Primary vaginal squamous cell carcinoma with bladder involvement in uterine prolapsed patient
Case report
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Abstract
Rationale: Primary vaginal squamous cell carcinoma (SCC) is a rare disease. Primary SCC in prolapsed vagina is extremely rare. In the presented case additional bladder involvement was found.

Patients concerns: Primary vaginal SCC may be misinterpreted as decubitus in prolapsed vagina and it may delay proper diagnosis and treatment.

Diagnoses: Diagnosis was confirmed by the vaginal ulceration biopsy and cystoscopic biopsy of the involved bladder.

Interventions: In the case presented percutaneous nephrostomy was the only possible treatment of hydronephrosis.

Outcomes: In advanced primary SCC (FIGO IVA) with nodal involvement palliative treatment is only option.

Lessons: Primary SCC mimicking decubitus which appeared in prolapsed vagina, may be accompanied by bladder involvement.

Abbreviations: CT = computed tomography, SCC = squamous cell carcinoma.

Keywords: bladder involvement, uterine prolapsed, vaginal cancer

1. Introduction
Vaginal carcinoma is considered the rarest gynaecological neoplasm, accounting for only about 1% to 3% of all gynaecological malignancies.[1,2] Vaginal carcinoma with prolapse is very rare, but in elderly women 13.6% to 16.3% of total vaginal cancer coexist with prolapse.[3]

Some authors report the metastases of vaginal cancer coexisting with prolapse to the chest, nodes, liver, iliac bone.[3,4] To the best of authors’ knowledge, there is no case description with bladder involvement.

The aim of this report is to present the case of primary vaginal squamous cell carcinoma (SCC) with bladder involvement in uterine prolapse.

2. Case report
A 69-year-old patient (G6 P6) (height, 155 cm; weight, 66 kg) reported vaginal prolapse for several years and incontinence, abdominal pain and hematuria. Comorbidities: type 2 diabetes for 20 years, circulatory failure, paroxysmal atrial fibrillation, anaemia, urinary tract infection, hypertension, chronic biliary gastritis, cervical osteoarthritis.

Physical examination on admission revealed anterior vaginal and uterine walls prolapse, with 8 cm in diameter large ulcerated lesion (Fig. 1) located on the anterior vaginal wall. Diagnostic biopsy of the lesion revealed squamous cell carcinoma (Fig. 2).

![Figure 1. Irreducible vaginal prolapse with vaginal squamous cell carcinoma. Ulcerated lesion involving almost entire anterior vaginal wall.](image-url)
Additional tests: hemoglobin 11.0 g/dL (12.0–16.0); hematocrit 33.9% (37.0–47.0); erythrocytes 4.34 x 106/μL (4.00–5.00); MCV 78.1 fl (80–94); MCH 25.3 pg (27.0–31.0); MCHC 32.4 g/dL (93.0–37.0); RDW-SD 48.3 fl (36.4–46.3); RDW-CV 17.7% (11.7–14.4); Blood Plate 296 x 103/μL (140–400); platelet distribution width (PDW) 11.6 fl (9.80–16.20); MPV 9.8 fl (9.40–12.50); platelet large cell ratio (P-LCR) 24.1% (19.10–46.60); WBC 8.12 x 103/μL (4.0–10.0); Macro R 6.7%; Micro R 7.9%; total protein 7.1 g/dL (range 6.3–8.2); chlorides 112.0.
## Table 1

**Review of the literature on vaginal cancer with pelvic organ prolapse.**

| Author               | Year | Title                                                                 | Histology Type                  | Prolapse stage | FIGO stage | Patient age | Comorbidities | Hydrone-phrosis | Metastasis | Treatment                                                                 |
|----------------------|------|----------------------------------------------------------------------|---------------------------------|----------------|------------|-------------|---------------|----------------|------------|---------------------------------------------------------------------------|
| Berthelsen [8]       | 1957 | Vaginal carcinoma associated with total prolapse                      | Squamous                       | IV (total prolapse) | Not reported | 83          | Not reported | Not reported | None       | Vaginal hysterectomy and vaginectomy                                      |
| Howat [7]            | 1984 | Carcinoma of the vagina presenting as a ruptured proctocervix with an entero-vaginal fistula and prolapse of the small bowel | Squamous                       | III              | Not reported | 74          | Not reported | Not reported | None       | Total abdominal hysterectomy and bilateral salpingo-oophorectomy and vaginal brisps taken. 15 cm small bowel resection with end-to-end anastomosis followed by radiotherapy |
| Rao [3]              | 1986 | Primary carcinoma of vagina with uterine prolapse                    | Squamous                       | III              | I           | 44          | Not reported | Not reported | None       | None operations; external telecoast radiotherapy                           |
| Rao [3]              | 1986 | Primary carcinoma of vagina with uterine prolapse                    | Squamous                       | III              | I           | 45          | Not reported | Not reported | None       | None operations; external telecoast radiotherapy                           |
| Rao [3]              | 1986 | Primary carcinoma of vagina with uterine prolapse                    | Squamous                       | III              | I           | 50          | Not reported | Not reported | None       | None operations; external telecoast radiotherapy                           |
| Rao [3]              | 1986 | Primary carcinoma of vagina with uterine prolapse                    | Undifferentiated squamous       | IV               | 72          | Not reported | Yes - bilateral | None       | None operations; external telecoast radiotherapy                           |
| Karateke [15]        | 2006 | Management of a case of primary vaginal cancer with irreducible massive uterine prolapse – a case report.                  | Squamous                       | II              | 68          | Apical aneurysm in the left ventriculo-ography | Yes - bilateral | None       | Subtotal hysterectomy and bilateral salpingo-oophorectomy with the cervix bilaterally suspended to the pelvic ligaments by polypropylene mesh; radiotherapy                                    |
| Iavazzo [9]          | 2007 | Vagina carcinoma in a completely prolapsed uterus. A case report.     | Squamous                       | I                | 80          | Not reported | None          | None       | Chemoradiation with 5-fluorouracil and carboplatin                         |
| Gupta [5]            | 2007 | A rare case of primary invasive carcinoma of vagina associated with irreducible third degree urogenital prolapse             | Squamous                       | III              | 60          | Not reported | Yes bilateral | None       | Radical vaginal hysterectomy with bilateral extraperitoneal pelvic lymphadenectomy |
| Ghosh [11]           | 2009 | Primary invasive carcinoma of vagina with third degree urogenital prolapse: case report and review of literature            | Squamous                       | III              | I           | 50          | Not reported | None       | Radical vaginal hysterectomy with bilateral extraperitoneal pelvic lymphadenectomy |
| Balish [11]          | 2009 | A rare case of invasive vaginal carcinoma associated with prolapse prolapse                                             | Not reported                    | III              | I           | 73          | Not reported | None       | Partial trans/vaginal colpectomy followed by 5040 cGy external beam radiation |
| Begum [1]            | 2013 | Primary vaginal carcinoma, tale of tragedy: case report               | Squamous                       | Not reported     | Not reported | 75          | Not reported | Yes - bilateral | Not reported | Chemotherapy with cisplatin and cyclophosphamide for 6 weeks followed by external beam radiation palliative chemotherapy was planned but the patient’s blind uterine gen and creatinine levels increased |
| Kim [7]              | 2013 | A case of vaginal cancer with uterine prolapse                        | Squamous                       | I vb             | 80          | Yes - left hydrone-phrosis                 | Yes - multiple metastasis at lung, liver, iliac bone | None       | Radical colporesection with bilateral inguinal lymphadenectomy with vaginal hysterectomy with rectocele and rectocele repair multimodal staging with partial vaginectomy to remove the vaginal carcinoma and anterior and posterior colpophathy. Radiotherapy (Total dose of 5,000 cGy) chemotherapy and she underwent palliative vaginal hysterectomy with colpesisis. |
| Kumar [11]           | 2013 | Primary vaginal carcinoma of Lower one-third of posterior vagina associated with third degree prolapse: a rare case        | Squamous                       | III              | I           | 80          | Not reported | None       | None operations; external telecoast radiotherapy                           |
| Wang [1]             | 2014 | Uterine prolapse complicated by vaginal cancer: A case report and literature review                                     | Squamous                       | I                | I           | 61          | Not reported | None       | None operations; external telecoast radiotherapy                           |
| Kawalski [18]        | 2015 | Vaginal cancer in patient presenting with advanced pelvic organ prolapse: case report and literature review              | Squamous                       | IV               | I vb        | 82          | Atrial fibrillation, hyper-tension, hypertension | Not reported | None       | Radical hysterectomy and endoscopic repair followed by open repair and radiotherapy (5040 cGy) |
| Sonkusare [19]       | 2016 | Primary vaginal cancer complicating massive uterine prolapse: a case report                                           | Squamous                       | III              | II          | 80          | Hyper-tension, diabetes mellitus, history of cancer in USL, but in MRI was noted | None | None       | Radical hysterectomy, Radiotherapy for 5 wk |

Note: FIGO stage: 1 = Stage I, 2 = Stage II, 3 = Stage III, 4 = Stage IV; Metastasis: Yes = Yes, No = None; Hydronephrosis: Yes = Yes, No = None; Comorbidities: Yes = Yes, No = None; Metastasis: Yes = Yes, No = None.
mmol/L (98.0–107.0); activated partial thromboplastin time (APTT) 29.0 s (23.9–36.6); prothrombin time 9.2 s (7.6–11.4); Prothrombin index 103.7% (80.0–120.0); INR 1.0 (0.9–1.3); D-dimer 2.208.8 mg/mL (<500.0); fibrinogen 503.9 mg/dL (180.0–400.0); glomerular filtration rate (GFR) 27 mL/min/1.73 m² (>60.0); glucose 115 mg/dL (70–99); creatinine 1.85 mg/dL (0.52–1.04); urea 66 mg/dL (15–43); potassium 4.9 mmol/L (3.5–5.5); sodium 144.0 mmol/L (137.0–145.0); TSH 0.50 uIU/mL (0.27–4.20).

Sagittal pelvic CT showed protruded vagina, infiltrated bladder wall, uterus, and rectum. In frontal CT scan of abdomen, enlarged pelvic iliac nodes, hydropnephrosis of the left kidney with left hydroureter, in the right kidney nephrostomy catheter were observed (Fig. 3).

Cystoscopy-mucosal lesions were found in the bladder (Fig. 4). The diagnostic biopsies were collected from the urethra and the bladder (Fig. 5).

Symptomatic treatment included: Insuline+Gensulin R t.i.d. (2–6 units) sc, Amlodipinum 2 × 10 mg, 0.9% NaCl 2 × 500 mL iv., Clexan (Enoxaparinumnaicumuccum) 2 × 0.6 sc, Ramiprilum 5 mg 1 × 1, Captoprilum 25 mg 1 × 1.

The patient was disqualified from surgery due to the severity of the disease, lymph node metastases, and coexisting comorbidities. Only palliative nephrostomy was performed.

The patient signed informed consents. In our case the patient accepted regular and proved diagnosis and therapy in Clinical Department of Urology, so the ethical approval was not necessary.

3. Discussion

The paper presents the vaginal cancer coexisting with ICS-IV prolapse in a 69-year-old woman. Other papers described vaginal carcinoma with coexisting prolapase stage III in 15 cases, while stage IV only in 3 cases. The age of the patients in 19 described cases was 44 to 83 years. The data from the literature is presented in Table 1. In the available papers, only 3 publications reviewed the literature: both Kowalski analyzes 8 papers,[14] while Ghosh and Wang analyze data from 5 papers,[10,13] and Howat describes the case in which stoma was necessary after radiotherapy.[3] While Howat describes the case in which stoma was necessary after radiotherapy.[7] Among the patients treated surgically, hysterectomy with adnexa and extensive vaginal excision was performed (Table 1).

In the present case due to the advanced stage, accompanying diseases, metastases, the usual, surgical treatment was abandoned and only palliative nephrostomy was used. In the literature only two cases were limited to palliative treatment.

4. Conclusion

In the case of coincidence of vaginal cancer and prolapse, there is possibility of bladder involvement and cystoscopic evaluation should be considered.

Coexisting hydropnephrosis may be a result of prolapsed and/or bladder involvement.

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