

Giant epidermal inclusion cyst in an unusual site: A case report

¹Maryam J Ali, ¹Jonathan A Karshima, ²Michael I Reich, ³Philip O Akpa

Abstract

Background: Most cases of female external genitalia epidermal inclusion cysts reported were localized to the labia majora and clitoris, with only one previously reported on the labia minora. Here we report a case of giant epidermal inclusion cyst of the labia minora.

Presentation of case: A 31 year old multipara presented with an 8 year history of painless vulvar swelling causing difficulty in walking and marital disharmony. The swelling was located on the right labia minora and measured 8 by 10cm. The histology report of the excised mass revealed vulvar epidermal inclusion cyst. The patient was discharged from the hospital

with no complications.

Conclusion: Epidermal inclusion cyst should be considered as one of the differential diagnosis of a giant vulvar tumours and evaluation and diagnosis should be performed promptly.

Keywords: Labia minora, Epidermal Inclusion cyst, Vulvar tumours, Marital disharmony

Date received: 6 February 2022; accepted: 7 March 2022

Highland Med Res J 2021;21(2):66-69

Introduction

Epidermal cysts are intradermal or subcutaneous tumours contained within the epidermis. They are formed as a result of invagination of keratinized squamous epithelium of the skin.¹ Most epidermal cysts are mainly found on the face, trunk, extremities and scalp, but can occur anywhere in the body but rarely found on the vulva.^{1,2} Vulvar epidermoid cysts have been reported to be frequently localized on the clitoral region and labia majora.^{3,4} Vulvar epidermal cysts are frequently multicystic and the diameter of the largest loculus is often less than 1cm. They generally grow slowly and their growth process stops when their diameters reach 5 cm.^{2,5} Histopathological diagnosis differentiates vulvar cysts from other vulvar lesions. For the treatment of a large vulvar cyst, total excision of the mass is a good approach. This case was reported because of its large size, the rare site of occurrence, the prime reason for presentation and to add epidermal inclusion cyst to the list of differentials of benign labia minora swellings.

Presentation of the case

A 31 year old P₅ +⁰ 5 alive, whose last child birth was 6 years prior to presentation, presented with a history of vulvar swelling of 8years duration. The swelling was noticed after her fourth delivery which was through an emergency caesarean section for prolonged labour. It was initially the size of a pea and had gradually increased to the size of a fist. There was no history of vulvar trauma,

female genital cutting or swelling in other parts of the body. The mass was painless and not reducible, but associated with difficulty in walking and interfered with coital function due to the size. Initially the mass did not interfere with intercourse, but with increasing size, though painless, made intercourse unpleasant. This strained their marriage and her spouse abandoned her six years ago as at the time of presentation. Physical examination revealed a large mass (8 x10cm) in size, not tender, had regular contour and fluctuant on the right labia minora with thick pedicle and un-indurated base. The clitoris was palpated separately from the mass. The vagina and cervix appeared normal on speculum examination. The uterus was normal size and there were no palpable inguinal lymph nodes. The labial mass was successfully removed surgically.

Figure 1 Epidermal Inclusion cyst of labia minora



¹Department of Obstetrics and Gynaecology University of Jos, Nigeria, ²Department of Obstetrics and Gynaecology North Shore Physicians Group Salem, Massachusetts, USA, ³Department of Histopathology, University of Jos, Nigeria

All correspondences to:

Maryam J Ali

Email: maryamjamila08@gmail.com



Figure 2: Excised inclusion cyst



Figure 4: Excised inclusion cyst

Pathology of specimen

On gross examination the excised tissue consisted of a compressible cystic structure with an overlying negroid skin. When cut open it revealed whitish cheesy material measuring about 60mls and a grayish white glistening cyst wall lining.



Figure 3: Post excision of vulva swelling



Figure 5: Content of the inclusion cyst

Histopathological examination of the cyst wall revealed a stratified squamous epithelium with an intact granular layer and devoid of underlying skin adnexal structures. The cyst cavity contained laminated layers of keratin.

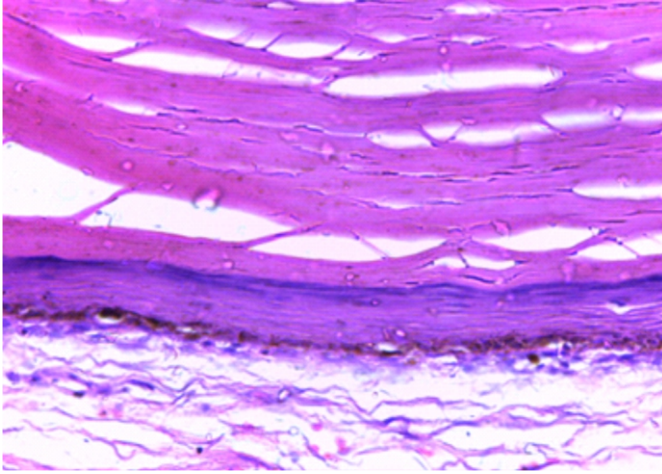


Figure 6: Photomicrograph (Haematoxylin and eosin x 400 magnification) showing a stratified squamous epithelial lining with intact granular layer and laminated keratin within cyst cavity.

The diagnosis was epidermal inclusion cyst. The patient was discharged from the hospital three days postoperatively to continue follow-up in the outpatient clinic.

Discussion

Epidermoid cysts can occur in a variety of locations, including the face, trunk, neck, extremities scalp and rarely on the vulva. The rare vulvar cysts develop mostly as a result of implantation of superficial epidermal tissue into dermis or subcutaneous tissue following trauma, during delivery or following episiotomy. Some inclusion cyst may develop *de novo*. In communities where cultural female genital cutting is practiced, vulvar epidermal cysts (usually clitoral) develop more frequently as a secondary effect of female circumcision.⁶ Most of the vulvar epidermal cysts described in the literature are localized on the clitoris; and female genital cuttings and obstetric traumas adjudged as underlying causes. Nevertheless, there are few cases of vulvar epidermal cysts localized on the clitoris and labia reported in the literature without history of trauma or surgery.² Our patient, who had a vulvar epidermal cyst, had no history of vulva trauma or female genital cutting.

There is a significant variation in the clinical presentations of patients. Most present with an asymptomatic or slowly growing vulva mass. While some patients may experience difficulty in walking because of the large cystic mass or a complicated and painful mass.^{2,7} As in this case similar sexual and

psychological effects was reported previously. The diameter of the largest epidermal cyst so far reported in the literature was 12 cm and it was on the labia majora.⁸ The only previously reported case on the labia minora measured about 6 x 4 x 3.5 cm².

In the differential diagnosis of vulva benign tumours various cystic lesions must be considered. These could include mucous cyst, cyst of the canal of Nuck, Bartholin's cyst, Skene's duct cyst, epidermal inclusion cyst, lipogenic tumors such as adenolipoma and lipomas; and also, endometrioma, post-traumatic hematoma, inguino-labial hernia and vulvar syringoma, among rarely seen vulva lesions. Malignant tumors of the vulva though rare, such as liposarcoma, should also be considered in the differential diagnosis.

For preoperative diagnosis, detailed and meticulous physical examination is of great importance. Irrespective of the size of the mass, total surgical excision of the mass is more appropriate for definitive histopathological diagnosis and for the prevention of future development of complications including rupture of the cyst, hematoma, infection or, rarely carcinoma.

Our patient underwent total surgical excision. A urethral catheter was inserted and the urethra was noted to be away from the mass and so guarded during the surgery. Careful dissection was undertaken to avoid injury to the clitoris, particularly the dorsal neurovascular structures. This was to ensure clitoral function was not compromised and also guaranteed an aesthetically acceptable external genitalia aimed at reducing the physical and psychological problems that had constrained her marital relationship.^{9,10}

As was the case with our patient, definitive diagnosis of epidermal inclusion cyst is by histopathological demonstration of typical cyst circumscribed with keratinized stratified squamous epithelium.

Conclusion

Epidermoid cysts can occur in a variety of locations including the vulva. Up to now, those vulvar epidermal cysts reported in the literature were localized on the labia majora and the clitoris. This was the first case of giant epidermal cyst on the labia minora to the best of our knowledge with its attendant psychosocial complication. Epidermal cysts should be considered in the differential diagnosis of a vulvar mass and an important cause of psychosexual dysfunction.

Conflict of Interest

All authors declare that there is no conflict of interest

Funding

None

Ethical approval

Informed consent was obtained from the patient for the

surgery and publication of this case report and accompanying images.

References

1. Calonje E, Brenn T, Lazar A, McKee PH. McKee's pathology of the skin: with clinical correlations. 4th ed. Elsevier/Saunders, 2012:1803
2. Pehlivan M, Özbay PÖ, Temur M, Yilmaz Ö, Gümüş Z, Güzel A. Epidermal cyst in an unusual site: A case report. *Int J Surg Case Rep.* 2015;8C: 114–6.
3. Kroll G L, Miller L. Vulvar epithelial inclusion cyst as a late complication of childhood female traditional genital surgery. *American Journal of Obstetrics & Gynecology.* 2000;183(2):509–510.
4. Karaman E, Çim N, Akdemir Z, Elçi E, Akdeniz H. Giant vulvar epidermoid cyst in an adolescent girl. *Case Rep Obstet Gynecol.* 015:942190.
5. Schmidt A, Lang U, Kiess W. Epidermal cyst of the clitoris: a rare cause of clitorimegaly. *Eur J Obstet Gynecol. Reprod. Biol.* 1999;87:163–16
6. Birge O, Erkan MM, Serin AN. Case report: epidermoid inclusion cyst of the clitoris as a long-term complication of female genital mutilation. *J Med Case Rep.* 2019;13(1):109.
7. Gupta S, Gupta S, Jain VK, Kumar B. A 'stone' in the vulva. *Sex Transm Infect.* 2000;76.4:319.
8. Yang WC, Huang WC, Yang JM, Lee FK. Successful management of a giant primary epidermoid cyst arising in the labia majora. *Taiwan J Obstet Gynecol.* 2012;51.1:112–114.
9. Raymond Takpe R, Bello O.O, Onebunne A.C. Case Report: Huge Inclusion cyst as a long term complication of female genital mutilation, South Sudan Medical Journal 2019; 12(3):109-111.
10. Moran C, Lee C. 'Everyone wants a vagina that looks less like a vagina': Australian women's views on dissatisfaction with genital appearance. *J Health Psychol.* 2018;23:229-39