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Case report of vulval/labial leiomyoma - A rare pathological entity

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ABSTRACT

Leiomyomas are benign smooth muscle tumors. They can develop anywhere in the body, but the most common site is the uterine myometrium. The vulval leiomyomas are rare in occurrence and are uncommon. We report a case of a 33-year-old woman who presented with a painless vulval mass for 3 years. The histopathological examination following its surgical removal was indicative of leiomyoma which was positive for smooth muscle actin.

Key words: *Labial leiomyoma, Vulval lesions, Vulval mass*

Leiomyomas are benign soft tissue tumors that arise from smooth muscle, account for approximately 3.8% of all benign soft tissue tumors [1]. While they can develop anywhere in the body where smooth muscles are present, the most common site is the uterine myometrium [2]. The vulval leiomyomas are rare tumors and are thought to arise from smooth muscle cells within erectile tissue, blood vessel walls, the round ligament remnants in the labia majora, or the arrector pili muscle [3]. There are fewer than a 120 cases of vulval smooth muscles' tumors reported in literature [4,5].

On initial presentation, most of the vulval leiomyomas are usually misdiagnosed as Bartholin gland cyst or abscess. Bartholin gland cysts and abscesses are the most common gynecological cystic diseases of the vulva occurring in gynecological practice all over the world as cystic growth of the labia majora [6]. We report a case of leiomyoma of right labia majora in a 33-year-old woman as it is a rare entity. The complex morphological features of smooth muscle tumors of vulva usually pose diagnostic difficulties; therefore, immunohistochemistry (IHC) plays an important role to make a final diagnosis [7].

CASE REPORT

A 33-year-old parous woman presented with a painless and a palpable vulval mass for 3 years and complained of discomfort while walking. Clinical examination revealed a firm, nontender, freely movable mass measured about 3.5 cm × 2.5 cm located on the medial aspect of the upper end of the right labia majora, in close proximity to clitoris. It was dimly bluish in color. The inguinal region and the rest of the external genitalia appeared normal. Per speculum examination of the vagina and the cervix showed no abnormality. General physical examination and the systemic examination were found to be normal. Two differential diagnoses were thought of: An organized hematoma (as it looked bluish in color) and a leiomyoma (because of its firm consistency and long duration of 3 years).

An elective surgical excision was performed under local anesthesia. The tissue defect was closed and hemostasis was secured. The post-operative period was uneventful, and the patient was discharged on the following day. The patient was followed up postoperatively for 6 months and no recurrence was noted. The gross specimen consisted of a firm, single mass measuring 3.5 cm × 2.5 cm × 1.8 cm (Fig. 1) and the cut section showed grayish white areas with no hemorrhages or necrotic areas. The microscopic examination revealed smooth muscle proliferation and interstitial hyalinization. There were no cytological atypia, abnormal mitosis, or coagulation necrosis on microscopic examination. The histopathological diagnosis was suggestive of benign leiomyoma (Fig. 2). The immunohistochemical staining pattern was strongly positive for smooth muscle actin (Fig. 3).

DISCUSSION

Leiomyomas represent the most common gynecological benign tumors. However, leiomyomas occasionally occur with unusual growth patterns or in unusual locations that make their identification more challenging clinically. The leiomyoma or the fibroid, though very commonly present in the uterus, is a rare finding in the vulva, ovaries, urethra, and urinary bladder [5]. The vulval leiomyomas grow generally on the labia majora, although they are also found on the perineum. On initial presentation, most of the vulval leiomyomas are usually misdiagnosed as Bartholin gland cyst or abscess [8]. The leiomyomas are derived from smooth muscle components of the vulva. These include round ligament remnants, cutaneous smooth muscle tissue, erectile tissue, and blood vessels [3].

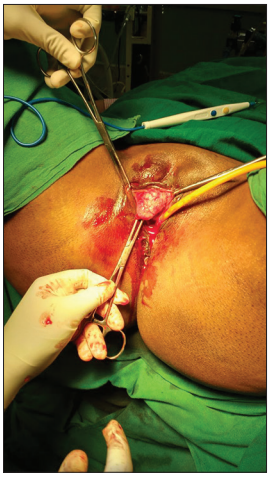

Figure 1: Surgical removal of labial leiomyoma

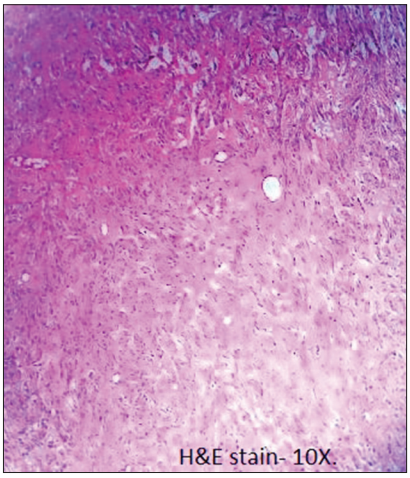

Figure 2: Histopathological examination – leiomyoma

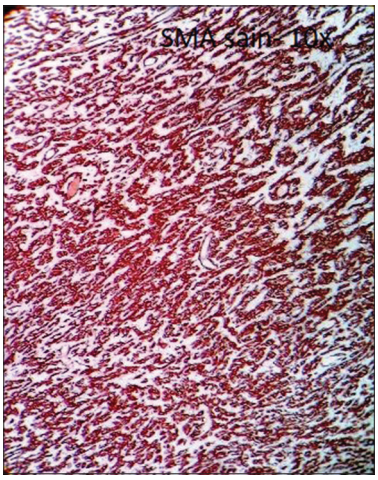

Figure 3: Smooth muscle actin positive on immunohistochemistry stain

Nielson et al. studied 25 cases of leiomyoma of vulva. Most of the patients in their series presented with a painless mass and the most common pre-operative diagnosis were Bartholin's gland cyst [1]. Nielsen et al. proposed criteria to distinguish between sarcoma and leiomyoma of the vulva. According to their findings, tumors that manifest at least three criteria should be considered as malignant: (1) Diameter >5 cm and infiltrative margins, (2) more than 5 mitotic figures per 10 HPF, and (3) moderate to severe cellular atypia [9]. The histopathological confirmation of its benign or malignant nature is important [10]. Labial leiomyomas are treated with conservative surgery. The follow-up after the surgery is recommended [10]. The differential diagnosis of lesions occurring on vulva includes Bartholin's gland cyst, lipoma, fibroma, lymphangioma, soft tissue sarcoma, and neurogenic tumors [10].

CONCLUSION

The vulval leiomyomas are rare benign tumors. One must consider various differential diagnoses of vulval lesions such as Bartholin gland cyst, fibromas, lipoma, soft tissue sarcomas and neurogenic tumors and exclude them through proper clinical history, physical, and histopathological examination (HPE). The HPE helps in differentiating between benign and malignant nature of the vulval smooth muscle tumors. The IHC is necessary to further confirm the diagnosis of benign leiomyoma.

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