Case Report

Capillary hemangioma of the breast in a Sudanese child

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Abstract

Capillary hemangiomas of the beast in female children is a very rare pathology. In the literature, there are only three cases reported with this pathology. We report an 11 months girl presented with an enlarged left breast (or areola) and was initially diagnosed as a case of an inadequately treated neonatal mastitis, but later on, on performing an incisional biopsy it proved to be a capillary hemangioma.

Key words: Angiosarcoma, breast parenchyma, capillary hemangioma

INTRODUCTION

Vascular tumors of the breast are very rare. Most can be classified as either benign lesions such as hemangiomas or malignant lesions such as angiosarcomas.[1-3] Angiosarcomas are more common than benign hemangiomas which are very rare.[4,5]

We could find only three cases of capillary hemangioma of the female child breast in the literature.[6]

This paper reports a rare case of capillary hemangioma in a female child presents with breast mass disfiguring the nipple areola complex, successfully diagnosed by wedge biopsy and treated conservatively.

CASE REPORT

An 11-month-old Sudanese female child presents to the Surgery Department because of her parent's concern about the child's left breast. The child was noticed to have an abnormally large breast since she was 1 month of age. It was gradually increasing in size. However, the growth was rapid over the last 3 months preceding the presentation. This was associated with the appearance of a dark-red crust in the middle of the lump from time to time. At one stage, the condition was diagnosed as a case of chronic neonatal mastitis because of the long duration and unresponsive to several courses of antibiotics. On examination, all systems were found to be normal apart from a circumferentially enlarged areola on the left breast with a diameter of 4 cm. The skin of the areola was puckered and appeared darker than the normal right breast. There was an invagination at the center with a crust overlying it, resembling the crater of a volcano as shown in Figure 1. A wedge biopsy from the areola was performed and proven to be capillary hemangioma histopathologically as shown in Figures 2 and 3. Then after, the follow-up to 1 year showed no changes in the clinical feature of the swelling.

DISCUSSION

Hemangiomas of the breast are subdivided into four types: Perilobular, parenchymal, nonparenchymal or subcutaneous, and venous. Perilobular hemangiomas always occur in the

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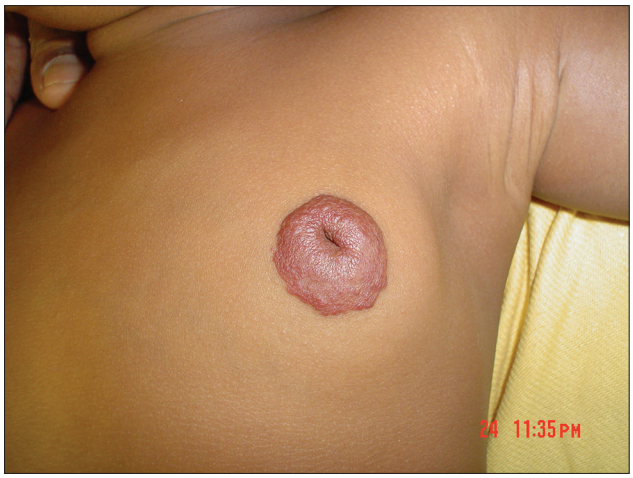

Figure 1: Circumferentially enlarged areola on the left breast with a diameter of 4 cm

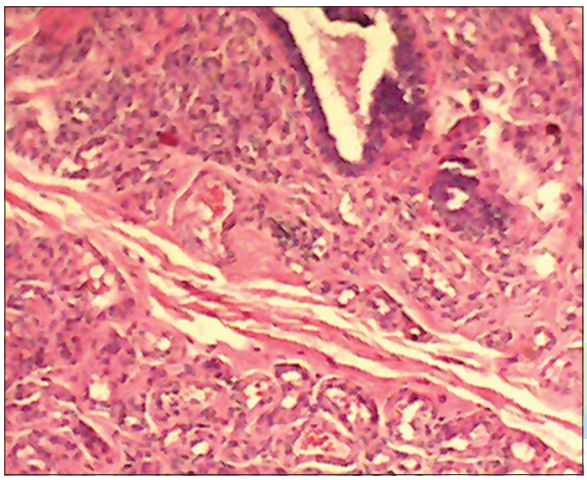

Figure 2: Haemangioma of the breast showing breast ducts at the top right-hand corner with many blood vessels at the bottom of the figure (H and E, ×10)

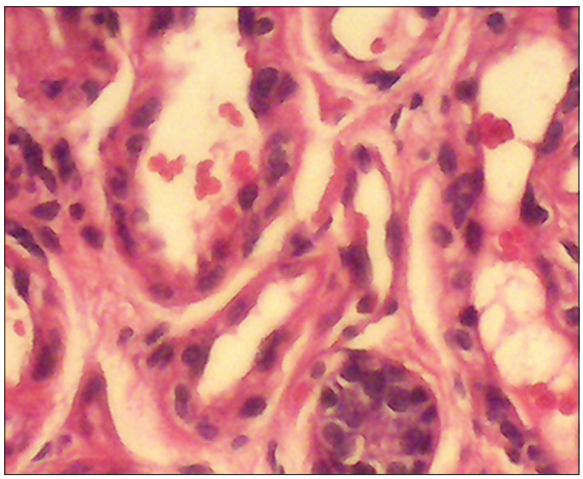

Figure 3: Haemangioma of the breast showing several blood vessels and a duct of the breast at the bottom right-hand corner (H and E, ×40)

extralobular stroma in the form of microscopic lesions. Parenchymal or intraparenchymal hemangiomas are microscopically composed of dilated channels filled with red blood cells, and individual vessels of hemangiomas vary in size from capillary to cavernous. Venous hemangiomas are composed largely of venous channels with disorderly vascular proliferation.[4,7] Nonparenchymal/extra-parenchymal or subcutaneous hemangiomas are located superficial to the anterior pectoral fascia in the subcutaneous fat with or without dermal involvement.[8-10] Both capillary and cavernous hemangiomas appear as thin walled, blood-filled vascular spaces, separated by fibrous septa, with extensive fibrosis, and sometimes phleboliths.[10]

Extraparenchymal vascular masses tend to occur in pediatric breast, and are generally benign,[6,9,10] responds well to simple excision,[6] whereas most intraparenchymal lesions tend to present in adult breast and prove to be malignant angiosarcomas.[6,9,10]

The term hemangioma was originally used to describe any vascular tumor both present around birth and/or appearing later in life. Mulliken and Glowacki[11] separated these conditions into a family of self-involuting tumors (growing lesions that eventually disappear) from the family of malformations (enlarged or abnormal vessels present at birth and essentially permanent). The importance of this separation is that it allows us to differentiate early in life between lesions that will resolve versus those that are permanent. Examples of permanent malformations include port-wine stains (capillary vascular malformation) and masses of abnormally swollen veins (venous malformations). In the literature, we do not see such separation system, creating great confusion.

The cause of hemangioma is currently unknown; however, several studies have suggested the importance of estrogen signaling in hemangioma proliferation. Kleinman *et al.*[12] in their study revealed that localized soft tissue hypoxia coupled with increased circulating estrogen after birth may be the stimulus. There is also a hypothesis concludes that maternal placental embolizes to the fetal dermis during gestation resulting in hemangioma genesis.[13,14] So that, in genetic analyses of small nucleotide polymorphisms in hemangioma tissue compared to the mother's DNA that contradicted this notion.[15]

Both capillary and cavernous hemangiomas are benign vascular tumors of the endothelium so that even at an early stage, endothelial cells express phenotypic markers of mature endothelium, such as CD31, factor VII-related antigen, Ulex europaeus lectin I, and vascular endothelial cadherin (VE-cadherin).[16]

From literature, we found that capillary hemangioma of the breast parenchyma is a rare finding in the pediatric age group, and until recent time there are only three cases reported in the literature.[6]

In our case, the correct diagnosis could not be made preoperatively. Although mammary capillary hemangiomas are benign, radical surgery for complete excision is recommended to exclude the possibility of underlying malignant neoplasm. This is because some well-differentiated angiosarcomas are often difficult to differentiate from benign hemangiomas.[17]

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Conflicts of interest
There are no conflicts of interest.

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