TREATMENT OF LATERAL CERVICAL CAVERNOUS HEMANGIOMA IN AN EIGHTEEN-MONTH-OLD TODDLER FROM NIAMEY IN NIGER: A CASE REPORT

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ABSTRACT

The authors report the first case of a deep and voluminous cavernous hemangioma of the neck observed in the Ear, Nose, and Throat (ENT) and Head and Neck Surgery department of the General Reference Hospital of Niamey, Niger. The patient was a female toddler, aged 18 months, admitted for a left lateral cervical mass, evolving for 8 months. The CT images pointed to a tumor with a mixed tissue and fluid component, heterogeneous with microcalcifications and a benign appearance. Diagnostic confirmation was histological after excision of the mass by cervicotomy in a double team of ENT and vascular surgeons. The post-operative period was uneventful. The patient was followed up for one year with no recurrence. The aim of this clinical case report is to demonstrate how lateral cervical hemangioma is managed in a limited-resource country.

Keywords: *Cavernous hemangioma, Toddler, CT scan, Histology, Niger.*

INTRODUCTION

Hemangioma is a benign tumor of vascular origin that develops mainly in infants.[1] In the West, hemangiomas are the most common benign tumor in newborns and infants in the white population (4 to 8% of infants have at least one hemangioma).[2] Despite their benign histologic nature, this tumour presents a potential risk of rupture, haemorrhage, infection and deformity of the neck. In 1% of cases, complications are serious and can lead to death by internal bleeding. We report one case of left lateral cervical hemangioma. The aim of this clinical case report is to demonstrate how the lateral cervical hemangioma was managed with limited resources.

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CASE REPORT

The patient was a female toddler aged 1 year 6 months, admitted to our department for the management of a left lateral cervical mass that had been evolving for 6 months and gradually increasing in size. There was a history of prematurity and low birth weight. The rest of the antecedents are unremarkable. Several consultations were conducted in other hospitals in Niamey for the same mass, which received undocumented medical treatment and showed no improvement. Faced with the persistence of the cervical swelling and the gradual increase in its size, the parents self-referred this child to us for expert care.

On admission, the child was in good general condition, with stable hemodynamics and ventilation. There was no fever, and the weight was 12kg. Examination of the neck revealed a nodular mass on the left lateral side, behind the middle part of the ipsilateral sternocleidomastoid muscle (Figure 1). This mass measured about 5 cm in length; it was firm, not tender, and mobile in relation to the deep plane. The overlying skin was normal. No murmur was heard on auscultation of the mass. There was no cervical lymphadenopathy on palpation of the neck. No other associated cervical or extra-cervical malformations were found, and the rest of the clinical examination was normal.

The cervical CT scan performed revealed a left lateral cervical mass, hypodense with mixed tissue and fluid components. There was a predominantly solid tissue configuration with microcalcifications, measuring 38 x 36 x 28 mm in thickness. This mass was partially enhanced on CT scan after the injection of a contrast (Figure 2); there is no associated cervical lymphadenopathy. The jugulo-carotid vessels were normal.

Figure 1: Profile view of the toddler showing the mass in the left lateral region of the neck.

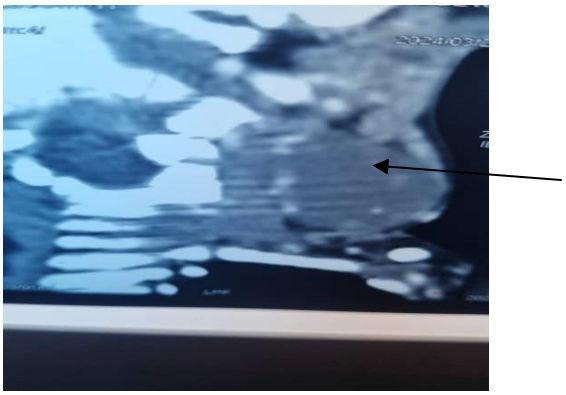

Figure 2: CT image in sagittal section showing a hypodense, mixed tissue and fluid, heterogeneous, left lateral-cervical mass.

The MRI exam was not available in our hospital at this time. In view of the above clinical and radiological findings, the diagnosis of a malformative tumor was made. The patient was planned and worked up for an exploratory cervicotomy plus surgical excision of the mass. Informed consent was obtained from the parent before the procedure. The child was operated on by a combined team comprising an ENT and a vascular surgeon. In the operating room, under general anesthesia via orotracheal intubation, we performed an exploratory cervicotomy with a horizontal skin incision, about 5 cm long, at the height of the tumor. Intraoperatively, we discovered an avascular tumor in the form of a red, tissue-like, hemorrhagic mass, which was completely excised. The operative specimen (Figure 3) was sent for histopathological examination.

The postoperative period was uneventful, and there was no recurrence after a 1-year follow-up (Figure 4). Histological examination of the operative specimen revealed features of a cavernous hemangioma (Figure 5).

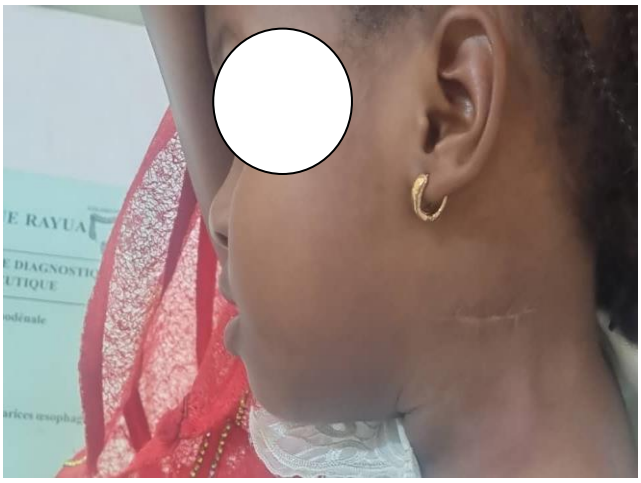

Figure 4:1-year post-operative view without recurrence

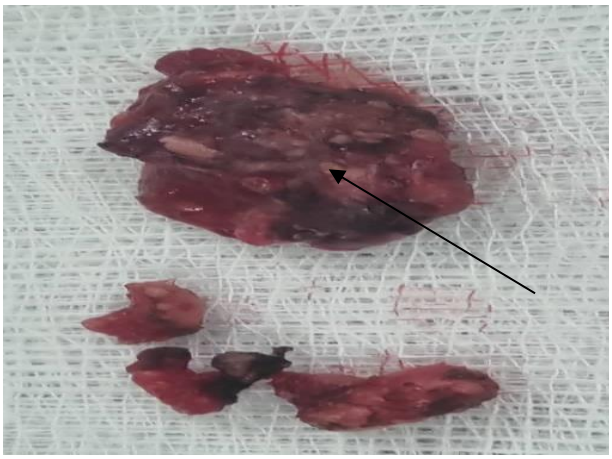

Figure 3: Surgical specimen

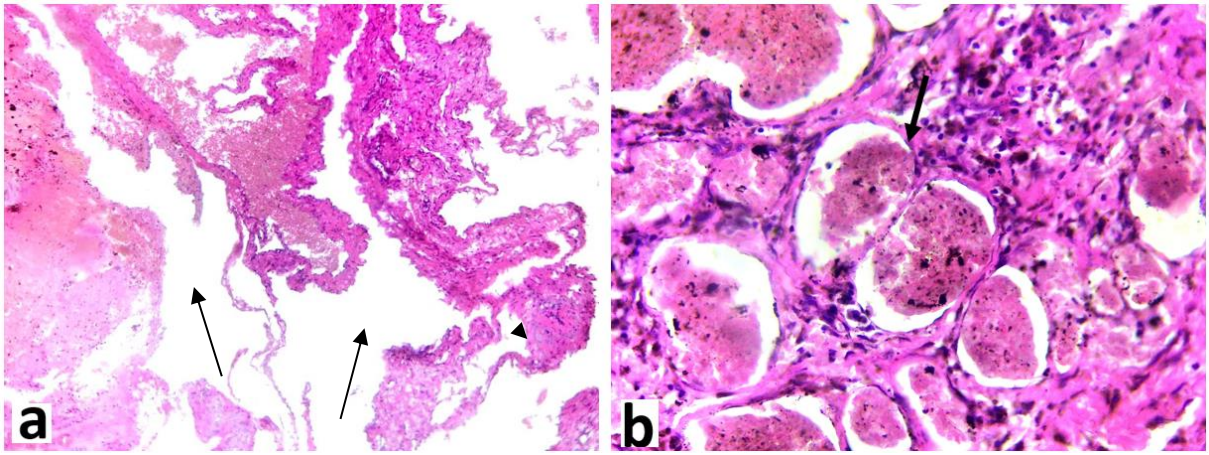

Figure 5: Histological results. A: The histological image of the cavernous hemangioma showing several dilated vascular structures (arrows) and anastomosed (haematoxylin-eosin x 100). B: These vascular structures have a thin wall, bordered by flattened endothelial cells (arrow), without cytological atypia (hematoxylin-eosin x 200).

DISCUSSION

Cavernous hemangiomas are rare vascular tumors. We are reporting the first case in Niger. It is a tumor mainly of the newborn and infant. The case of the female sex that we report reinforces the female predominance already noted in the literature.[3]

Topographically, the location of hemangiomas is variable. The most common locations are the head and neck (60%), the trunk (25%), and the arms and legs (15%).[1] The natural history of this

tumor is very poorly documented, but its predilection for an early clinical presentation, at the first ages of life, suggests an embryonic origin. Girls are more affected, as well as premature babies or children born of multiple pregnancies. The risk is also higher if the mother is older, in the case of placenta previa or pre-eclampsia. Low birthweight increases the risk of occurrence.[4]

The diagnosis of hemangiomas is made clinically and radiologically. Taking a thorough history and conducting a physical examination of the patient is the first step in diagnosing a hemangioma. The clinical presentation of this tumor is polymorphous. Three-fourths of hemangiomas are nodular in shape and are not associated with malformations.[1] For our clinical case, the presentation was a left lateral cervical nodular mass, without other associated malformations. Medical imaging, particularly MRI or CT scans, enables the assessment of the extent to which neighbouring organs are affected and the identification of a high potential for compression of these organs.[5] Medical imaging is also used for the preoperative assessment and surgical planning. The definitive diagnosis of hemangioma is provided by anatomic pathological examination, which highlights the characteristic lesions of this type of tumour. The histological examination confirmed the diagnosis of cavernous hemangioma, characterised by large, dilated vessels with a thin layer of endothelial cells and a loose stroma in the index patient.[6]

From a therapeutic perspective, the management of hemangiomas has been the subject of numerous publications and recommendations.[7] Most hemangiomas pose only an aesthetic problem and are self-limiting, requiring no medical attention. Only 10-15% of cases require treatment.[8] Propranolol, a beta-blocker, given during the growth phase of the hemangioma, slows down its expansion and promotes its regression.[9] Deep, voluminous hemangiomas can easily be removed by surgery. Various procedures are available to remove hemangiomas, including surgical excision, laser ablation, and cryotherapy. For our clinical case, in collaboration with the vascular surgeons, we opted for a surgical treatment of the hemangioma by way of cervicotomy. This approach provided good access due to the size of the lesion and its potential for serious complications.

CONCLUSION: The cavernous hemangioma is a benign and rare tumor. We reported our experience of surgical management in a context of limited resources.

CONFLICT OF INTEREST: The authors declared no conflict of interest.

CONSENT OF THE PATIENT: The informed consent from the parent was obtained preoperatively.

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