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Unnoticed Gynaeatresia Leading to Recto-Vaginal Fistula from Coital Tear: A Rare Cause of Infertility: A Case Report from Sunyani Teaching Hospital in the Bono Region of Ghana in the Sub-Saharan Africa

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ABSTRACT

Gynaeatresia, particularly of the acquired type, is a rare condition that may go unnoticed until it causes complications such as infertility. Even more uncommon is its association with recto-vaginal fistulae resulting from coital trauma. We report a case of a young woman with acquired partial vaginal atresia involving the outer third of the vagina. Over the years of marriage, she and her partner had unknowingly engaged in rectal intercourse due to the narrowed vaginal introitus. This resulted in an undiagnosed recto-vaginal fistula caused by coital trauma. The fistula subsequently became the default passage for coitus, with regular semen deposition into the rectum. The couple remained unaware of the anatomical abnormality for years, assuming normal sexual relations and attributing their infertility to natural delays. The condition was only revealed when the woman, prompted by the use of a newly installed water closet at home, sat in front of a mirror and noticed abnormal anatomical features. Further history revealed excessive vaginal douching eight years before marriage, likely resulting in scarring and subsequent gynaeatresia. The patient underwent a planned two-stage surgical intervention. First, the rectovaginal fistula was repaired to restore the anatomical barrier between the vagina and the rectum and to establish a sterile field. She was advised to abstain from sexual intercourse during the healing period. A definitive surgical correction of the vaginal atresia was scheduled for 1 month later, following adequate tissue healing. This case highlights a rare but significant cause of infertility resulting from acquired gynaeatresia and recto-vaginal fistula following coital trauma. It underscores the importance of thorough gynaecologic examination in cases of unexplained infertility, as well as public education on safe reproductive health practices. A staged surgical approach is crucial for optimal outcomes in managing coexisting rectovaginal fistula and acquired gynaeatresia.

Keywords: Acquired gynaeatresia, Recto-vaginal fistula, Coital tear, Rare gynaecological condition, Infertility, Staged surgical management, Reproductive Health.

INTRODUCTION

Gynaeatresia refers to partial or complete obliteration of the vaginal canal, which may be congenital or acquired in origin and can significantly impair a woman's sexual and reproductive function [1]. Congenital vaginal atresia, including conditions like Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome, is often detected during adolescence due to primary amenorrhea, cyclic pelvic pain, or inability to initiate sexual activity. In contrast, acquired gynaeatresia occurs later in life and is relatively rare, often under-reported due to sociocultural stigma, lack of awareness, or limited access to gynaecologic services in low-resource settings [2]. Indeed,

sociocultural beliefs, gender roles, and taboos around sexuality in sub-Saharan Africa contribute substantially to underreporting and delayed care-seeking for such conditions [3].
The causes of acquired gynaeatresia are varied and may include postpartum or post-surgical scarring, pelvic infections, chemical burns, female genital mutilation (FGM), radiation exposure, or chronic mechanical or chemical irritation, such as from prolonged or aggressive vaginal douching [4]. These insults may lead to fibrosis, adhesion formation, and ultimately narrowing or complete occlusion of the vaginal canal. The condition often presents with dyspareunia, hypomenorrhea or amenorrhea, and infertility, although some patients may remain asymptomatic until complications arise [2].

In sub-Saharan Africa, some women have a practice of using herbal or chemical products for vaginal douching, and this culturally embedded practice is aimed at perceived cleansing, tightening or increasing sexual satisfaction. Still, it can result in chronic inflammation, fibrosis and eventual vaginal stenosis [5]. If undiagnosed, this can lead to dangerous outcomes during attempted coitus, including trauma to adjacent structures such as the rectum or perineum.

Infertility, defined as the inability to conceive after 12 months of regular unprotected intercourse, is a major reproductive health concern in Africa, often attributed to tubal factor infertility, male factors, or ovulatory disorders. However, rare mechanical causes, such as gynaeatresia, can also play a role, especially when sexual dysfunction is undiagnosed or misinterpreted. The diagnosis of vaginal atresia may be delayed or missed entirely in societies where open discussion of sexual health is taboo, and where gynecologic examinations are only sought for obstetric concerns [6].

Even more uncommon is the formation of a recto-vaginal fistula as a result of coital trauma secondary to unrecognised gynaeatresia. Most recto-vaginal fistulas are reported in obstetric contexts, commonly from obstructed labour or instrumental delivery, or may result from pelvic surgeries, malignancies, or inflammatory bowel diseases such as Crohn's disease [6]. Fistulas arising from misdirected penile penetration during coitus, especially in the presence of a vaginal stricture, are extremely rare but have been documented in isolated case reports. Globally, infertility affects nearly 48 million couples, making it a significant public health issue beyond Africa [8].

This case report highlights an unusual but important clinical scenario where acquired partial vaginal atresia led to coital trauma and the formation of a recto-vaginal fistula, which inadvertently became the couple's route for sexual activity. This condition went undiagnosed for several years, with infertility as the primary complaint. The case emphasises the importance of thorough perineal examination in patients with unexplained infertility, the need for public education on harmful practices like vaginal douching, and the potential for sexual health neglect to mask correctable anatomic abnormalities.

CASE PRESENTATION

A woman in a stable marital relationship presented to the gynaecology clinic with a history of primary infertility. She reported regular sexual intercourse and harmonious cohabitation with her partner over several years. Upon detailed questioning, she denied experiencing pain during intercourse and had no history of vaginal discharge or menstrual abnormalities. However, she

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mentioned that about a week before the presentation, her husband had installed a modern water closet in their home. While using the WC, she sat in front of a mirror for the first time and noticed what she described as “something not looking right” in her genital area.

Further evaluation revealed that the outer third of her vagina was severely stenosed, consistent with gynaeatresia. Detailed sexual history revealed difficulty with initial penetration early in the marriage, which was eventually “resolved” when intercourse became possible, though unbeknownst to the couple, penetration was occurring via a recto-vaginal fistula resulting from an old coital tear. This tear had provided a false sense of resolution and became the default passage for intercourse over several years.

The woman recalled a history of frequent and aggressive vaginal douching, approximately eight years ago, before her marriage. This likely caused local mucosal injury and subsequent fibrosis, leading to vaginal atresia. Neither she nor her partner was aware that intercourse was not occurring via the normal vaginal route. The discovery prompted their visit to the health facility. A perineal examination confirmed severe stenosis of the vaginal introitus with scarring and a communication between the rectum and upper vaginal vault, consistent with a chronic recto-vaginal fistula. A visible tract connects the rectum to the lower vagina, with yellowish faecal material indicating chronic leakage through the abnormal opening as shown in figures 1, 2, 3 & 4 below.

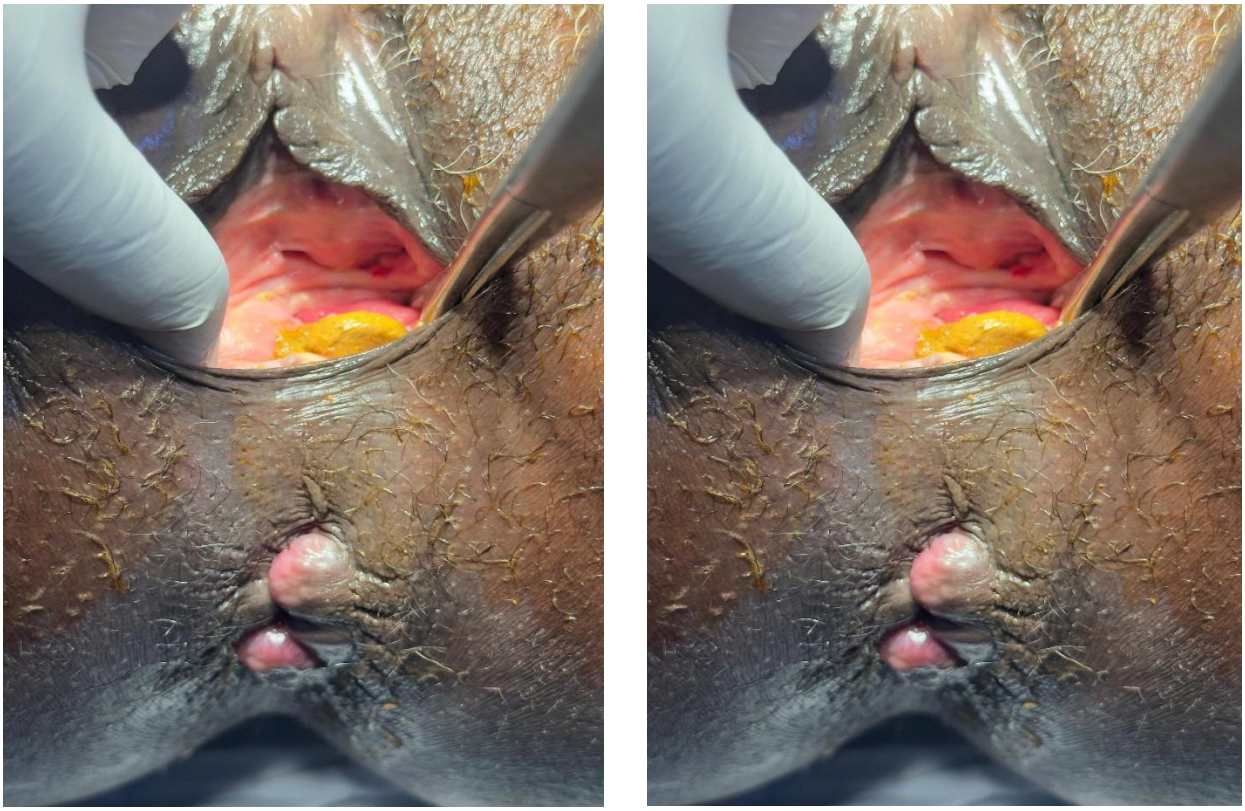

Figure 1 & 2: Perioperative image showing rectovaginal fistula tract.

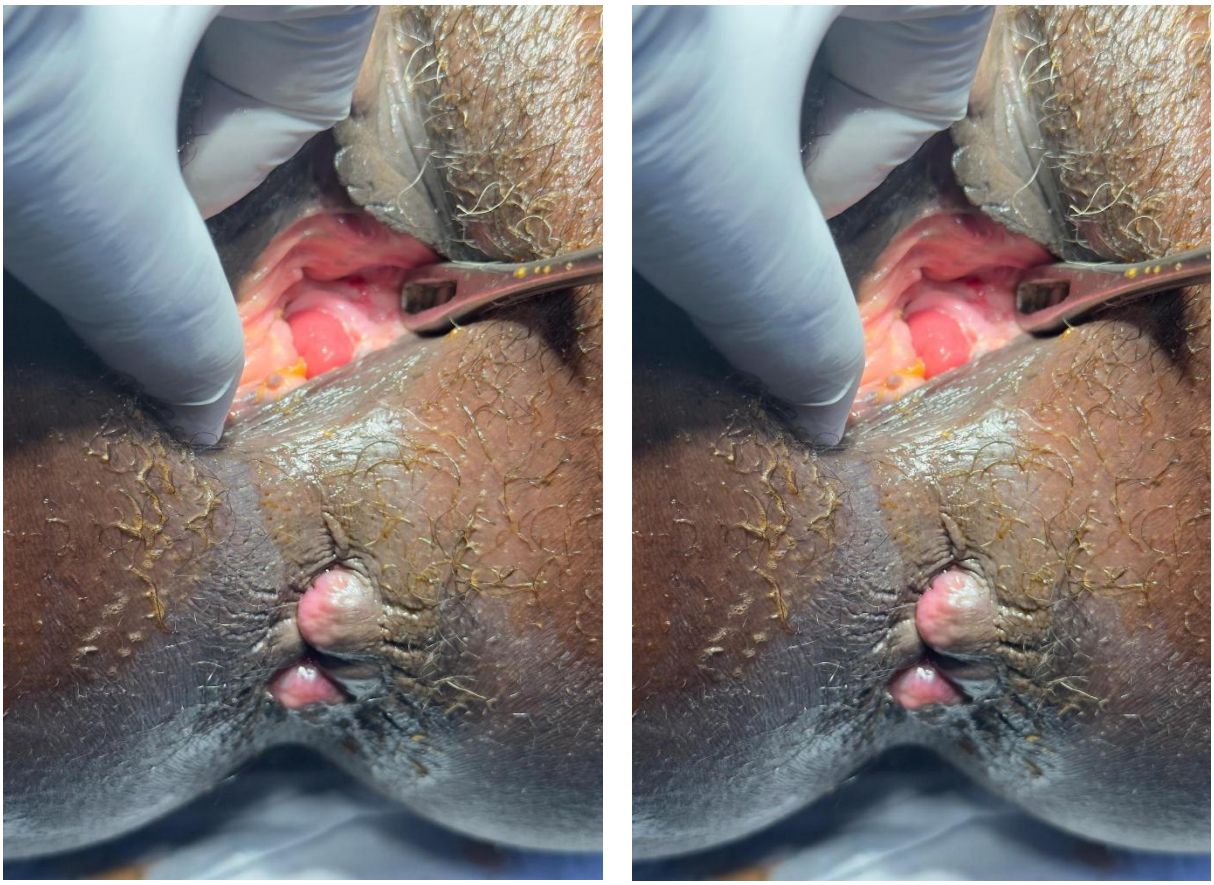

Figure 3 & 4: Pre-repair image of the rectovaginal fistula. The fistula opening is clearly visualized.

In this case, the surgical management was planned in two stages. The rectovaginal fistula was repaired to restore anatomical separation and create a sterile field, minimising the risk of contamination during subsequent procedures. The patient was advised to abstain from sexual intercourse during the healing period. Definitive repair of the vaginal atresia was scheduled for one month later, allowing adequate time for fistula healing and tissue recovery before reconstructive intervention. The surgical field shows completed layered closure with visible sutures, indicating successful separation of rectal and vaginal structures as shown in figures 5 & 6 below.

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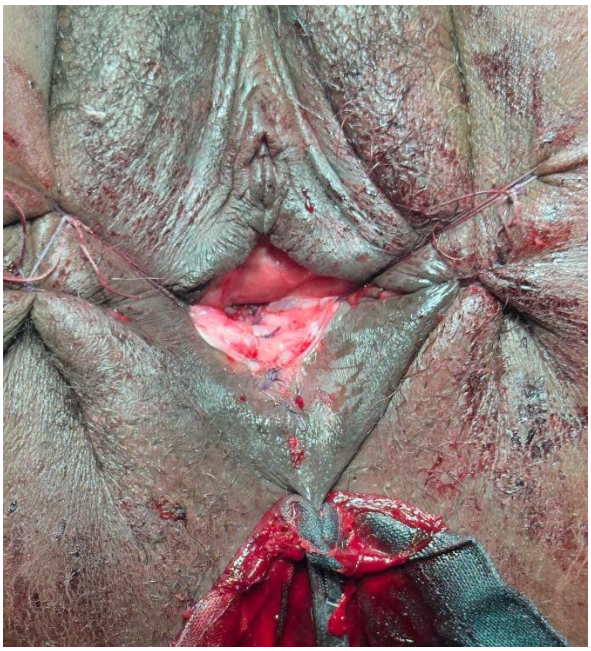
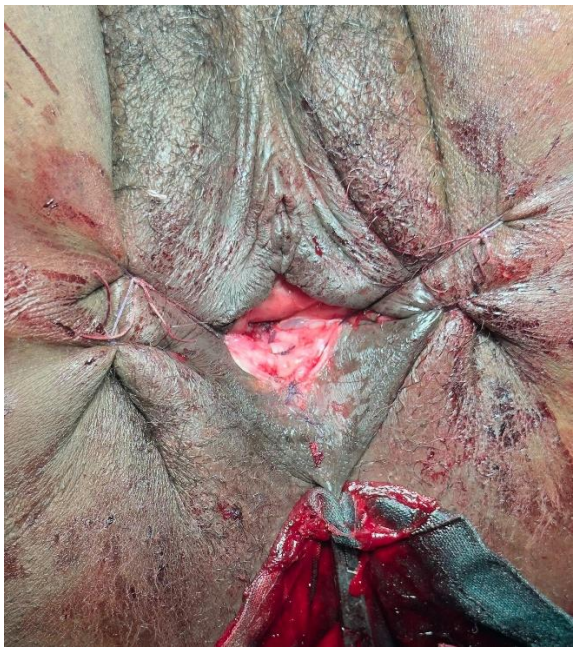

Figure 5 & 6: Postoperative image following rectovaginal fistula repair.

RECONSTRUCTION OF THE VAGINA

One month after successful repair of the rectovaginal fistula and adequate healing of the tissues, the patient underwent the second stage of surgery, which involved definitive vaginal reconstruction. As shown in Figures 7 & 8, a complete layered closure with vaginal mucosa approximation was achieved.

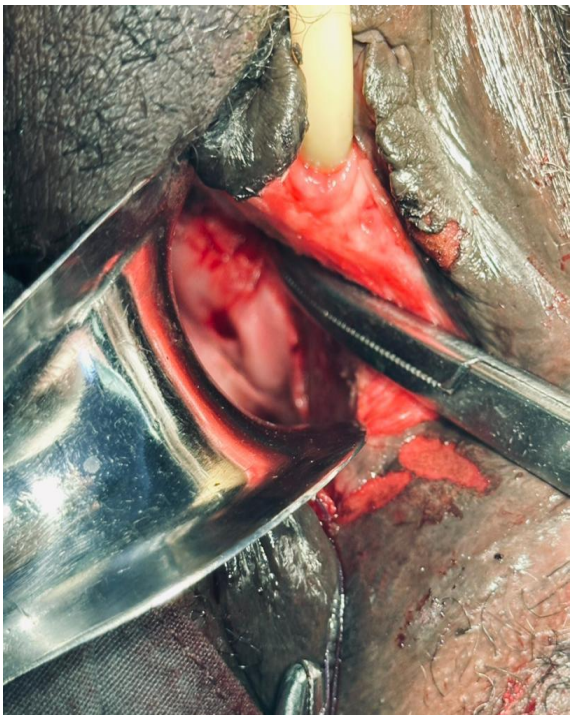
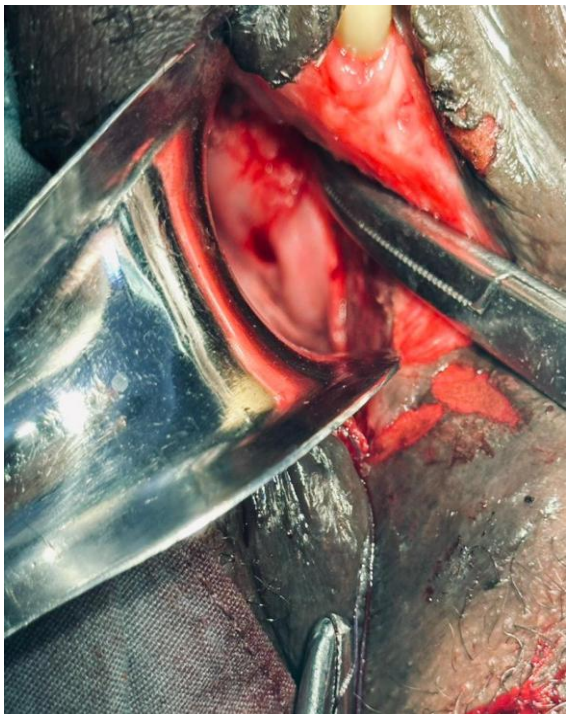

Figure 7& 8: Post-operative image following vaginal reconstruction.

This procedure aimed to restore the vaginal canal and improve both anatomical and functional outcomes. Intraoperative findings confirmed complete healing of the fistula site, and the vaginal introitus was reconstructed. Postoperative recovery was uneventful, and the patient was counselled on vaginal dilatation and abstinence from sexual intercourse until full healing was achieved. This aligns with evidence from low-resource settings in Nigeria, where vaginal reconstruction surgeries have shown good anatomical and functional outcomes when performed in a staged manner [9].

DISCUSSION

This case presents a rare intersection of acquired gynaeatresia and traumatic recto-vaginal fistula formation, an unusual but clinically significant cause of infertility. Acquired gynaeatresia, although rare, can result from a range of causes, including infection, trauma, chemical injury, or improper hygiene practices such as vaginal douching. Several studies have warned about the dangers of frequent vaginal douching, which include increased risk of pelvic inflammatory disease, vaginal scarring, and altered vaginal flora [4]. Chronic inflammation from such practices can cause fibrosis and stenosis of the vaginal canal, as likely occurred in our patient. Case series from North Africa have also highlighted how chemical burns, especially from caustic vaginal cleansing agents, can result in acquired vaginal stenosis and secondary fistula formation [10].

The formation of a recto-vaginal fistula due to coital trauma is even rarer. In literature, most fistulas are obstetric or iatrogenic in origin. However, Rochon et al. [7] and others have reported isolated cases of coital injuries causing rectal or perineal tears, particularly when normal vaginal intercourse is anatomically obstructed. In our case, the presence of unrecognised gynaeatresia led to inadvertent vagino-rectal coitus, with resultant tearing and eventual fistula formation. The couple's realisation only came about due to an incidental discovery during the use of a mirror, a scenario which underscores how a lack of awareness can delay diagnosis of preventable or treatable conditions. Over time, this abnormal communication became the path of least resistance and permitted years of sexual activity without suspicion, albeit with misdirected semen deposition and ongoing infertility.

Infertility in this context was a direct result of two mechanisms: the first being mechanical obstruction of the vaginal canal, preventing normal vaginal intercourse, and the second being chronic misdirection of semen into the rectum, bypassing the cervix and uterine cavity entirely. This is an extremely rare aetiology of infertility and may go undetected unless a thorough physical and perineal examination is performed. Studies emphasise that vaginal and perineal examination remains essential in evaluating unexplained infertility, particularly in areas where cultural or resource barriers delay gynecologic consultation [6].

Comparatively, Ezekiel et al. [11] documented a series of 21 Nigerian women with acquired gynaeatresia, predominantly caused by the use of herbal pessaries and caustic vaginal cleansers. Unlike the present case, most of their patients reported early dyspareunia and inability to consummate marriage, prompting earlier presentation. The uniqueness of the current case lies in the prolonged adaptation and unawareness of the vaginal obstruction, which eventually led to serious rectal injury, infertility and recto-vaginal fistula.

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Furthermore, [12] in a similar study found that acquired gynaeatresia can follow obstetric complications such as poorly managed puerperal infections or instrumental deliveries. While these cases were linked to postpartum trauma, our case was purely non-obstetric in origin, further emphasising the diverse aetiologies that can culminate in vaginal stenosis.

Additionally, the review by [13] emphasised that over 60% of women in parts of Kenya engaged in some form of vaginal product use, often without medical guidance. These findings mirror the cultural backdrop of the patient in our report, where vaginal douching was seen as routine and beneficial. Unfortunately, this tradition, often passed down through generations, is rarely challenged or investigated in clinical encounters unless complications arise.

A Ghanaian case series by [14] also highlighted the challenge of late diagnosis, where patients often presented with infertility, chronic pelvic pain, or obstructed intercourse. In line with our case, they emphasised the importance of a high index of suspicion, especially in women with infertility and unexplained coital discomfort.

Moreover, the psychological toll in such cases should not be underestimated. Women may suffer silently, blaming themselves or facing societal pressure for childlessness without understanding the underlying pathology [1, 5]. Marital relationships may also be strained, especially when sexual satisfaction is compromised or when blame for infertility is unjustly assigned [5, 13]. In this context, the importance of comprehensive sexual and reproductive health education, especially premarital counselling, cannot be overstated. Beyond the physical challenges, infertility imposes profound psychological distress, including marital disharmony, depression, and social isolation, as reported among Nigerian women [15].

This case calls for greater advocacy, community education, awareness campaigns on the dangers of harmful practices such as douching, and integration of gynaecologic evaluation in routine reproductive health services. Health systems, particularly in sub-Saharan Africa, must work to dismantle harmful practices through community engagement, sensitisation programs and provision of safe alternatives. Equally crucial is the training of healthcare providers to recognise the less obvious presentations of gynaeatresia and to conduct thorough pelvic examinations in case of unexplained infertility or dyspareunia. Such cases highlight the need for global and national advocacy, as emphasised by UNFPA, which calls for stronger community engagement to eliminate harmful reproductive health practices [16].

CONCLUSION

This case highlights a rare but significant complication of undiagnosed vaginal gynaeatresia resulting in a recto-vaginal fistula due to attempted coitus. The delayed presentation, infertility, and psychosocial burden underscore the importance of early diagnosis and multidisciplinary management of genital tract anomalies. It also calls for increased awareness and education regarding safe reproductive practices and potentially harmful acts such as vaginal douching. Prompt surgical repair of the recto-vaginal fistula is essential in creating a sterile environment, thereby allowing reconstruction of the vaginal atresia. Patient counselling on sexual abstinence during the healing period is crucial in ensuring optimal post-operative outcomes. This case adds to the limited literature on coital injuries associated with gynaeatresia and reinforces the need for high clinical suspicion in similar presentations.

Conflict of Interest

No conflict of interest from the authors of this article.

Consent

Written informed consent was obtained from the patient for publication of this case report. Research and Development approval code: STH/RD/25/0140.

Author Contributions

1. Addai Darko Kwadwo (kwaddaidarko@yahoo.co.uk): First reviewer of the case report and primary surgeon for the case.
2. Charles Osei Ato (choseiantoh@yahoo.com): Second reviewer of the case report.
3. Okyere Bernard: Assistant surgeon for the first repair and responsible for follow-up after the first repair.
4. Elisha Awuah (elishaawuah6@gmail.com): Drafted the abstract, introduction, and case presentation.
5. Banabas Kpankyaano (kpankyaanob@gmail.com): Prepared the discussion, conclusion, and references.
6. Clarke Dustine Snr (clarkesrdustine@yahoo.com): Assistant surgeon for the second repair and follow-up after vaginal reconstruction.
7. Zakari-Saa Wunmi (wunmi.zak@gmail.com): Conducted literature review and rearranged references.
8. Edmund Boampong (eddiebee888@gmail.com): Contributed to the case presentation and literature review.
9. Isaac Opoku Kyeremeh (iopoku63@gmail.com): Contributed to the literature review.
10. Dono Kolbe Maximillian: Prepared the consent form.
11. Alexander Kofi Egote (alexanderegote@yahoo.com): Final reviewer of the case report.

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