

Giant Vulvar Lipoma: A Case Report and Literature Review

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To cite this article:

Mengru Zhao, Ying Cao, Yao Chen, Yun Yang, Mengyue Chen, Huimin Tang, Junling Liu, Weiwei Wei, Tingwei Xing, Ruxia Shi, Bairong Xia, Jiming Chen. Giant Vulvar Lipoma: A Case Report and Literature Review. *Journal of Gynecology and Obstetrics*. Vol. 10, No. 6, 2022, pp. 253-256. doi: 10.11648/j.jgo.20221006.13

Received: October 31, 2022; **Accepted:** November 23, 2022; **Published:** December 8, 2022

Abstract: Lipoma is the common benign soft tissue tumors. However, to date, few reports of vulvar lipomas have been reported. This article reports a rarer and relatively large type of vulvar lipoma. Below is the case of a 32-year-old woman who has a huge right vulvar lump. She was admitted to the hospital because she touched a growing lump on the right side of her vulva. Self-reported no special discomfort, the mass is non-tender, no activity, slow-growing, and the size is about 11*6*5cm. She also reported discomfort when walking for nearly two months, accompanied by friction and a feeling of foreign bodies. In gynaecological clinics, ultrasonography suggests a possible diagnosis of lipoma, and further CT (computed tomography) and MRI (magnetic resonance imaging) studies show the diagnosis of lipoma. Combined with the patient's history and ancillary examination, surgery is currently indicated and the patient strongly requests surgery. Therefore, after improving the relevant blood and urine routine, coagulation function, liver and kidney function and other auxiliary examinations after admission, the patient had no obvious contraindications to surgery, and under general anesthesia, the author's team reconstructed the vulva, restored the beauty of the vulva, and completely removed the mass. Postoperative pathological findings suggest a diagnosis of lipoma. Since vulvar lipomas are uncommon, especially in young women. And there is a greater possibility of being misdiagnosed. Therefore, it is also important to identify this benign vulvar mass in daily management. Based on this, the author's team reported a relatively rare case of giant vulvar lipoma.

Keywords: Lipoma, Vulvar, Vulvar Diseases, Benign Tumour, Giant Lipoma

1. Introduction

Vulvar lipomas can be divided into liposarcoma and lipomas. Among them, lipoma is the most common benign soft tissue tumor, with an incidence rate of 2.1/1000 people/year, the population prevalence rate is 1% [3, 6]. It usually occurs in fat rich areas (trunk, shoulder, upper limb), and rarely in the perineum [5, 6]. Vulvar lesions can be classified as benign or malignant [8], This mass not only affects the shape and beauty of the vulva surface, but also changes the walking posture, which brings some problems to patients.

These may be non malignant (Bartolin cyst, duct cyst and abscess, Skene duct cyst) or benign (lipoma, fibroma, invasive angiomyoma) [8, 12]. Sanchez et al. defined giant lipoma. Lesions with a size greater than 10 cm and a weight greater than 1000 g, especially rapidly growing masses, should attract the attention of doctors [13]. The initial diagnosis is mainly based on CT (computed tomography) and MRI (magnetic resonance imaging), which usually requires resection and is confirmed by histopathological description [1]. The cause of its onset is unknown. It is reported that gene rearrangement and trauma may be potential factors [10, 11]. In recent years, a small number of vulvar lipomas have been reported. For example, in 2018, Reda

and Gomaa reported a 15 cm vulvar lipoma. [4], 2019 DekondaN et. al. A case report of one case of lipoma diagnosed by fine needle aspiration before the first USG operation was published [7].

2. Case Description

The author's team reported a 32 years old young woman who suffered from discomfort when walking and sitting, which led to a right vulva mass lasting for more than a year with progressive pain. And the patient was diagnosed with polycystic ovary syndrome and type II diabetes. No previous personal or family history of similar conditions. In the gynecological examination, there was an oval mass covering the vaginal entrance on the right labia majora. The size of the mass is about 11 * 6 * 5cm, without redness, softness, mobility, tenderness, cough and fluctuation (Figure 1). The skin above the mass can be lifted, and the inguinal lymph node does not swell. Ultrasonography showed slightly high echo texture without cystic changes or vascular distribution.



Figure 1. Vulvar mass covering the introitus.

During the operation, a long oval incision was made on the skin of the patient's lump, which can not only remove the redundant tissue, but also better suture the vulva skin to achieve the effect of cosmetic repair. The lump is easily separated from the surrounding tissues, and the lump is completely and cleanly removed from the capsule. After hemostasis, the wound shall be secured, and then the wound shall be wrapped with compression dressing. The diameter of the resected mass was 10 cm and was surrounded by fibrous capsule (Figure 2). Postoperative histopathological examination revealed mature adipose tissue and confirmed lipoma. Two months after the operation, the wound healed well without complications (Figure 3).



Figure 2. Vulvar lipoma after surgical excision.



Figure 3. Wound healing was good at postoperative follow-up.

3. Discussion

Lipoma is a very common benign tumor in clinic, which is composed of adipocyte and fibrous connective tissue chains [2]. They have a clear boundary, lobulated, histologically similar to normal adipose tissue, and is interspersed with fibrous vascular septum and boundary formation [12]. Lipomas are usually found under the skin. Benign vulvar tumors are usually classified into epithelial tumors (including appendages, ectopic cells and Keratinocytes) or stromal tumors (such as fat, fibers, melanocyte, muscles, nerves and blood vessels) according to their origin. Lipoma is the most common benign middle lobe soft tissue tumor. But it can also occur in almost all parts of the body (areas rich in adipose tissue), but also the vulva is a rare lipoma site.

Vulvar lipomas are more common between the ages of 40 and 60. The etiology and pathogenesis of lipomas are unknown [14]. Currently recognized risk factors include trauma, obesity and gene rearrangement [10, 11]. Whether there is a pathogenic relationship between blunt soft tissue injury and post-traumatic lipoma formation remains controversial. So far, we have discussed the two most likely mechanisms. First of all, the formation of the so-called post-traumatic "pseudolipoma" may be due to fascia prolapse caused by direct action. In addition, the formation of lipoma may also be the result of differentiation and proliferation of Pre-adipocytes mediated by cytokine release after blunt trauma and hematoma formation [4]. According to the investigation history, we know that our patients are not overweight and have no history of trauma.

Lipoma can be usually diagnosed by clinical examination. Generally speaking, lipoma is characterized by single or multiple mobile swelling soft tissues, which does not attach to the upper skin and progress slowly. In most cases, these symptoms help to make a correct diagnosis in clinical diagnosis. In particular, it is necessary for children and adolescents to distinguish between vulvar lipoma and lipoma, cystic swelling of papillary and nail ducts, inguinal hernia and [15, 16, 17]. Ultrasound, computed tomography (CT) and magnetic resonance imaging (MRI) is considered to be more accurate and useful auxiliary tools for diagnosing vulvar lipoma [10, 11] Ultrasonography showed vulvar lipoma initially by D. M. Serer et al. demonstrated the contribution of local application of high-frequency transvaginal sensors to the evaluation of superficial subepidermal masses [18]. Ahmed Reda et al. reported a case of vulvar lipoma. Magnetic resonance imaging (MRI) usually shows an oval soft tissue mass with clear cyst, uniform intensity, similar to normal adipose tissue, and no diffusion limitation.

The treatment of vulvar lipoma includes surgical excision, liposuction, laser, ultrasound and drug injection. Surgical resection is the first choice for the treatment of vulvar lipoma clinically demonstrated, and the histopathological diagnosis of surgical specimens excludes the possibility of any malignant tumor. Of course, recurrence and other complications is possible, but short-term recurrence should attract the attention of clinicians to guard against the

possibility of malignant lipoma. The preoperative auxiliary examination of this case suggested that there might be lipoma. The huge lipoma of vulva was resected surgically and confirmed by postoperative pathological report.

4. Conclusion

Although we have included a few cases, only one at present, our conclusion is valid. Some vulvar lipomas are congenital, while others occur later. Secondly, vulvar lipomas are rare sites for the development of lipomas. It is necessary to distinguish vulvar lipomas from some stromal tumors. These include liposarcoma, breast myofibroblastoma, invasive angiomyoma (AA), isolated fibrosis, and angiomyoma. These cells are usually composed of oval/spindle cells in collagen stroma, with similar imaging and morphological characteristics [9]. However, after excluding the possibility of malignant tumors, surgical resection is the best choice to treat these diseases, and the diagnosis is confirmed by histopathology. Therefore, this case can be used as a reference and reminder for gynecologists to diagnose and treat related diseases to a certain.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author Contributions

Dr. Jiming Chen disclosed the source of funding for this study. The other authors have nothing to disclose.

Funding

This work was supported by grants from Changzhou High-Level Medical Talents Training Project (2022CZBJ074), the maternal and child health key talent project of Jiangsu Province (RC202101), the maternal and child health research project of Jiangsu Province (F202138), the Scientific Research Support Program for Postdoctoral of Jiangsu Province (2019K064), and the Scientific Research Support Program for "333 Project" of Jiangsu Province (BRA2019161).

Acknowledgements

We gratefully acknowledge the assistance of Huichao Xiao in taking the pictures of the giant vulvar lipoma during the surgery.

References

- [1] Elakhiri M, Darouassi Y, Oukabli M, Jahidi A, Benariba F. Prise en charge dun lipoma cervical géant: à propos dun cas et revue de la littérature [Management of a giant cervical lipoma: case report and literature review]. *Pan Afr Med J.* 2021 Jun 3; 39: 100. French. doi: 10.11604/pamj.2021.39.100.12727. PMID: 34466202; PMCID: PMC8379405.
- [2] Ramírez-Macías MA, Álvarez-García B, Rayo JAM, Garza IR, Piñero-Díaz J, López-Valdés JC. Giant vulvar lipoma. *Cir Cir.* 2021; 89 (5): 694-695. English. doi: 10.24875/CIRU.20000311. PMID: 34665172.
- [3] Sukgen G. A Case Report: The Third-largest Case in the Literature of a Vulvar Lipoma. *Gynecol Minim Invasive Ther.* 2020 Oct 15; 9 (4): 234-236. doi: 10.4103/GMIT.GMIT_45_19. PMID: 33312869; PMCID: PMC7713658.
- [4] Reda A, Gomaa I. Vulvar Lipoma: A Case Report. *Rev Bras Ginecol Obstet.* 2018 Oct; 40 (10): 647-649. doi: 10.1055/s-0038-1670642. Epub 2018 Oct 23. PMID: 30352464.
- [5] Moshref LH, Malaekah H. A Large Lipoma of the Labia Majora. *Cureus.* 2021 Nov 30; 13 (11): e20066. doi: 10.7759/cureus.20066. PMID: 35003940; PMCID: PMC8723716.
- [6] Charifa A, Azmat CE, Badri T: *Lipoma Pathology.* StatPearls Publishing, Treasure Island, FL; 2021.
- [7] Dekonda N, Koremilli R, Wattamwar A, et al. Vulvar lipoma - a case series. *IOSR-JDMS.* 2019, 18: 14-16. 10.9790/0853-1809121416
- [8] Yang DM, Kim HC, Kim SW, Won KY: Groin abnormalities: ultrasonographic and clinical findings. *Ultrasonography.* 2020, 39: 166-77. 10.14366/usg.19041
- [9] Altal OF, Rawashdeh S, Al Sharie S, Al Zu'bi YO, Al Sharie AH, Daoud MN, Alkhalwaldeh KM. Surgical excision of giant vulvar angiofibroma: A case report and a review of literature. *Medicine (Baltimore).* 2022 Sep 9; 101 (36): e30125. doi: 10.1097/MD.00000000000030125. PMID: 36086676.
- [10] Coban YK, Uzel M, Gumus N. Lipoma due to chronic intermittent compression as an occupational disease. *Ann Plast Surg* 2006; 57 (03): 275-278. Doi: 10.1097/01.01.sap.0000223205.88824.39
- [11] Bianchini L, Birtwisle L, Saâda E, et al. Identification of PPAP2B as a novel recurrent translocation partner gene of HMGA2 in lipomas. *Genes Chromosomes Cancer* 2013; 52 (06): 580-590. Doi: 10.1002/gcc.22055
- [12] Heller DS. Benign Tumors and Tumor-like Lesions of the Vulva. *Clin Obstet Gynecol.* 2015 Sep; 58 (3): 526-35. doi: 10.1097/GRF.000000000000133. PMID: 26125957.
- [13] Sanchez MR, Golomb FM, Moy JA, Potozkin JR. Giant lipoma: case report and review of the literature. *J Am Acad Dermatol.* 1993 Feb; 28 (2 Pt 1): 266-8. PubMed| Google Scholar.
- [14] Aust MC, Spies M, Kall S, Gohritz A, Boorboor P, Kolokythas P, Vogt PM. Lipomas after blunt soft tissue trauma: are they real? Analysis of 31 cases. *Br J Dermatol.* 2007 Jul; 157 (1): 92-9. doi: 10.1111/j.1365-2133.2007.07970.x. Epub 2007 Jun 6. PMID: 17553055
- [15] Lee JH, Chung SM. Large vulvar lipoma in an adolescent: a case report. *J Korean Med Sci.* 2008 Aug; 23 (4): 744-6. doi: 10.3346/jkms.2008.23.4.744. PMID: 18756071; PMCID: PMC2526395. Coban YK, Uzel M, Gumus N. Lipoma due to chronic intermittent compression as an occupational disease. *Ann Plast Surg.* 2006 Sep; 57 (3): 275-8. doi: 10.1097/01.sap.0000223205.88824.39. PMID: 16929194.

- [16] Odoi AT, Owusu-Bempah A, Dassah ET, Darkey DE, Quayson SE. Vulvar lipoma: is it so rare? Ghana Med J. 2011 Sep; 45 (3): 125-7. PMID: 22282580; PMCID: PMC3266143.
- [17] Jourjon, R., et al., Angiolipoma of the labia majora: MR imaging findings with histopathological correlation. Clin Imaging, 2013. 37 (5): p. 965-8.
- [18] Sherer DM, Gorelick C, Wagreich A, Lee YC, Serur E, Zigalo A, Abulafia O. Sonographic findings of a large vulvar lipoma. Ultrasound Obstet Gynecol. 2007 Oct; 30 (5): 786-7. doi: 10.1002/uog.5130. PMID: 17763338.