inner table (Figure 1).

The patient was operated on under general anesthesia. A right parietal craniectomy with total excision of the lesion and a margin of surrounding uninvolved bone was performed. Histopathologic examination revealed dilated and proliferated vascular space between the bone trabeculae, consistent with an intraosseous cavernous hamangioma (Figure 2). Monoclonal antibody to CD34 highlights a single layer of flattened endothelial cells lining the dilated vascular spaces (Figure 3).

**DISCUSSION**

Calvarial CHs comprises 0.2% of benign neoplasms of the skull (24) and the parietal bone is the most common site (8). CH frequently occurs in female patients (21), especially in the second and fourth decades of their life (16,17,21). Only 9% of cases are observed during the first decade (6) and occurrence of CH in neonatal period is rare. There are only two reports of solitary CH in a neonate in the literature (23,25) and our case is the third harboring CH.

**KEYWORDS:** Cavernous hemangioma, Infant, Calvarium

**OZ**

Kafatasını tutan kavernöz hemanjiomlar (KH), bu bölgenin iyi huylu tümörlerinin %0,2'sini oluştururlar ve siklikla hayatın ikinci ve dördüncü dekadlarında görülürler. Yenidoğanda görülenler ise oldukça nadirdir ve başlangıçta doğum travması bağlı gelişen cefal hematom veya caput succedaneum ile karıştırılabilirler. Ancak travma bu patolojinin oluşumunda rol alan faktörler arasında görülmemektedir. Bildirisaylı tomografi diğer görüntüleme yöntemlerinden çok daha yararlıdır ve tedavi edilmiş yan kavernöz hemanjiomlar yapılmıştır da gösterebilirler. Literatürde bugüne kadar kafa içi invazyon olmaksızın sadece iki primer konjenital kavernöz hemanjiom rastlanmıştır. Biz burada parietal kemiğinde bulunan KH nedeniyle ameliyat edilen 4 aylık bir yenidoğanı sunduk ve tanı ve tedavi şekillerini literatür eşliğinde tartıştık.

**ANAHTAR SÖZCÜLER:** Kavernöz hemanjiom, Yenidoğan, Kafatası

**ABSTRACT**

Calvarial cavernous hemangiomas (CHs) comprise 0.2% of benign neoplasms of the skull and frequently occur in the second and fourth decades. Their occurrence in infancy is extremely rare and they can initially be misdiagnosed as cephal hematoma or caput succedaneum that can occur due to the birth trauma, but trauma is not a predisposing factor. CT scan is more helpful than other neuro-imaging studies and untreated CHs of the skull may show progression. Only two cases of congenital primary CH of the skull without intracranial invasion have been reported in the literature. Herewith we reported a 4-month-old infant operated on due to a CH of the parietal bone and discussed the diagnostic and therapeutic modalities.

**KEYWORDS:** Cavernous hemangioma, Infant, Calvarium

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Calvarial CHs arise from the vessels in the diploic space and supplied by the branches of the external carotid artery, arising in the skull vault. The middle and superficial temporal arteries are the main sources of blood supply (13,14). Although trauma is not a predisposing factor (18,21,25), CHs can initially be misdiagnosed as cephal hematoma or caput succadeneum that can occur due to the birth trauma (23,25). Repeated hemorrhage may lead to an increase in tumor size (10). The bony trabeculae seen within this tumor is the result of osteoclastic remodelling and osteoblastic reinforcement by the growing vascular tumor (1).

Preoperative radiological studies include conventional radiography, computerized tomography and magnetic resonance imaging. Although prenatal ultrasonography reported to be helpful in the diagnosis of calvarial CH, prenatal US of our patient revealed no pathology (12). Osteoblastic remodelling with trabecular bone following osteoclastic activity of the tumor results in typical sunburst appearance of CH (15,19). We performed CT of the skull before the operation, because CT scan is more helpful than other neuroimaging studies (22). We also performed CBC count in order to see the platelet levels due to the fact that in infants platelets may become trapped in the interstices of such lesions, leading to profound consumption coagulopathy (20).

Aneurysmal bone cyst, osteoma, giant cell tumor, fibrous dysplasia, sarcoma, meningioma, metastatic disease, Paget disease, dermoid and epidermoid cyst should be taken into consideration in the differential diagnosis of CH of the skull (4,5,22).

Untreated CHs may involve skull base and cause progressive exophthalma, impairment of ocular functions and cosmetic alterations (2). So, we performed monobloc resection with removal of a rim of a normal bone in order to prevent recurrence (1,7,13,19). This technique also prevents excessive intraoperative bleeding (12,19).

**CONCLUSION**

CH of the skull is extremely rare in infants with the risk of intraoperative excessive bleeding. Although it may not show the characteristic features, CT is still the most helpful neuroimaging study. Prenatal US is not always helpful in determining CHs and they can initially be misdiagnosed as cephal hematoma or caput succadeneum.

**REFERENCES**