

Research Letter

## Atypical lipomatous tumors of the vulva

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Lipomas are the most common benign tumors of soft tissues. However, lipomas have been reported rarely as presenting in the vulva with few reports to date [1,2]. Lipomas of the vulva are rare benign tumors that consist of fat cells interspersed with strands of fibrous connective tissue [3]. They arise from the vulvar fatty pads and mostly present as soft, lobulated subcutaneous neoplasms. The differential diagnoses for this tumor include Bartholin's duct cysts and abscesses, angiomyxoma, angiofibroma, and solitary fibrous tumor [4]. We presented a rare case of vulvar liposarcoma, outlining the clinical features and pathological characteristics.

A 23-year-old woman without sexual exposure had suffered from vulvar pain with a 2-month history of a left labial mass, which was recently noted to be increased in size to 5 cm possibly caused by intermittent irritation. The patient was clinically thought to have a Bartholin's glandular cyst; however, transvaginal sonographic findings of the vulvar tumor depicted lobular structural features of soft tissue. During operation, a lipomatous tumor was found which at histologic examination showed lobular proliferation of adipocytes exhibiting prominent variation in cell size with scattered monovacuolated or multivacuolated lipoblasts (Fig. 1). There were interspersed hyperchromatic atypical stromal cells and fibrous septa, with focal presence of delicate capillaries and stromal myxoid change (Fig. 2A). In immunostains, the lipoblasts were positive for S-100 protein. The spindled stromal cells were positive for CDK4 and CD34, but negative for smooth muscle actin and desmin (Fig. 2B). Combined with the low-grade cytologic features and the anatomically subcutaneous location, atypical lipomatous tumor was thus favored. Atypical lipomatous tumor is a locally aggressive malignant

mesenchymal neoplasm. Use of the term “atypical lipomatous tumor” is determined principally by tumor location and respectability proved to be a lipoma. A wide re-excision was performed 2 weeks afterward, and the histological examination revealed free of tumor.

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Fig. 1. A well-defined left vulvar tumor up to 5 cm was separated and excised in operation.

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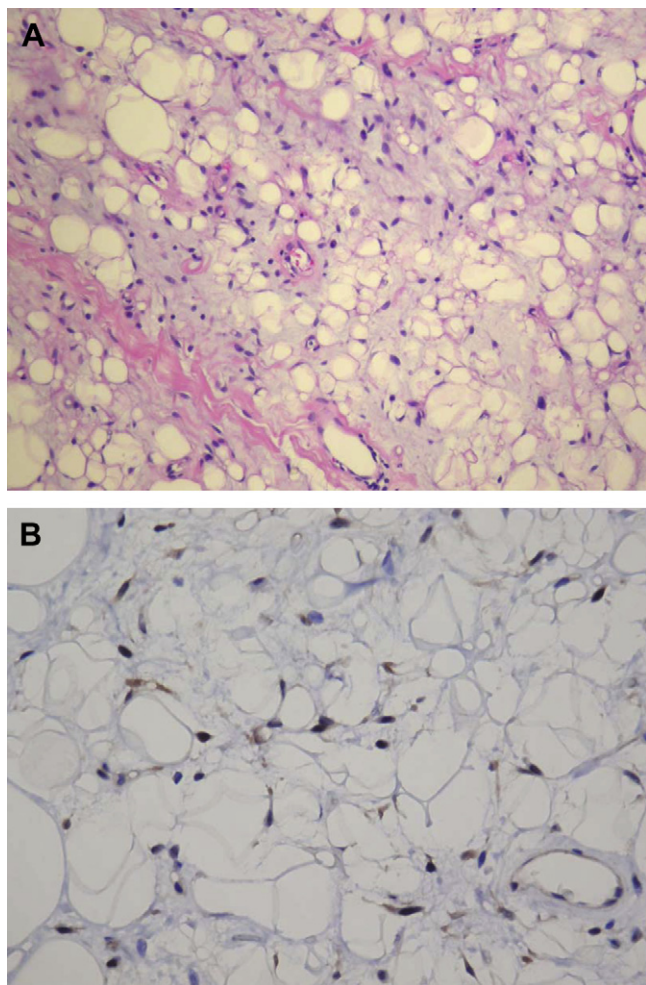


Fig. 2. (A) Histological section of the lipomatous tumor showing variable-sized adipocytes with interspersed atypical stromal cells and stromal myxoid change (hematoxylin and eosin stain; original magnification  $\times 100$ ). (B) Immunohistochemical study for CDK4 showing nuclear staining pattern (CDK4 immunostain; original magnification  $\times 200$ ).

found elsewhere, and the diagnosis was supported by immunohistochemical staining patterns. Sonographic findings of a vulvar lipoma might demonstrate lobular structural features with transvaginal transducer.

The patient was clinically thought to have a Bartholin's abscess or glandular cyst at the first visit. Bartholin's duct cysts and gland abscesses are quite common in women of reproductive age. Bartholin's glands are located bilaterally at the posterior introitus and drain through ducts that empty into the vestibule at approximately the 4 o'clock and 8 o'clock positions. These normally pea-sized glands are palpable only when the duct becomes cystic or gland abscesses develop.

Up to now, liposarcoma of the vulva is a rare entity and there were few reports to date [5,6]. This unusual localization with atypical clinical and histological appearance might induce diagnostic and treatment delay. Liposarcoma, the most common soft tissue sarcoma, usually arises in the limbs, abdomen, or trunk but very rarely in the vulva. They mostly occurred in middle-aged women with variable-sized and focally infiltrative margin. However, our patient was very young and without any medical history. The preoperative clinical diagnosis for patients may be misdiagnosed as benign lesions because of its location and appearance similar to lipoma [4]. In such a rare entity, treatment decision might be uneasy. Because early diagnosis is imperative for a favorable outcome in vulvar liposarcoma, all clinicians should keep this diagnosis in mind in a patient with a vulvar tumor.

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