Capillary hemangioma of the breast in a Sudanese child

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Abstract
Capillary hemangiomas of the breast 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 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 
bioy 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
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 benign6,9,10 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 Glowacki11 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.13

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.

REFERENCES