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RESEARCH ARTICLE

THINKING BEYOND THE CYST: VULVAR ENDOMETRIOSIS MIMICKING A RECURRENT BARTHOLIN'S GLAND CYST – A CASE REPORT

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Abstract

Background:-Vulvar endometriosis is a rare form of extra pelvic endometriosis that may be easily mistaken for a Bartholin's gland cyst or abscess. Misdiagnosis delays appropriate treatment and leads to repeated, ineffective procedures.

Case Presentation:- A 32-year-old woman presented in July 2026 with recurrent, painful swelling of the left vulva that began in February 2024. The symptoms worsened every time with menstruation. In early 2025, the mass ruptured spontaneously on two occasions, discharging dark brown fluidmixed with old blood.She underwent incision and drainage with marsupializationinMarch2025forapresumed Bartholin's abscess. She had another cyst excision in December 2025.The mass recurred within two months of the procedure on both occasions. Examination revealed a7cm tender, irregular, predominantly cystic mass in the left labia, extending into the vagina and posterior fourchette. Ultrasound showed a cystic lesion in the anatomical region of the Bartholin's gland. The mass was homogeneous, had low-level internal echoes, without septations, papillary projections or internal vascularity on color Doppler. The lesion was surgically excised. A presumptive diagnosis of endometriosis was made . She was discharged on combined oral contraceptives.Herpostoperative course was uncomplicated. Histopathology confirmed vulvar endometriosis.At three months of followup, she was asymptomatic, with no evidence of recurrence.

Conclusion:-Vulvar endometriosis should be considered in women with recurrent, cyclical vulvar swelling that recurs after treatment for a presumed Bartholin's abscess or cyst. Careful history-taking, attention to cyclical symptoms and histopathological confirmation can prevent misdiagnosis and repeated ineffective treatments. Complete excision, with hormonal suppression, is an effective option.

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Introduction:-

Endometriosis is a benign, estrogen dependent condition characterized by the presence of endometrial glands and stroma outside the uterine cavity(1,2).While it most frequently affects pelvic structures such as ovaries, uterosacral ligaments, pelvic peritoneum, and rectovaginal septum, extrapelvic involvement can occur in almost any organ system. Vulvar endometriosis remains a rare clinical entity, accounting for a very small fraction of extrapelvic cases(3).Pathologically, vulvar endometriosis is categorized as either primary or secondary. Secondary lesions develop following localized surgical or obstetric trauma, such as episiotomies, perineal laceration repairs, or surgical interventions that inadvertently transplant endometrial cells into the vulvar tissue. Conversely, primary vulvar endometriosis develops spontaneously in the absolute absence of previous local surgery or perineal trauma(4). The condition may be clinically difficult to distinguish from other vulvar lesions, especially when the presenting feature is a localized mass. Because the clinical presentation typically mimics benign vulvar lesions, a Bartholin's gland cyst or abscess is the most frequent diagnosis. However, a vulvar mass that exhibits cyclical pain, fluctuates in size, or bleeds in tandem with the menstrual cycle should immediately raise suspicion for ectopic endometrium. This report describes a unique case of vulvar endometriosis that closely mimicked a Bartholin's gland cyst and emphasizes the clinical nuances necessary to achieve an accurate and timely diagnosis.

Case Presentation:-

A 32-year-old G3P3003 woman presented to our gynecology department with a 2-year history of an intermittent swelling in the left vulvar region, which she first noticed in early 2024. The patient described a dull, throbbing pain within the swelling that escalated drastically during her menses. She also reported progressive, severe dysmenorrhea and deep dyspareunia during all her cycles. She managed these symptoms with oral indomethacin.

She denied experiencing fever, abnormal uterine bleeding, or urinary and bowel symptoms. Notably, she reported two episodes in 2025 where the mass spontaneously ruptured, discharging a dark brownish, chocolate-like fluid mixed with old blood, which led to temporary symptom relief. In March and December 2025, she underwent two incision and drainageprocedures with marsupilization at a district hospital for apresumptive diagnosis of a bartholin's abscess. However, the mass and its cyclical symptoms recurred within two months of the procedures.

Her obstetric history revealed three uncomplicated, full-term vaginal deliveries. She had no history of episiotomy, perineal lacerations, pelvic surgeries, or direct vulvar trauma. Menarche was at age 13 and cycles were regular, every 26 days, lasting 4–5 days. She was not using hormonal contraception. She had no significant medical history. There was no family history of endometriosis or gynecological malignancies

Clinical Examination:-

General examination revealed an anxious but otherwise well appearing woman. Vital signs were stable with a blood pressure of 124/67 mmHg, pulse was 78 beats per minute, and the respiratory rate was 16 breaths per minute. Abdominal and pelvic examinations were unremarkable.

Local inspection of the perineum revealed a 7cm, poorly defined, irregular mass on the left labia majora. The mass extended into the vagina, partially obliterating the introitus and extending toward the posterior fourchette. On palpation, the lesion was mobile, soft, cystic, fluctuant, and highly tender. There was no active ulceration, overlying skin erythema, active purulent discharge, or palpable inguinal lymphadenopathy. Speculum examination was not possible due to the mass obliterating the introitus. There were no significant findings on digital rectal examination.

Investigations:-

Routine laboratory investigations, including full blood count, renal function tests, liver function tests and urinalysis, were all within normal reference ranges. A transabdominal ultrasound revealed a normal-sized uterus with a homogeneous myometrium, a thin endometrial stripe, and completely unremarkable adnexa bilaterally, showing no signs of ovarian endometriomas.A transvaginal scan was difficult to do due to the vulva pain.

A vulva dedicated ultrasound demonstrated a 6.5-cm, thick-walled cystic mass located in the left labia majora, extending directly into the Bartholin's gland anatomical space. The fluid within the cyst demonstrated fine, homogeneous low-level internal echogenicity without internal septations, papillary projections, or demonstrable internal vascularity on color Doppler imaging. Given the anatomical location, these findings were clinically interpreted as highly suggestive of a complex Bartholin's gland cyst, with epidermal inclusion cyst, localized vulvar hematoma, and benign soft-tissue tumor considered as secondary differentials.

Treatment:-

The patient was scheduled for complete surgical excision under spinal anesthesia. Intraoperatively, the mass was found to comprise three deeply situated, interconnected, well-circumscribed cystic locules within the vulvar soft tissue, notably free from dense adhesions to the surrounding structures(see figure 1). During careful dissection, one of the tense cysts accidentally ruptured, draining thick, odorless, chocolate-colored fluid. (see figure 2). We irrigated the operating field after the spillage. The entire cystic mass was excised with clear surgical margins. The resulting dead space was closed in layers using absorbable sutures, and meticulous hemostasis was achieved without difficulty.(see figure 3). A Bartholin gland cyst was not identified separately. Gross inspection of the cut specimen revealed mixed solid and cystic areas containing thick, altered blood and thick walls.See figure 4).The specimen was fixed in formalin and submitted for histopathological examination.



Figure 1:Intraoperative view of the left vulva mass before excision

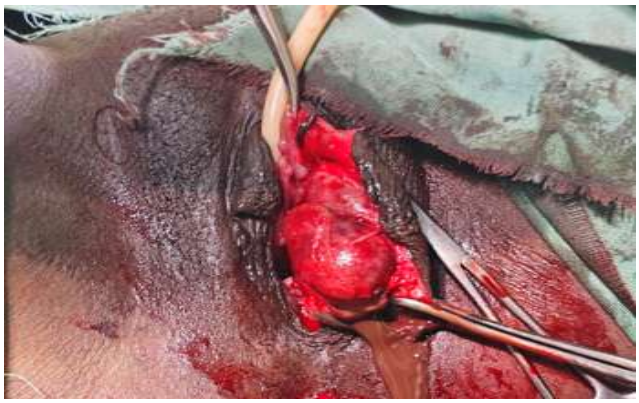


Figure 2: Intraoperative rupture of a locule with chocolate-colored fluid



Figure 1: Operative field after excision and layered closure

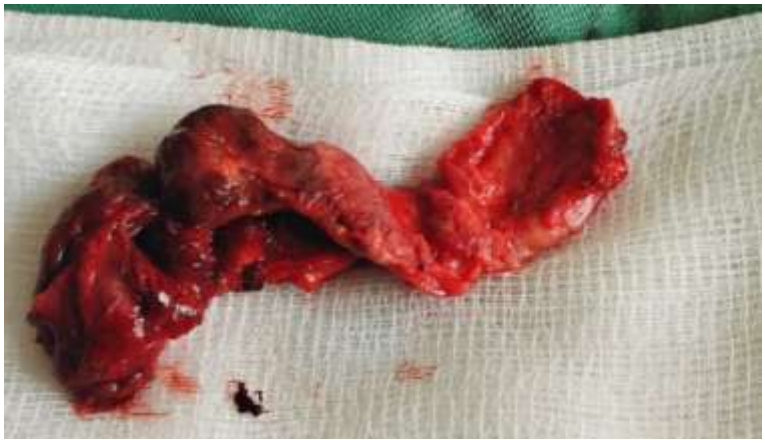


Figure 4: Cut surface of the specimen showing mixed solid and cystic areas with altered blood.

The patient's postoperative course was uncomplicated. She was discharged on postoperative day three with a three months course of combined oral contraceptives. Hormonal therapy was given to suppress ovulation, lower estrogen-driven stimulation, and reduce the risk of disease or symptom recurrence. At her 4-week postoperative review, the vulvar surgical site had healed completely with excellent cosmetic results. The patient reported a complete resolution of her focal vulva pain and a total absence of swelling or dyspareunia. At her 3-month follow up visit, she had no clinical or sonographic evidence of local recurrence. Given her resolution, strong desire to get pregnant and to avoid systemic hormones, the oral contraceptives were stopped, and she was continued on analgesia to control dysmenorrhea. She was advised to undergo regular clinical surveillance.

Histopathological Findings:-

Microscopic examination revealed benign endometrial glands lined by pseudostratified columnar epithelium. Endometrial glands and stroma were identified within the fibroadipose vulva soft tissue. The glands were associated with hemosiderin deposition and chronic inflammatory infiltrates. There was no evidence of cytological atypia, malignancy, or other neoplastic transformation. Bartholin gland tissue acini, ducts and lining epithelium were absent. The surgical margins were free. Immunohistochemistry was not done.The histopathological findings confirmed the diagnosis of vulva endometriosis.

Discussion:-

Classification and pathogenesis:-

Vulvarendometriosis is an uncommonly reported manifestation of extra-pelvic endometriosis(5). Clinically, it is classified as either primary or secondary, with most cases being secondary. Secondary lesions are generally associated with previous surgery, obstetric trauma, episiotomy, or perineal repair(6). In one systematic review, approximately 95.3% of patients presenting with vulvo-perineal endometriosis had a clear surgical history, such as episiotomy, perineal trauma, vaginal lacerations, or prior pelvic surgery(3).In contrast, primary vulvar endometriosis occurs without a history of local surgical manipulation or trauma, making the diagnosis more challenging. The origin of such lesions remains unresolved. Proposed mechanisms include the lymphatic or hematogenous spread of endometrial cells; coelomic metaplasia of pluripotent cells in vulvar tissue under cyclic hormonal influence; and migration of endometrial tissue from the pelvis along the round ligament through a patent canal of Nuck (7,8). While microtrauma without lacerations during the previous deliveries cannot be ruled out in our case, her presentation may favor the lymphatic or vascular dissemination theory although the pathogenesis remains unresolved. Secondly, the two incisions and drainages may also have contributed to the recurrence.

Diagnostic delay and the Bartholin's gland cyst pitfall:-

The variable clinical presentation of vulvar endometriosis leads to significant diagnostic delays, with patients frequently enduring years of mismanaged symptoms(9). While a painful, cyclical vulvar mass that undergoes catamenial swelling is highly pathognomonic, these classic cyclical findings are missing or subtle in many patients(10). Some lesions may have a typical blue or red appearance due to repeated hemorrhage. The absence of cyclical symptoms does not exclude the diagnosis(11). However, two features should have raised the question or suspicion earlier in our case. The chocolate-colored discharges at two spontaneous ruptures and the recurrence within two months of each incision and drainage.

Therefore , a "recurrent Bartholin's cyst or abscess" in a woman of reproductive age, particularly one with cyclical pain, should be biopsied or excised with histology rather than drained or marsupialised only.The location of our patient's lesion, deep within the posterior left labia perfectly mimicked a Bartholin's gland cyst, a pitfall well-documented in literature when pelvic masses develop in proximity to the vestibular glands(12). Other important differentials to rule out include lipomas, hidradenitis suppurativa, epidermal inclusion cysts, and soft-tissue sarcomas. Malignancy, including clear cell carcinoma arising in endometriosis, must be considered when a lesion is fixed, ulcerated, rapidly enlarging or occurs in older women. No such features were present in our case and histology showed no atypia.

Imaging:-

Ultrasound may help to distinguish between a cystic and a solid mass, but its findings may be easily misread. Endometriomas typically show a thick wall and homogeneous low-level internal echoes (ground-glass appearance) caused by degraded blood. In our patient, this pattern was interpreted as a complex Bartholin's cyst. The ultrasound also reported no septations, whereas surgery showed three interconnected locules, which indicates that ultrasound may sometimes underestimate internal architecture in a mass of this kind. MRI gives excellent soft-tissue contrast and can help map deep, extensive or recurrent lesions, but it was not available to us. In similar settings, high-quality

trans labial or transperineal ultrasound by an experienced operator and biopsyof any recurrent lesion is a practical alternative. However , imaging cannot replace histology for the diagnosis (13).

Treatment:-
Complete local surgical excision with wide margins is universally accepted as the treatment of choice for localized vulvar endometriosis. Wide excision ensures the removal of all functional stroma, provides tissue for definitive diagnosis and dramatically minimizes the risk of local recurrence(14). One locule ruptured during dissection in our case. The resulting spillage may leave residual tissue and elevate the risk of recurrence, necessitating continuous follow-up. Hormonal suppression (progestins, combined oral contraceptives or GnRH agonists) can be used as an adjunct or alternative. They are best reserved for extensive or deep disease, incomplete resection or coexisting pelvic endometriosis. Treatment should be individualized according to the patient's age, fertility wishes, symptom severity, lesion extent and patient choice after counselling(15)(16)(17). We gave our patient a two-months course of a combined oral contraceptive as an adjunct. Recurrence may occur, particularly following incomplete excision or in the presence of residual endometriotic tissue. Long-term follow-up is therefore appropriate, especially for patients with persistent cyclical symptoms or a history of recurrent disease. Although malignant transformation of endometriosis is uncommon, any rapidly enlarging, atypical, or recurrent lesion should be assessed carefully(18).

Limitations and lessons:-
The primary limitations of this report include its single case design, and a brief follow up period that prevented long term recurrence assessment, a critical factor given the lesion's rapid recurrence within two months of earlier drainages. Additionally, pelvic endometriosis was not ruled out by MRI or laparoscopy. Diagnostic confirmation was further limited by the absence of immunohistochemistry and the pathological examination of tissue from previous procedures. The main lesson from this case is that a presumed Bartholin's gland cyst should be reconsidered when the lesion is recurrent, painful in a cyclical pattern or unresponsive to standard management as in our case. Secondly , ultrasound features of vulvar endometriomas may be mistaken for complex Bartholin's cysts.

Conclusion:-
Vulvar endometriosis is a rare extra-pelvic manifestation that may mimic Bartholin's gland pathologies, frequently resulting in misdiagnosis, delayed treatment, and repeated, ineffective surgical interventions. A high index of suspicion, careful evaluation of catamenial symptom exacerbation, and histopathological confirmation are essential to preventing diagnostic delays. Although this report is limited by a brief follow up period, complete surgical excision with postoperative hormonal suppression may provide effective definitive management for similar patients.

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Author Contributions:

Handsome Dube:-Contributed to the study conception, clinical management, data collection, literature review, manuscript drafting, critical revision, and submission for publication

Aimable Segwiza:-Contributed to data collection , literature review , analysis, revision and proof reading.
All authors gave final approval of the version to be published

Disclosure:-The authors declare that there are no competing interests

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