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Olgu Sunumu

Primary Cavernous Hemangioma of the Skull: A Case Report

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Primary osseous hemangiomas (POHs) are frequently seen benign vascular tumors that may involve any part of the body. The most prevalent type of hemangioma is cavernous type. The diagnosis of cavernous hemangiomas is established histopathologically. The other hemangioma types include sclerosing, cellular, and capillary hemangiomas. The authors present a 42-year-old female patient who applied with mild headache and swelling on her head. Her MRI and CT demonstrated a left calvarial lytic bony mass on the left frontal bone. She underwent left frontal craniectomy with en bloc resection of the osseous lesion with total excision of the surrounding soft tissue, followed by cranioplasty with acrylic cement. The histopathological examinations of the resected bony lesion and excised soft tissue showed that the former is primary intraosseous cavernous-type hemangioma and the later is lipoma. On follow-up after three years neurological examination was normal and no recurrence detected. The authors suggest that in the absence of history of trauma in the patient, antidepressant drugs may play a role in the etiology of cavernous hemangioma.

Keywords: Primary intraosseous cavernous hemangioma, acrylic cement, magnetic resonance imaging, calvarial hemangioma

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Kafatasının Primer Kavernöz Hemanjiomu: Olgu Sunumu

Primer kemik hemanjiomlar (POHs) vücudun herhangi bir yerini tutabilir sık görülen benign vasküler tümörlerdir. Hemanjiom en yaygın türü kavernöz tipidir. Kavernöz hemanjiyom tanısı histopatolojik olarak konulur. Diğer hemanjiom tiplerinden sklerozan, sellüler ve kapiller sayılabilir. Yazarlar tarafından hafif baş ağrısı ve kafatasında şişlik ile başvuran 42 yaşındaki bir kadın hasta sunulmuştur. Onun MRG ve BT'sinde sol frontal kemik sol kalvaryal litik kemik kitle izlendi. Hastaya sol frontal kraniektomi yaklaşımla en-blok olarak kemik lezyonu ve etrafındaki yumuşak dokusunu total rezeksiyonu ardından akrilik çimento ile kranyoplasti uygulandı. Eksize edilen materiyalın histopatolojik incelemeleri ile kemik lezyonu primer kemik kavernöz hemanjiom ve yumuşak doku lipom olduğunu göstermiştir. Üç yıl sonra izlemden sonra nörolojik muayenesi normal olan hastada nüks belirlenmedi. Bu hastada travma öyküsü olmadığı için yazarlar tarafından antidepresan ilaçlar kavernöz hemanjiom etiyolojisinde rol oynabileceği düşündürülmüştür.

Anahtar kelimeler: Primer kemik kavernöz-tip hemanijiom, akrilik çemanto, manyetik rezonans görüntülenme, kafatası hemanjiomu

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INTRODUCTION

Primary osseous hemangiomas (POHs) are common benign vascular tumors that may involve any part of the body. POHs frequently involve the spine, and infrequently the skull. POHs

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account for 0.2% of all bone tumors [1,2]. The incidence of these tumors increases in females and in the second and fourth decades of life [3]. Cavernous hemangiomas consist of blood vessels separated by fibrous tissues [2,3].

The etiologies of the POHs are unclear. Most types of calvarial hemangiomas are fed from branches of the external carotid artery, especially from branches of the middle meningeal artery, superficial temporal artery, and posterior occipital artery [3,4]. This report describes a rare case of skull cavernous hemangioma that thought to be caused or exacerbated after using antidepressant medicine.

CASE REPORT

A 42 year-old female patient presented to our outpatient polyclinics of neurosurgery with headache and swelling on her left frontal bone. She was on drug treatment for depression, and had undergone tonsillectomy while she was 15 years old. There was no significant history of trauma or lytic disease. On examination, she was well oriented, afebrile and vital parameters including blood pressure were normal. There was no motor or sensory loss. Pupils were normal in size and reacting normally to light. There was not any neurological deficit. Rest of the systemic examination was unremarkable. The cranial magnetic resonance imaging (MRI) (Figure 1) and cranial computed tomography (CT) (Figures 2, and 3) demonstrated intraosseous expansive lytic lesion on the left frontal region, without signs of brain tissue involvement (Figure 2, 3). There was no symptom attributable to the bone lesion.

The patient underwent left frontal craniectomy with en bloc resection of the osseous lesion with total excision of soft tissue, followed by cranioplasty with acrylic cement. The histopathological examinations of the resected bony lesion and excised soft tissue showed that the former was primary intraosseous cavernous hemangioma and the later is lipoma. Postoperative cranial CT demonstrated that gross-total resection was performed. The patient was discharged and clinical control visits were recommended. After three years of follow-up neurological examination was normal and there was no recurrence detected.

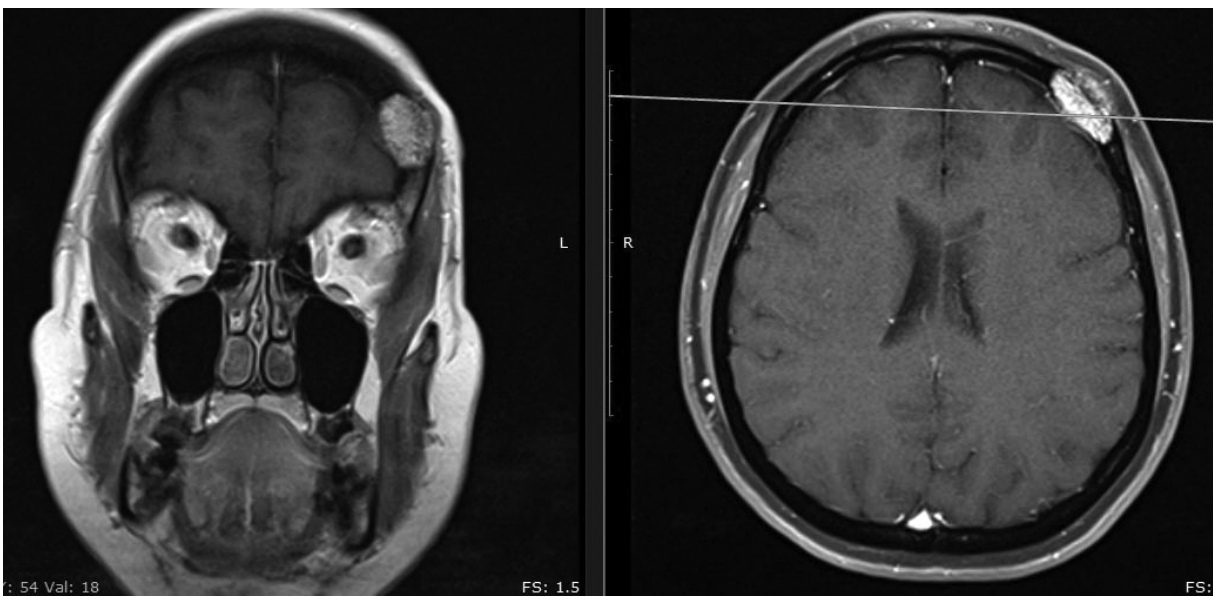

Figure 1. The cranial MRI revealed on intraosseous expansive lytic lesion on the left frontal region, without signs of brain tissue involvement.

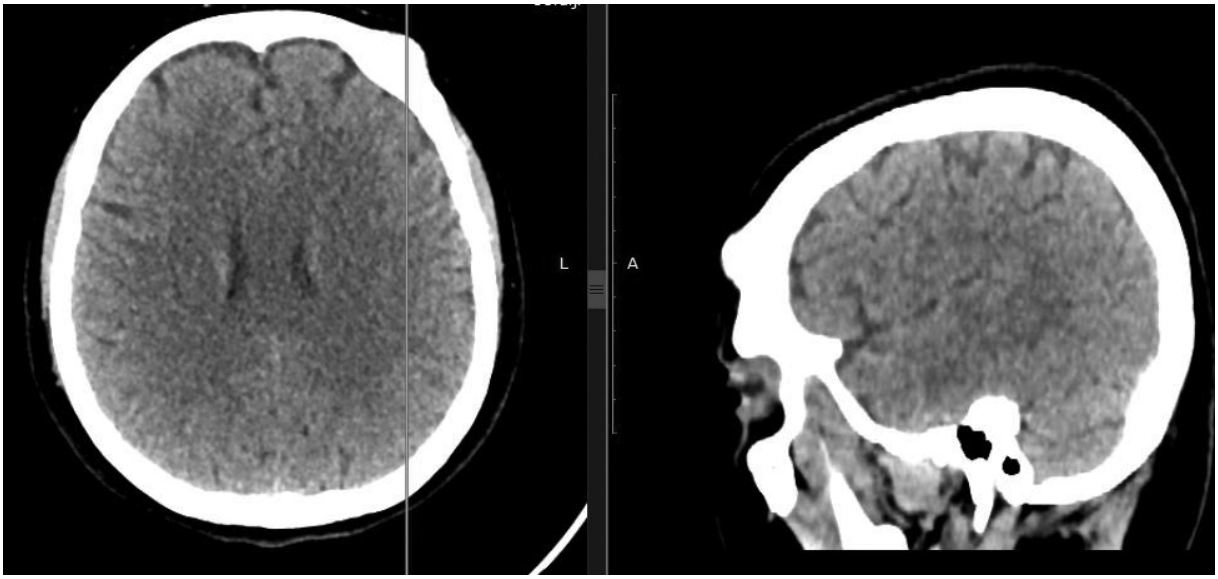

Figure 2. The cranial CT revealed on intraosseous expansive lytic lesion on the left frontal region, restricted in bone of skull. Note that normal brain tissue did not involve with lesion.

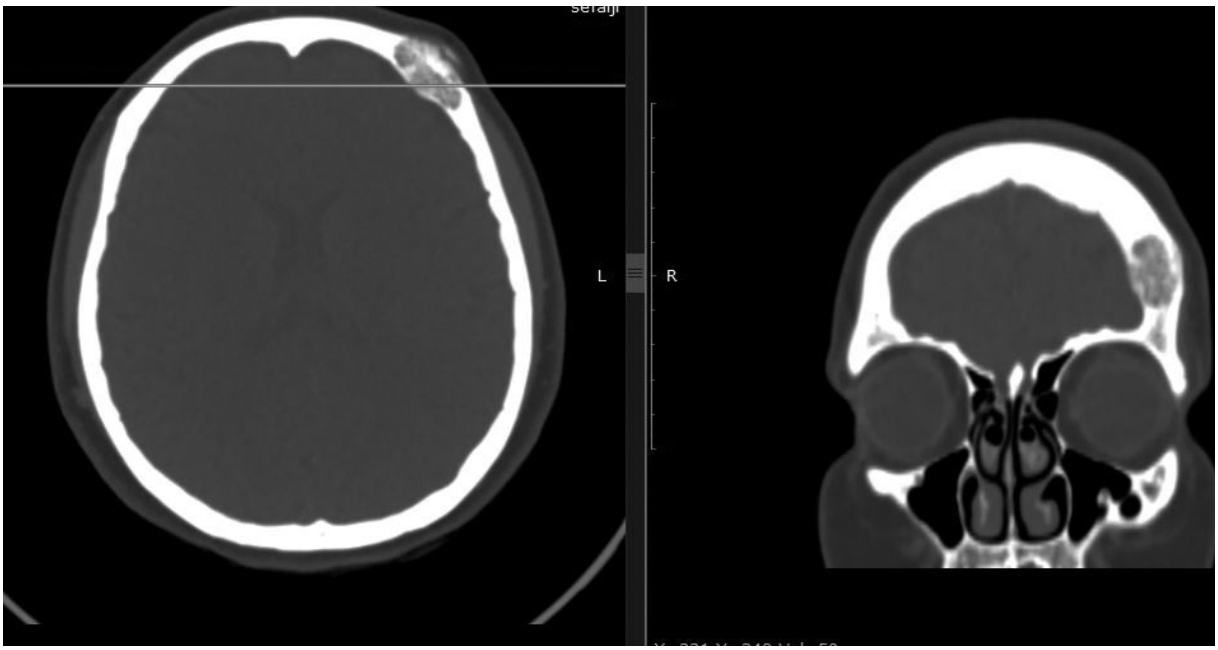

Figure 3. The cranial CT revealed on intraosseous expansive lytic lesion on the left frontal region, restricted in bone of skull.

DISCUSSION

Hemangiomas are benign vascular neoplastic disorders [1-5]. Histopathology classifies hemangiomas as venous, cavernous, and capillary, according to the predominant vascular network [5]. Although cavernous hemangiomas (CHs) more often involve the brain parenchyma, skull bones may also be affected. Hemangiomas of the skull account for 10% of all the benign tumors of the skull [4-8]. The literature review has demonstrated that CHs of the skull involved the frontal, temporal, and parietal bones, respectively. Our patient had left frontal involvement.

The etiologies of the POHs are unclear. Congenital, idiopathic, and traumatic causes have been detected. Almost all of these lesions were reported as congenital. Some authors suggest that trauma may cause a POH even the effect of trauma on the development of POHs is not understood yet. It is thought that some growth factors are released after trauma. Our patient had no prior history of trauma, whereas the swelling on her left lateral frontal head appeared after three months of antidepressant therapy. Therefore, this case of cavernous hemangioma of the skull thought to be caused or exacerbated by antidepressant medications.

Since the radiological findings are not specific, preoperative diagnosis is difficult, and histopathologic diagnosis is essential. Surgery is indicated to differentiate it from metastasis, or when there are esthetic or compressive issues. MRI investigation is important because of its potential to show soft tissue lesions. MRI signal intensity depends on the amount of venous stasis in the lesion and also on the rate of transformation of red marrow into yellow marrow [6].

POHs can be misdiagnosed as a dermoid cyst, a giant cell tumor of bone, multiple myeloma, and metastasis. The most useful radiological tool is CT, clearly showing cortical and trabecular structures [2,7,8].

Although surgical excision is the treatment of choice, it is not always necessary. Indications for surgery include: correction of compressive effects, hemostasis, and esthetic improvement. En bloc resection of the lesion reduces the risk of bleeding which is always potentially increased in these tumors. Relapse is rare when adequate safety margins are observed [8].

CONCLUSION

POHs of the skull are rare, slow-growing benign tumors that may mimic other more common cranial or skull lesions. The preferred treatment is complete tumor removal with normal bony margins. Sometimes the classic radiographic appearances are not evident. Consequently, the diagnosis is most often made during surgical resection. Antidepressant drugs may cause or exacerbate POHs.

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