

Lipoma Of The Labia Majora: A Case Report And Systematic Review Of The Literature

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Abstract:

Introduction: Lipomas are common benign mesenchymal tumors but are rarely encountered in the vulvar region. Their nonspecific presentation can mimic other vulvar masses, making accurate diagnosis important.

Objectives: To report a case of a lipoma of the labia majora and to systematically review the literature to characterize clinical presentation, diagnostic approaches, and management.

Methods: A systematic PubMed search was conducted from database inception through March 2026 using terms related to “lipoma” and “vulva.” Studies were included if they reported histologically confirmed vulvar or labial lipomas in human subjects. Non-vulvar lipomas, malignant tumors, and reports with insufficient clinical data were excluded.

Results: We report a case of a 55-year-old woman with a 9-year history of a painless, pedunculated right labia majora lesion that was successfully treated with excision and confirmed as a lipoma on histopathology. Our systematic review of vulvar lipomas identified 32 studies that demonstrated surgical excision as a consistently curative treatment, with no reported recurrences. Most reported cases occurred in adult women and involved the labia majora, with right-sided lesions more common than left. Tumor size varied widely. Imaging was frequently used but not universal.

Conclusions: Vulvar lipomas are rare benign tumors that typically present as slow-growing masses. Surgical excision with histopathologic confirmation is both diagnostic and curative, with excellent outcomes.

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Introduction

Lipomas are the most common benign mesenchymal tumors and are composed of mature adipocytes enclosed with a thin fibrous capsule. They typically arise in areas with abundant subcutaneous adipose tissue, most frequently involving the trunk, neck, shoulders, and extremities [1]. Although lipomas are common, their occurrence in the vulvar region is rare.

Clinically, lipomas of the labia majora usually present as slow-growing, painless, and well-circumscribed masses [1]. Due to the rarity and nonspecific presentation, these lesions may be mistaken for other vulvar masses. These could include Bartholin gland cysts, epidermal inclusion cysts, inguinal hernias, canal of Nuck hydroceles, aggressive angiomyxomas, and liposarcomas [2]. Accurate diagnosis is important to ensure appropriate management and to exclude malignant soft tissue tumors.

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Imaging modalities such as ultrasound (US), magnetic resonance imaging (MRI), or computed tomography (CT) can aid in preoperative evaluation. Definitive diagnosis typically requires histopathologic examination following surgical excision. We present a case of a lipoma arising from the labia majora and perform a systematic review of the literature to summarize the clinical presentation and imaging modalities used.

Case Presentation

A 55-year-old female, gravid 4 para 2-0-2-1 (G4P2021), presented for evaluation of a vulvar lesion involving the right labia majora. The patient reported noticing the lesion approximately 9 years prior. Since its initial appearance, the lesion had been growing slowly in size and was not associated with pain, pruritus, bleeding, or discharge. Although asymptomatic, the patient reported that the lesion had become increasingly bothersome due to its location.

Physical examination revealed a solitary, pedunculated lesion measuring approximately 1 x 3 cm arising from the right labia majora. The lesion was attached by a thick stalk and appeared well-circumscribed. The overlying skin was intact without ulceration, erythema, or signs of infection. No additional vulvar lesions were noted. The patient had a negative history for sexually transmitted diseases and infections.

Surgical excision was performed without complication, and the specimen was submitted for histopathologic evaluation. Pathologic examination demonstrated mature adipose tissue consistent with a lipoma (**Figure 1**). No cytologic atypia, lipoblasts, or features suggestive of malignancy were identified. The patient tolerated the procedure well, and no complications were reported following excision.

Methods

A systematic literature search was conducted in PubMed from database inception through March

2026 to identify reported cases of vulvar lipoma. The search strategy included the term “lipoma” in combination with “vulva,” “vulvar,” “vulval,” and “labia majora.” The search was limited to case reports published in English describing human subjects with sufficient clinical information.

Titles and abstracts were initially screened for relevance, followed by a full-text review of potentially eligible articles. Studies were included if they reported cases of lipoma involving the vulva or labia majora that were confirmed by histopathologic examination. Articles were excluded if they described lipomas occurring in non-vulvar anatomical locations, reported malignant adipocytic tumors such as liposarcoma, or lacked adequate clinical or diagnostic detail to confirm the diagnosis.

Results

131 records were identified for screening. After title and abstract review, 43 articles underwent full-text evaluation, of which 32 met inclusion criteria and were included in the final analysis (**Figure 2**) [34].

The characteristics of the reported cases are summarized in **Table 1**. Most lipomas involved the labia majora, with right-sided lesions reported more frequently than left-sided (26 vs. 12 cases). Tumor size varied widely. Imaging modalities, such as ultrasonography, CT, and MRI, were commonly used to further characterize the lesions, though imaging was not universally performed. Surgical excision/resection was the treatment across all cases and was consistently curative, with histopathology confirming the diagnosis. Recurrence was not reported in any cases.

Discussion

The present case highlights several clinical patterns observed in our systematic review of vulvar lipomas. Most reported cases occur occurred in adult women, particularly in middle-aged individuals, and involved the labia majora.

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The region's relatively higher adipose composition is likely why only 6/32 cases were described to occur in areas not in the labia majora [21, 22, 25, 28, 31, 32]. The few neonatal cases identified in the literature were associated with congenital abnormality, including accessory phallic or labioscrotal structures [21, 31]. This divergence suggests a different underlying developmental etiology, with pediatric lesions potentially arising from aberrant embryogenesis rather than true lipomatous proliferation. This is a clinically important difference, as it may influence diagnostic considerations, prompt evaluation for associated anomalies, and guide management strategies in pediatric patients.

This review also demonstrated variability in tumor size, ranging from 1.5 x 1 cm to 20 x 31 x 23 cm [7, 15]. The variability has important management implications, particularly for larger masses that can pose surgical challenges due to distortion of local anatomy and the need for more extensive reconstruction. Despite this variability, lesions were most frequently unilateral, and were reported more commonly on the right side than the left. The patient described in this report similarly presented with the right-sided lesion of the labia majora, supporting this observed trend.

Imaging was utilized in most (25/32) reported cases to further evaluate vulvar masses prior to surgical management. Ultrasounds, CT, and MRI provide valuable information to help differentiate location but can also be avoided. As seen in our case, surgical excision proves to be both diagnostic and therapeutic. Across all the cases included in the review, surgical excision/resection was the definitive treatment, resulting in favorable outcomes and no recurrences. The outcome in our patient was consistent with these findings, as the lesion was successfully removed without complication and pathology confirmed a benign lipoma.

Conclusion

Vulvar lipomas are rare benign tumors that typically present as slow-growing, painless

masses, and may be mistaken for other vulvar lesions. We report a case of a long-standing pedunculated lipoma successfully treated with surgical excision. Consistent with findings from the literature, excision with histopathologic evaluation provides definitive diagnosis and treatment with excellent outcomes.

Patient Consent on File: Consent for the publication of recognizable patient photographs or other identifiable material was obtained by the authors and included at the time of article submission to the journal, stating that all patients gave consent with the understanding that this information may be publicly available.

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Figures

Figure 1. Hematoxylin and eosin-stained section of the excised labial lesion demonstrating a well-circumscribed proliferation of mature adipocytes arranged in lobules, consistent with a lipoma.

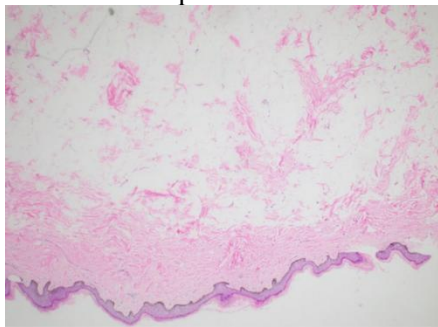
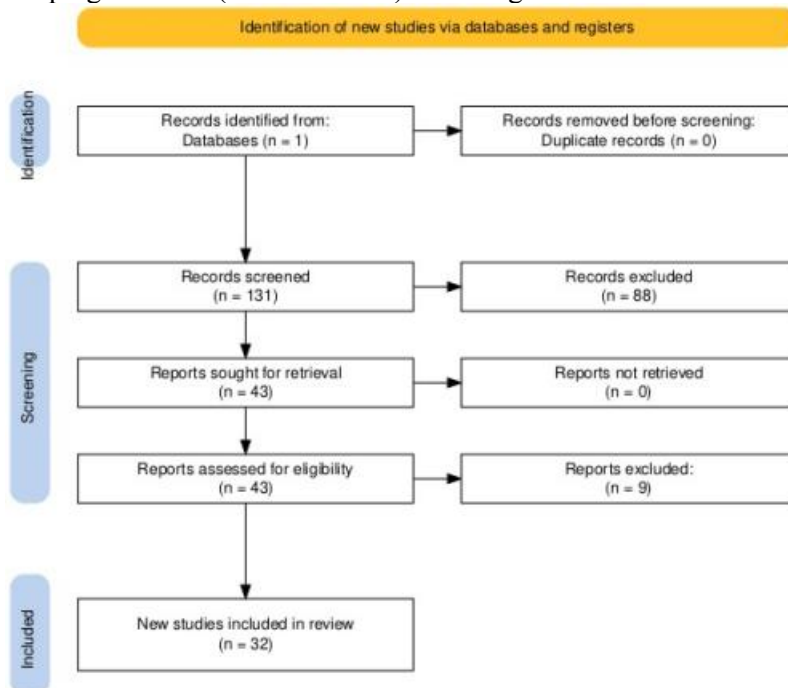


Figure 2. Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) flow diagram for the included studies in the systematic review.



Tables

Table 1. Summary of reported cases of vulvar lipomas identified in the systematic review. Includes patient demographics, tumor characteristics, imaging modalities, and treatment.

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Author; Publication Year	Patient Age	Lipoma Size (in cm)	Lipoma Location	Imaging Modality
Odoi, AT, et al.; 2011 [2]	28; 35	7 x 5; 10 x 7	Right labium majus; left labium majus	None reported
Hoang, VT, et al.; 2024 [3]	37	8 × 11 × 16	Right labia majora	CT and MRI
Batra, S, et al.; 2024 [4]	20	7.3 × 2.8 × 7.3	Left labia majora	MRI
Hihara, M, et al.; 2024 [5]	30	13 × 8	Bilateral labia majora	MRI
Addis, NA, et al.; 2024 [6]	20	10 × 7 × 4	Right vulvar mass	US
Thakur, A, et al.; 2022 [7]	37	4 × 2.5, 1.5 × 1	Bilateral labia majora	US and CT
Moshref, LH, et al.; 2021 [8]	40	4.6 x 4.3 x 10.3	Right labia majus	MRI
Ramírez-Macías, MA, et al.; 2020 [9]	23	2	Right labium majus	None reported
Williams, EE, et al.; 2021 [10]	14	Not reported	Left labia majora	MRI
Sukgen, G.; 2020 [11]	70	17 × 14 × 10	Left labia majora	MRI
Zhao, JM, et al.; 2020 [12]	25	4.9 x 2.1 x 1.6	Left labia majora	MRI
Li, S, et al.; 2019 [13]	25	14.5 × 8.8 × 6.8	Right labia majora	US and MRI
Reda, A, et al.; 2018 [14]	43	Diameter ~ 15 cm	Right labia majora	US and MRI
Szanecki, W, et al.; 2017 [15]	64	20 × 31 × 23	Right vulva	CT
Jayi, S, et al.; 2014 [16]	27	Diameter 6 cm	Left labium majus	MRI
Mifsud, W, et al.; 2014 [17]	18 months	5.0 × 2.8	Left labium majus	US and MRI
Jozwik, M, et al.; 2014 [18]	19	16 x 9 x 6	Right labia majora	US
Coronil-Belloso, P, et al.; 2013 [19]	46	Diameter 18.10 cm	Right labia majora	US
Agu, P, et al.; 2012 [20]	23	22 x 18	Right labium majus	US
Mahalik, SK, et al.; 2013 [21]	Neonate	Not reported	Right perineum	US and MRI
Sheth, A, et al.; 2011 [22]	35	6 x 5 x 1.5	Anterior vulva	None reported

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Author; Publication Year	Patient Age	Lipoma Size (in cm)	Lipoma Location	Imaging Modality
Numajiri, T, et al.; 2011 [23]	4; 7	2.0 x 1.1; 3.2 x 1.9	Right labium majora; right labium majora	MRI; MRI
Oh, JT, et al.; 2009 [24]	7; 10; 8; 7; 11; 9; 10	Not reported	Right; right; right; right; right; right; left vulva	US and MRI; CT; MRI; CT; US; none; none
Arsenovic, NN, et al.; 2009 [25]	26	Diameter 8 cm	Right vulvoinguinal	None reported
Lee, JH, et al.; 2008 [26]	17	8.2 x 5.5 x 3.8	Right labia majora	US and CT
Sherer, DM, et al.; 2007 [27]	86	15 × 10 × 3.5	Right labia majora	US
Agarwal, U, et al.; 2004 [28]	35	4 x 4	Left labium minora	X-ray
Reis-Filho, JS, et al.; 2002 [29]	56	1.8 x 1.5 x 1.5	Left labium majus	None reported
Kehagias, DT, et al.; 1999 [30]	52	Not reported	Right labia majora	CT
Van Glabeke, E; et al.; 1999 [31]	5 months	Not reported	Preputium clitoridis	None reported
Fukamizu, H, et al.; 1982 [32]	7 months	3.5 x 5.5 x 3.5	Right vulva	None reported
Mishina, A, et al.; 2025 [33]	36	9.26 x 3.72	Left labia majora	US