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Case Report

Unveiling the hidden malignancy: primary vaginal squamous cell carcinoma in longstanding third-degree uterovaginal prolapse- a rare case report

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ABSTRACT

Primary vaginal squamous cell carcinoma (SCC) is a rare malignancy, representing only 1–2% of all gynecologic cancers. Its occurrence in association with longstanding third-degree uterovaginal prolapse (UVP) is extremely uncommon, occurring in <1 % of cases. This overlap presents unique diagnostic challenges, as ulcerative lesions in prolapse may mimic benign decubitus ulcers, leading to delayed detection and treatment. A 70-year-old multiparous postmenopausal woman presented with a 25-years history of third-degree UVP, accompanied by foul-smelling vaginal discharge and difficulty in defecation for 6 months. Clinical examination revealed a 10 × 8 × 2 cm ulcerative, exophytic lesion involving the entire left lateral part of the vaginal wall with a small ulcer free area below the introitus. The cervix appeared hypertrophied with keratinization. The prolapsed portion was irreducible even under anesthesia. Histopathologic examination of a biopsy specimen confirmed moderately differentiated Vaginal Squamous Cell Carcinoma. Pelvic MRI demonstrated bilateral iliac lymphadenopathy without invasion of adjacent organs. In view of the patient's advanced age and frailty, she was deemed unsuitable for surgical intervention. Definitive external beam radiotherapy was initiated and she continues to be monitored under oncologic care. This case highlights the importance of maintaining a high index of suspicion for malignancy in elderly patients with longstanding pelvic organ prolapse and atypical vaginal ulcerations. Early biopsy and imaging are critical for timely diagnosis. Clinicians should be vigilant for malignancy masquerading as decubitus ulcers in UVP, as early detection can significantly alter management strategies and improve outcomes.

Keywords: Postmenopause, Squamous cell carcinoma, Uterine prolapse, Vaginal neoplasms

INTRODUCTION

Primary vaginal squamous cell carcinoma (SCC) is a rare malignancy, accounting for only 1–2% of all gynaecologic cancers.¹ It predominantly affects postmenopausal women and is associated with risk factors such as prior hysterectomy, pelvic irradiation and high-risk human papillomavirus (HPV) infection.² The occurrence of SCC in the setting of longstanding third-degree uterovaginal prolapse (UVP) is extremely uncommon, with fewer than 30 well-documented cases reported globally.^{3,4}

Longstanding prolapse can lead to chronic mucosal exposure, mechanical trauma and persistent inflammation in a hypoestrogenic environment, which are believed to contribute to carcinogenesis independent of HPV pathways.^{5,6} The resulting mucosal ulcerations may be misinterpreted as benign decubitus ulcers, especially in elderly women, thereby delaying appropriate diagnosis and management.⁷ Fonseca et al, reported that among women with UVP, histopathological evaluation revealed decubitus ulcers in 13.6%, chronic cervicitis in 97.9%, but carcinoma in situ in only 1%, underscoring the rarity and

diagnostic difficulty of underlying malignancy in utero vaginal prolapse.⁸ Authors report a rare case of moderately differentiated vaginal SCC in a 70-years-old woman with a 25-years history of irreducible third-degree UVP, highlighting the importance of early biopsy and imaging in evaluating suspicious lesions in uterovaginal prolapse.

CASE REPORT

A 70-years-old multiparous postmenopausal woman presented to the gynecology outpatient department with a 25-years history of third-degree uterovaginal prolapse, now associated with foul-smelling vaginal discharge and difficulty in defecation for the past 6 months. She had not undergone any prior cervical screening. On examination, a 10×8×2 cm exophytic, ulcerative lesion was observed involving the entire left lateral part of the vaginal wall, friable and bleeding on touch, with a small ulcer free area below the introitus. The cervix was hypertrophied with surface keratinization. The prolapse was irreducible on clinical examination and attempted reduction under anesthesia was unsuccessful.



Figure 1: Irreducible utero vaginal prolapse with Vaginal squamous cell carcinoma, ulcerated lesion covering almost the entire lower two thirds of vagina.

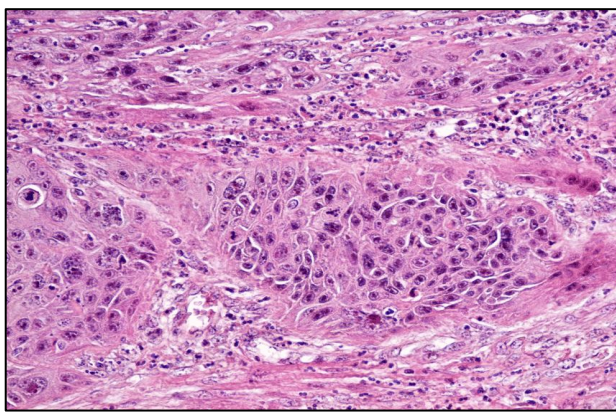


Figure 2: Moderately differentiated squamous cell carcinoma.

A punch biopsy from the ulcer margin confirmed moderately differentiated squamous cell carcinoma of the vagina. MRI pelvis revealed a soft tissue mass with bilateral internal iliac lymphadenopathy but no evidence of bladder, rectal or parametrial invasion.

Given her advanced age and frailty, the patient was referred to oncology for definitive treatment and was initiated on external beam radiotherapy. On follow-up at 4 months post-treatment, there was significant reduction in lesion size and the prolapse was found to be reducible on examination.

DISCUSSION

Primary vaginal squamous cell carcinoma (SCC) is an exceedingly rare malignancy, constituting approximately 1%–2% of all gynecological cancers. Its coexistence with advanced uterovaginal prolapse (UVP), particularly of third-degree or higher, is even more uncommon and presents significant diagnostic and therapeutic challenges. To date, fewer than 30 well-documented cases have been reported in the literature globally.¹⁻³

The etiology of vaginal SCC in the context of UVP is believed to be multifactorial. Chronic mechanical irritation, recurrent microtrauma and prolonged mucosal exposure in a hypoestrogenic, atrophic vaginal environment may all contribute to malignant transformation.⁴ Furthermore, while high-risk HPV infection is a recognized cause of vaginal SCC, it was rarely reported or investigated in most prolapse-associated cases, suggesting an alternative carcinogenic pathway dominated by chronic inflammation and tissue breakdown.⁵

Clinically, ulcerative lesions in prolapsed genitalia are often misinterpreted as decubitus ulcers, delaying diagnosis. In a study by Fonseca et al, histopathologic evaluation of such lesions in patients with prolapse showed chronic cervicitis in 97.9%, decubitus ulcers in 13.6% and carcinoma in situ in 1%.⁶ This underscores the critical role of biopsy for any non-healing or suspicious ulcerative lesion in UVP, as seen in our patient.

Management of vaginal SCC in prolapse must be individualized. For early-stage disease in surgically fit patients, vaginal hysterectomy with wide local excision or radical pelvic surgery remains effective.⁷⁻⁹ Several cases, such as those reported by Kumar and Bulusu and Ghosh et al, achieved successful disease control with surgery followed by radiotherapy.^{9,10} In contrast, patients with advanced disease or poor performance status, like our patient, are typically managed with primary external beam radiotherapy (EBRT) with or without brachytherapy.¹¹⁻¹³

However, radiotherapy in prolapsed anatomy introduces unique complications. Irreducible prolapse may expose the bladder and bowel to excessive radiation, increasing the risk of vesicovaginal and enterovaginal fistula formation.¹⁴

In some cases, pre-treatment surgical reduction of prolapse (e.g., with mesh suspension or levator ani myorrhaphy) allowed for safer radiation delivery and improved outcomes.^{15,16} As in study by Karateke et al, who achieved successful prolapse reduction and radiation planning using cervicopexy to the pectineal ligaments with mesh support.¹⁴

Among the reported cases, outcomes were variable. Disease-free survival of 2–3 years was documented in cases with early-stage disease and combined modality treatment.⁷⁻⁹ Conversely, patients with advanced-stage tumors, frailty or comorbidities often had poorer outcomes, including early mortality or treatment abandonment.¹²

In our case, the patient had a longstanding irreducible prolapse and a large exophytic vaginal SCC with iliac lymph node involvement. Due to her frail status and advanced disease, she was managed conservatively with EBRT. At four months post-treatment, the lesion had significantly regressed and the prolapse became reducible highlighting that palliation and partial anatomical correction can still be achieved through tailored radiotherapy.

This case reinforces the importance of multidisciplinary management, including gynaecologic oncologists, radiation oncologists and urogynecologist, to ensure holistic care for such rare but complex presentations. A high index of suspicion, early histopathological confirmation and thoughtful planning can significantly impact outcomes in this demographic.

CONCLUSION

Primary vaginal squamous cell carcinoma occurring in association with third-degree uterovaginal prolapse is exceptionally rare and may easily be overlooked in clinical practice. Chronic mucosal exposure, trauma and inflammation in longstanding prolapse may contribute to malignant transformation. In elderly women presenting with non-healing vaginal ulcers or discharge, malignancy should always be considered and prompt biopsy is essential.

Management must be individualized based on disease stage, reducibility of prolapse and patient comorbidities. In patients unfit for surgery, definitive radiotherapy may provide effective palliation and tumor control. A multidisciplinary approach incorporating gynaecologic oncology, urogynaecology and radiation oncology is critical to optimizing both oncologic outcomes and quality of life.

Early recognition, timely histological diagnosis and tailored therapy are key to improving outcomes in this rare but important clinical scenario.

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