CASE REPORT

Large Superficial Angiomyxoma: A Case Report

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ABSTRACT

Superficial angiomyxomas (SAMs) are rare benign cutaneous tumors that involve the subcutaneous layer in the trunk, lower limb or head and neck region in women of reproductive age-group, especially those aged 11 to 39 years. Herein, we present a case of a 42-year-old female with a slow growing vulval mass. A pre-operative diagnosis of benign vulval lesion was made and a mass of 12 cm x 8 cm x 3.5 cm was excised. It was a well circumscribed mass with a multilocular outer surface and grey white soft glistening surface on cut-section. Histological examination revealed that the tumor had areas of myxoid stroma dispersed with spindle to stellate shaped cells, multiple small thin-walled vessels, a few muscular arterioles and fibrous tissue. The patient is currently on follow up and has not shown any signs of recurrence.

Keywords: Angiomyxoma, Circumscribed mass, Multilocular.

INTRODUCTION

Superficial angiomyxomas (SAMs) was first described in 1985, by Carney, *et al.* and was named as "cutaneous myxoma" of Carney complex which itself is a hereditary disease complex characterized by pigmentary abnorma-lities, myxoma, endocrine tumors or overactivity, and schwannomas.[1,2] Subsequently, SAM was established as an independent cutaneous tumor without the manifestations of Carney complex by Allen, *et al.* in 1988 and Calonje, *et al.* in 1999.[3,4] It is an extremely rare tumor with the incidence rate of around 0.008% to 3% with only 20 such cases being reported till date.[5,6] Clinically, it presents as a well circumscribed, nodular or multinodular, slow growing, painless mass which extends to subcutaneous tissue.[6,7] Due to lack of distinct clinical characteristics, it is often clincially misdiagnosed as a polyp, Bartholin's cyst, cyst of duct of Gartner, or a perineal hernia. The diagnosis of SAM can only be confirmed after pathological exami-nation.[8] Histopathology is characterized by increased number of stellate fibroblasts and thin-walled blood vessels admixed with a variable inflammatory infiltrate.[8] Approximately, 30% of lesions additionally contain an entrapped epithelial component consisting of keratin cysts or thin strands of squamous epithelium. The word 'superficial' is used to distinguish SAM from aggressive angiomyxoma (AAM), which is an uncommon, locally aggressive but non-metastasizing, soft tissue neoplasm occurring preferentially in females. SAMs are usually <5 cm, superficial, long, with

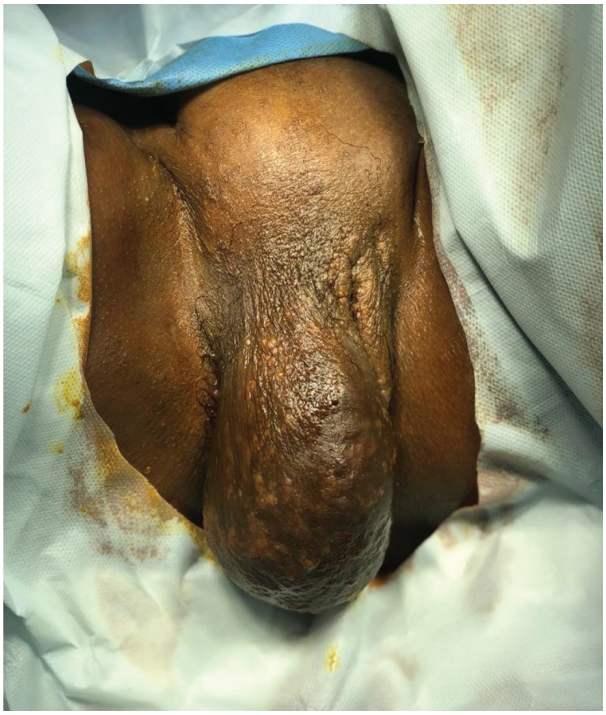

Fig.1 Gross clinical presentation of a benign vulval mass.

thin walled vessels and stromal neutrophils unlike AAMs which are nearly always >5 cm, deep seated, with medium to large thick walled vessels with no stromal vessels.

Case Report

A 42-year-old married woman presented with a vulval swelling of 2 years' duration. Initially, it did not cause any inconvenience but its current size caused difficulty in urination and discomfort during intercourse. There were no complaints of itching, pain, purulent discharge or bleeding from the mass. Her menstrual cycles were regular and she had no abnormal vaginal discharge Intrauterine contraceptive device was found to be *in-situ*. The patient did not have any hyperpigmentation or nodules in other areas of the body or any significant medical history of hypertension, dyslipidemia, or previous perineal surgery. Local examination revealed a well-circumscribed, fluctuant, non-tender mass of size 12 cm × 8 cm × 3.5 cm arising from the right labia majora (**Fig. 1**). Overlying skin was intact with marked hyperpigmentation, no other skin changes were noticed. There was no associated lymphadenopathy. The cervix, uterus, and adnexa were normal. Laboratory parameters including thyroid function tests were unremarkable. Pap smear was found to be normal. Ultrasonography revealed a unilocular, oval, well-circumscribed lobulated mass under the skin, on the right side of labia majora, suggestive of a benign vulval neoplasm. Vulval biopsy was not performed as the mass looked benign.

After taking an informed written consent, the patient underwent a wide local excision under spinal anesthesia. Incision extended from medial surface of right labia majora upto the crease of the right thigh and around the mass. Following the cleavage plane, the entire vulval mass was removed. The post-operative period was uneventful. Histopathology was confirmatory for SAM. The patient is currently on 3 monthly follow up and no recurrence has been detected.

Pathological findings

Macroscopic findings: The specimen grossly appeared as a polypoidal pedunculated mass, measuring 12 cm × 8 cm × 3.5 cm, with a stalk 4 cm long (**Fig. 1**). The tumor mass measured 8 cm × 6 cm × 3 cm. The cut surface of the mass revealed a grey white, soft glistening surface.

Microscopic findings: Microsections showed large areas of myxoid stroma with dispersed spindle to stellate shaped cells, multiple small thin-walled vessels, a few muscular walled arterioles and fibrous tissue (**Fig. 2**). Surface of the polypoidal mass was seen covered by unremarkable skin. Thick bundles of dermal collagen were observed intermingling with myxoid areas. No atypia was observed.

Discussion

Angiomyxomas are classified either as superficial or aggressive. In 1988, Allen, *et al.*[3] proposed the disease

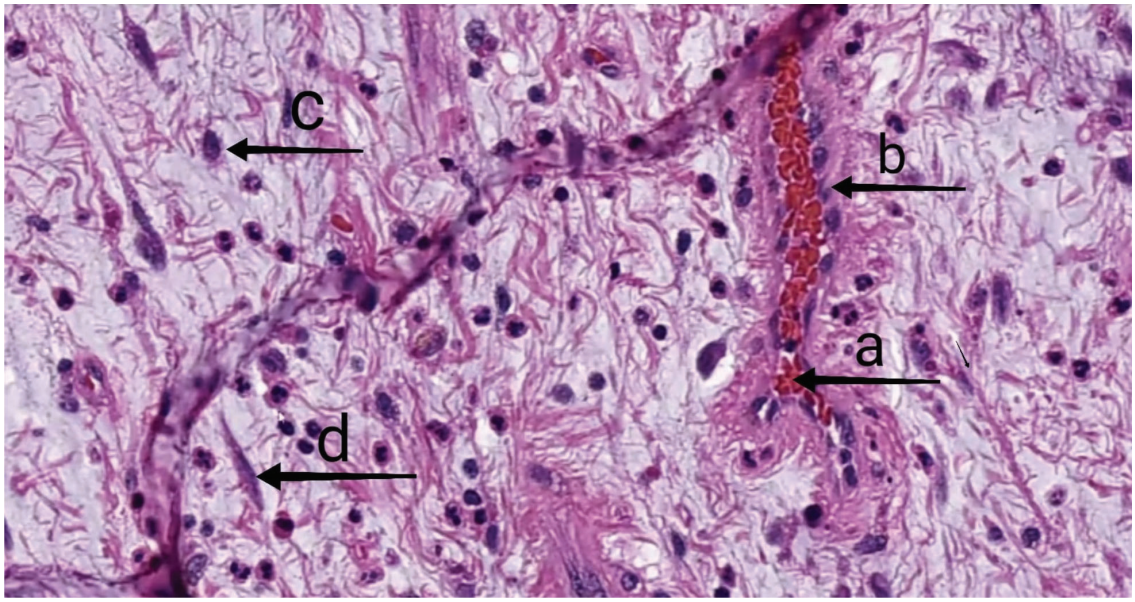

Fig. 2 Histopathological slide of the specimen (Hematoxylin-eosin stain; original magnifications: × 400). The mass consists of hypo-cellular myxoid tissue admixed with some adipose and collagenous tissue. The mass is composed of bland-looking, spindle to ovoid cells without cellular atypia, consistent with histologic features of superficial angiomyxoma.Scattered branching blood vessels (*a*) with maintained endothelial lining (*b*) along with interspersed neutrophils (*c*) surrounded by spindle cells (*d*) are very typical of superficial angiomyxoma.

entity 'superficial angiomyxoma', which was a benign myxomatous neoplasm characterized by moderate to sparsely cellular angiomyxoid nodules with scattered small vessels. SAMs may occur in the setting of Carney complex, an autosomal dominant genetic disorder. SAM is more frequently observed in middle aged adults. Clinically, most lesions appear as slowly growing polypoidal cutaneous lesions, easily confused with a cyst, skin tag or neurofibroma.[9]

Pathogenesis seems to be from a primitive multipotent perivascular mesenchymal cell of the female lower genital tract that has the capability of differentiating into various cell lines, giving rise to these lesions.[10] There are no clearly established risk factors for vulvar SAM and the cause of tumor formation is unknown. The tumor appears as a well-defined polyp and is not aggressive. If the tumor is small, no significant signs, symptoms or complications are noted. However, as seen in the present case, it may present with pelvic pain and discomfort, urination difficulties and pain during sexual intercourse due to its large size. There are no geographical, racial or ethnic variations seen in SAM.

The diagnosis of SAM is confirmed only after histopathological analysis. On microscopy, superficial angiomyxomas are well-circumscribed but unencapsulated multilobulated lesions, which frequently extend to the subcutaneous fat. The tumors consist of lobules of spindle-shaped or satellite fibroblast-like tumor cells with an abundance of myxoid stroma containing numerous thin-walled, small-to-medium-sized blood vessels and inflammatory cells. The spindle cells of superficial angiomyxomas have been reported to be negative for actin, S100, and desmin.[11] In addition, nuclear pleomorphism and mitoses are uncommon in SAM.

Superficial angiomyxomas need to be differentiated from other benign cutaneous myxomatous lesions (cutaneous focal mucinosis and cutaneous myxoid cysts) and borderline malignant myxomatous tumor (AAM). AAMs occur commonly in the soft tissue of the pelvic and peritoneal region. They occur mainly in females and rarely in males; however, it is not easy to distinguish SAM from AAM by clinical characteristics alone.[12] Histologically, a poorly circumscribed and infiltrative margin is seen with AAM. In addition, compared with the variable thin-walled vessels seen in SAM, medium-sized thick-walled blood vessels are noted in AAM.[12] On immunohistochemistry, SAMs are usually negative for markers other than vimentin and CD-34, while AAMs are estrogen receptor (ER) and/or progesterone receptor (PR) positive.

The local recurrence rate of SAMs are 30%-40% and is often a result of incomplete excision. However, any malignant transformation or distant metastasis have not been reported yet.[13] Being a rare neoplasm, the guidelines regarding the follow up of these cases are yet to be established. We followed up this case for about 4 years starting from an initial 3-monthly follow up for one year followed by annual follow up examination; till 4 years she had no signs of recurrence.

In conclusion, SAM is a very rare benign soft tissue tumor involving external genitalia. These tumors can be independent lesions or be the earliest presentation of Carney syndrome. Histopathological confirmation is required for establishing the diagnosis. Local recurrence is noted even after excision but often it is a result of incomplete excision. Regular follow up is recommended for these cases.

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Answer to Image Quiz

The infant presented with classical features of snuffles, perioral fissuring, characteristic macular rash, along with flaccid vesicles over face, and hepatosplenomegaly which suggested a diagnosis of early congenital syphilis. The child also had involvement of the diaper area, palms and soles, with superficial erosions, and macular as well as scaly lesions. Venereal Disease Research Laboratory (VDRL) test was reactive for the child as well as both the parents; with the titre being 1:256 for the baby and 1:16 for the parents. The diagnosis of congenital syphilis in the baby was confirmed by a positive Treponema Pallidum Hemagglutination (TPHA) test. The cerebrospinal fluid VDRL test of the infant was non-reactive. The mother and father were also tested for Hepatitis B and C and HIV infection and were found non-reactive. The infant was treated with aqueous penicillin G for 10 days and the skin lesions resolved completely. Both the parents were treated with Benzathine penicillin G (three weekly doses) and the follow up VDRL titres conducted after 3 months were negative for all 3 (the infant and the parents).

Congenital syphilis, caused by the spirochete *Treponema pallidum*, is acquired *in-utero* when the infant is born to an infected mother. It may have a multitude of clinical presentations ranging from asymptomatic presentation, premature delivery, stillbirth and a wide array of clinical signs and symptoms which may present as early (<2 y) or late (>2 y) congenital syphilis. Early congenital syphilis may present with macular or even vesicular skin rash, accompanied by snuffles, condyloma lata, eye involvement, hepatomegaly with or without splenomegaly, jaundice, and generalized lymphadenopathy. Affected infants may have Coombs-negative hemolytic anemia, thrombocytopenia, neurosyphilis, pneumonia, hepatitis, and skeletal abnormalities. Generally, classical skin lesions in the form of generalized copper-coloured scaly rash can lead to a clinical suspicion of congenital syphilis.[1]

Late congenital syphilis presents with manifestations beyond two years of age. It includes Hutchinson's triad (Hutchinson teeth, interstitial keratitis, and sensorineural hearing loss), saddle nose deformity, painless effusion of knees (Clutton's joints), thickening of sternoclavicular joint (Higoumenaki's sign), scaphoid scapula, anterior bowing of shins (saber shins) and frontal bossing.

The differential diagnoses of congenital syphilis include neonatal sepsis and TORCH infections including Toxoplasmosis, Rubella, Cytomegalovirus, and Herpes simplex virus.[2] Antenatal screening of pregnant women for syphilis is the norm. This has brought down the incidence of congenital syphilis and its sequelae. However, a failure of case detection and treatment in the antepartum period still occurs in developing countries, signifying the need for further improving antenatal care. Treatment of an infected mother, detected ante-partum is the standard of care for prevention of congenital syphilis.

Workup of an infant born to an infected mother includes complete physical examination, non-treponemal tests [Rapid Plasma Reagin (RPR), VDRL] for screening and treponemal tests [fluorescent treponemal antibody absorption (FTA-ABS), TPHA] for confirmation, pathologic examination of placenta and cord, chest and long bone radiographs and CSF analysis. Infants are treated with aqueous crystalline penicillin G or procaine penicillin G. Neurosyphilis requires treatment with high doses of intravenous penicillin for 10-14 days. RPR or VDRL need to be repeated every 2-3 weeks until non-reactive. A sustained fourfold decrease in titre demonstrates adequate therapy. Close follow up and annual evaluation for any hearing loss, ophthalmologic abnormalities and neurodevelopment assessment is recommended.[3]

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