Case Report

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# Recurrent Vulvar Lipoma in an Adult Patient: A Case Report and Literature Review

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## Abstract:

Vulvar lipomas are rare, and malignant lesions such as liposarcoma must be excluded. We report the case of a 38-year-old woman who presented with pain associated with a right vulvar mass and a history of lipoma removal from the same site seven years earlier. Magnetic resonance imaging (MRI) revealed an encapsulated fatty lesion measuring 8x5x3.6 cm in the right vulva. Surgical excision was performed, and histopathology confirmed the diagnosis of lipoma. At the six-month follow-up, there were no signs of recurrence or other symptoms in the vulvar area. In conclusion, vulvar lipomas are uncommon and can be difficult to differentiate from other vulvar masses. MRI is the modality of choice. Complete surgical excision is recommended for definitive diagnosis and to minimize the risk of recurrence. Long-term follow-up is advised to improve understanding of this rare condition.

**Keywords:** adult, lipoma, MRI, recurrence, vulvar

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## Introduction

Lipomas are subcutaneous tumors predominantly composed of adipose tissue. They are rarely found in the vulva region. Only a limited number of case reports, numbering just a few dozen in adult patients, have been published[1–14]. Although typically benign, some patients may experience pain and discomfort in the perineal area as the lipoma enlarges, which can also raise aesthetic concerns. Due to the uncommon location of this tumor, imaging evaluations, such as magnetic resonance imaging (MRI) or ultrasonography, are recommended to rule out malignant lesions like liposarcoma[4,5]. This case report aims to provide a detailed description of the clinical presentation, investigation, and treatment of a recurrent vulvar lipoma.

## Case report

A 38-year-old multiparous woman, with a history of two previous caesarean sections, presented with a recurrent vulvar mass on the right side. Seven years earlier, she had noticed a bulging mass in the same location on her right labia majora, associated with non-cyclical dull, aching pain and superficial dyspareunia. Surgical excision of a 5 x 4 x 5 cm mass was performed at a secondary care hospital, and histopathological examination confirmed a lipoma.

Six years ago, the patient noticed a new small mass measuring approximately 2 cm on the right side of her vulva. She reported experiencing dull, aching pain, particularly exacerbated by prolonged standing or walking, with pain patterns coinciding with her menstrual cycle. However, her menstrual periods were regular, and she denied dysmenorrhea, dyspareunia, or dyschezia. Despite the discomfort, she did not seek medical attention, as the pain was manageable with oral analgesics, and the mass did not significantly impact her quality of life. Over time, the mass gradually increased in size to 6 cm, without any signs of infection, abnormal vaginal discharge, or genitourinary symptoms. However, after six months, her pain worsened with prolonged standing and during sexual intercourse. Additionally, she expressed concerns about the asymmetry of her labia, which affected her confidence. There was no history of trauma, loss of appetite, weight loss, or family history of similar conditions.

Upon examination, a single oval-shaped mass measuring 8x4x 3.5 cm was noted on the right labia majora by palpation. The mass had a smooth surface and firm consistency. No tenderness, signs of infection, or inguinal lymph node enlargement were observed. The mass did not involve the urethral orifice, and pelvic examination findings were unremarkable (Figure 1).

MRI of the lower abdomen, including the femoral canal, revealed an encapsulated fatty lesion measuring approximately 8x5x3.6 cm located on the right labia, consistent with encapsulated lipoma. The left labia majora appeared unremarkable, and no abnormal masses were detected within the vagina or genitourinary system.

Surgical excision was performed by an experienced gynecologist under spinal anesthesia. Bedside ultrasonography guided the procedure to ensure adequate margin clearance. A vertical incision was made over the mass, followed by careful dissection of the mass capsule, using bipolar cautery and scissors until complete removal was achieved, resulting in a total specimen size of 7.5x6.0x3.5 cm. Subcutaneous fat was closed in a figure-of-eight fashion with Chromic No.2-0 sutures in two layers. Subsequently, subcuticular skin closure was performed using Monocryl 4-0 sutures. Histopathological examination confirmed the presence of benign fibrofatty tissue consistent with lipoma. Immunohistochemistry analysis yielded negative results for estrogen and progesterone receptor expression. The patient was discharged the day following surgery, and three weeks postoperatively, the surgical wound had completely healed (Figure 1). At the six-month follow-up,

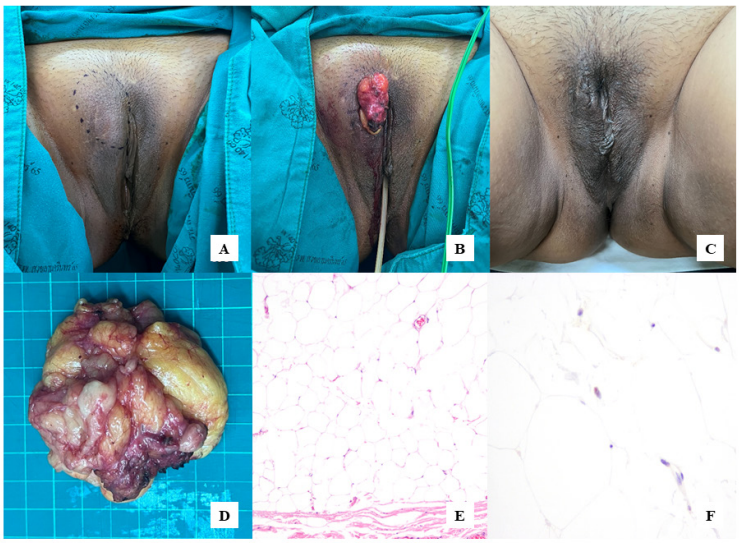


**Figure 1** Lipoma of the right vulva (A), intra-operation (B), 3 weeks follow-up presentation (C), gross specimen of lipoma showed yellowish fatty tissue (D), tumor was composed of aggregation of benign adipocytes; oval in shape, with clear cytoplasm and small oval nucleus (100x) (E), and the immunostaining of Estrogen receptor showed rare positive cells with weak intensity (arrow) (F).

there were no signs of bulging or mass on the right side of the vulva, and she reported no pain or other symptoms in the vulvar area.

## Discussion

Herein, we present a case of an uncommon, recurrent vulva lipoma in an adult patient. Before proceeding with definitive treatment, differential diagnoses such as vulvar endometriosis and malignancy were carefully considered. Vulvar endometriosis is uncommon and typically presents as a bluish or cystic lesion that becomes tender or swollen during menstruation. In this case, the patient had regular menstrual cycles without dysmenorrhea, dyspareunia, or dyschezia, and the mass was firm rather than cystic, making endometriosis less likely. Moreover, MRI demonstrated a well-defined encapsulated fatty lesion without evidence of hemorrhagic or cystic components characteristic of endometriosis.

Malignancy was also excluded based on both clinical and imaging findings. The mass showed slow, gradual enlargement over several years without ulceration, fixation, or involvement of adjacent structures. MRI revealed a homogeneous, well-circumscribed lesion with no evidence of vascularity or infiltration into surrounding tissues, findings consistent with a benign lipomatous tumor rather than malignancy. Vulva lipomas commonly occur from birth till adolescence. In adult patients, lipomas are more frequently found in the cephalic region, particularly the head, neck, shoulders, and back[3]. Previous reports have documented cases of vulvar lipomas with various clinical presentations in adult patients (Table 1). Reported age groups range widely from 17 to 75 years[4–14]; however, Lee JH et al. noted a higher incidence between 40 and 60 years[3]. The most common clinical manifestation is discomfort, similar to this case. The size of lipomas varied from 4 cm to 20 cm, with pedunculated lipomas tending to be larger[4–14]. Although this

**Table 1** Literature review of clinical presentation and investigation of vulvar lipomas in adult patients

| Author (s) | Age (Year) | Presentation | | | | Duration (months) | Location | Size (cm) | Preoperative Imaging modality |
|---|---|---|---|---|---|---|---|---|---|
| | | Pain | Discomfort | Aesthetic concern | Progressive mass enlargement | | | | |
| Agarwal U[1] | 35 | – | – | – | Yes | 6 | Left | 4x4 | Plain X-ray |
| Sherer DM[2] | 86 | – | – | – | Yes | 10 | Right | 9.7x8.5x.6.9 | USG |
| Lee JH[3] | 17 | – | Yes | – | – | 12 | Right | 8.2x5.5x3.8 | USG/CT |
| Jayi S[4] | 27 | – | Yes | – | – | 12 | Left | 6.0 | MRI |
| Reda A[5] | 43 | – | Yes | – | Yes | 48 | Right | 15.0 | USG/ MRI |
| Odoi AT[6] | 28 | – | Yes | – | – | 6 | Right | 8.0x7.0 | – |
| | 35 | – | – | – | Yes | 12 | Left | 7.0x.10.0 | – |
| Agu PU[7] | 23 | – | Yes | – | Yes | 12 | Right | 20x16 | USG |
| Jóźwik M[8] | 19 | – | Yes | Yes | Yes | 72 | Right | 16.0x9.0x6.0 | USG |
| Li S[9] | 25 | – | – | – | Yes | 48 | Right | 18x8.5x3 | MRI |
| Sukgen G[10] | 75 | – | Yes | – | Yes | 84 | Left | 17x14x10 | MRI |
| Addis NA[11] | 20 | Yes | – | – | Yes | 36 | Right | 10.0x7.0x4.0 | USG |
| Moshref LH[12] | 43 | – | – | – | Yes | 48 | Right | 4.6x4.3x10.3 | MRI |
| Thakur A[13] | 37 | – | – | – | Yes | 4 | Bilateral | 1.5x1.0 (Right) 4.0x2.5 (Left) | USG/CT |
| Hihara M[14] | 30 | – | Yes | – | – | – | Bilateral | 13x8 involve both side | MRI |
| Present case | 38 | Yes | Yes | – | Yes | 72 | Right | 8x4x3.5 | MRI |

All cases underwent surgical removal and the tissue was serially sectioned for histopathology, confirming mature adipocytes.
CT=computerized tomography, MRI=magnetic resonance imaging, USG=ultrasonography

present case involved a mass of average size compared to previous reports, the surgery was challenging due to the mass's location in subcutaneous fat and previous surgical interventions.

Masses in the vulvar areas have various etiologies, making imaging investigations, such as ultrasonography, computerized tomography (CT) scans, or MRI, essential to differentiate their origin and characteristics from Bartholin's gland cysts, cysts of the canal of Nuck, and inguinal hernias, especially in children[1,3–5]. CT scans and MRIs are helpful to distinguish these lipomas from liposarcomas[6]. In this case, MRI was utilized, although Odoi AT et al. proposed ultrasonography as the first-line imaging modality to distinguish between solid and cystic lesions and to provide information about anatomical location and size[6]. In lipomas, ultrasonography revealed encapsulated subcutaneous, whorl-shaped, lobular structures without vascularized masses[2].

The pathogenesis of lipomas remains unclear; however, it is associated with trauma, obesity, and gene rearrangement[5]. Lipomas are typically soft, mobile masses that can be felt under the skin and are non-tender[3]. Treatment decisions for lipomas depend on numerous factors, including lesion size, anatomic location, and symptoms such as pain, cosmetic concerns, and patient comorbidities. Stable or asymptomatic lipomas can be observed, and treatment options include steroid injection, liposuction, and surgical excision to remove the capsule and prevent recurrence[4,6].

Interestingly, this present case involved a recurrent vulvar lipoma. A MEDLINE search of the literature, via PubMed using the keywords "vulvar", "vulva", "lipoma", and "recurrence", yielded no relevant articles, suggesting that this is the first reported case of a recurrent vulvar lipoma. The patient experienced pain at the site of the lipoma coinciding with her menses. Mizutani T et al. identified estrogen receptors in adipose tissue and adipocytes, prompting us to perform immunohistochemical staining for estrogen and progesterone receptors to investigate the potential role of hormonal influence[15]. However, the results were negative for both receptors. Therefore, the recurrence might be attributed to the incomplete removal of the lipoma during the previous surgery.

Recurrence of lipoma is uncommon, but most frequently results from incomplete excision, particularly when remnants of the capsule are inadvertently left behind. Because lipomatous tissue can extend beyond the apparent margins of the mass, partial removal or rupture of the capsule during surgery may allow residual adipose tissue to proliferate, leading to regrowth over time. In recurrent cases, as in this patient, careful evaluation of the surgical technique and completeness of the prior excision is crucial.

To minimize the risk of recurrence, it is essential to perform meticulous dissection, ensuring the complete removal of the capsule and any adherent fatty lobules. Preoperative imaging—such as ultrasonography, CT, or MRI—can assist in defining the full extent of the lesion, its relationship to surrounding structures, and potential areas of deep extension. These modalities can serve as a guide for precise surgical planning and intraoperative localization, thereby reducing the likelihood of residual tissue. Intraoperative ultrasonography may also be helpful to confirm complete excision before wound closure.

## Conclusion

Recurrent vulvar lipoma is very rare. Although lipomas are typically benign, thorough investigations are essential for appropriate management. CT scans and MRIs are the most accurate methods for differentiating the origin of the mass and defining its anatomical extension, whereas ultrasonography is useful for determining mass characteristics and is also cost-effective and widely available. Complete surgical excision is recommended to confirm the diagnosis, especially in uncommon locations,

and to prevent recurrence. Long-term follow-up is necessary for gaining further insights into this rare condition.

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## Conflict of interest

All authors declare no conflict of interest.

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