

Vaginal cancer in patient presenting with advanced pelvic organ prolapse: case report and literature review

Joseph Kowalski, MD,¹ Johanna Savage, MD,² Catherine S. Bradley, MD, MSCE¹

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Abstract

Background: Vaginal cancer presenting concurrently with stage 4 uterovaginal prolapse is a rare occurrence, representing less than 1% of all gynecologic malignancies.

Case: We review the case of an 82-year-old woman who presented for care of prolapse. Examination demonstrated complete uterovaginal prolapse and a vaginal ulcer, later confirmed to be vaginal cancer.

Conclusion: The management of these complicated patients is limited by a lack of data available to guide treatment. This case and the literature review highlight the need for a multi-disciplinary approach to treatment and a high level of clinical suspicion for diagnosis of these very challenging cases.

¹University of Iowa Hospitals and Clinics, Department of Obstetrics and Gynecology, Iowa City, Iowa

²University of Iowa Hospitals and Clinics, Department of Pathology, Iowa City, Iowa

Introduction

Primary vaginal carcinomas are extremely rare, accounting for only about 1% of all gynecologic malignancies.¹ At the time of diagnosis, patients are typically in their 6th or 7th decade of life and most commonly present with vaginal bleeding from a lesion localized to the upper third of the vagina. There are currently no specific guidelines for treatment of vaginal cancer due to the paucity of available data. However, certain cases of early stage disease may be treated with primary surgery. Advanced disease is generally treated with chemoradiation or radiation alone.¹

The incidence of symptomatic prolapse and prolapse surgery increases with age. Women older than 80 years are the fastest growing segment of the population.^{2,3} However, primary vaginal

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Corresponding author: Joseph Kowalski, Fellow, Department of Obstetrics and Gynecology, University of Iowa Hospitals and Clinics, 200 Hawkins Drive, Iowa City, IA 52242-1080, USA. Telephone: 319-356-1616, Fax: 319-384-8620. Email: joseph-kowalski@uiowa.edu

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carcinomas are rare. A primary vaginal carcinoma presenting in conjunction with stage IV uterovaginal prolapse is an even rarer phenomenon. The reported incidence of prolapse from referral centers range from 13.6% to 16.3% of patients with primary vaginal cancer.^{4,5} A comprehensive review of the available English language literature reveals only 7 case reports and 1 case series (6 patients) of primary vaginal cancer associated with pelvic organ prolapse (Table 1).^{4,6-12} Conversely, finding an erosion of the vaginal mucosa in a postmenopausal woman in the setting of treatment for pelvic organ prolapse is not uncommon. This finding may be present with or without the use of a vaginal pessary and warrants very close monitoring.

We will describe the case of a patient referred for management of pelvic organ prolapse who was found to have vaginal cancer. We will also review all other English language reports of prolapse complicated by vaginal cancer with an emphasis on the unique challenges of diagnosis and management that this situation presents.

Case Report

An 82-year-old G6P6 female was referred to our institution for further management of uterovaginal prolapse. A year prior, she had been evaluated at an outside institution and declined surgical management or the use of a pessary for treatment of her prolapse. Her primary presenting complaints were progressively worsening vaginal pressure, incomplete bladder emptying, occasional urinary incontinence and a newly recognized “crack” in the prolapsed tissue of 2 weeks duration.

She had no known oncologic history and had no history of abnormal Pap smears. Her last normal Pap smear had been approximately one year prior to initial presentation. Her medical history was significant for atrial fibrillation, hypertension and a remote history of right salpingo-oophorectomy for unknown reasons. She had never smoked. Physical examination in the office revealed complete, irreducible uterovaginal prolapse that was moderately tender. There was a 4 by 5 cm. indurated, ulcerated, foul-smelling vaginal lesion remote in location from the cervix. The lesion had a grey, necrotic-appearing base, and it appeared to track about 2 cm. into the left vaginal sidewall (Figure 1). Her POP-Q exam included: Aa +3, Ba +12, C +12, D +12, Bp +12, and Ap +3. GH, PB and TVL were not able to be assessed.

The patient was directly admitted to the urogynecology service from clinic and started on intravenous antibiotic therapy. She was taken to the operating room with the assistance of the gynecologic oncology service for vaginal biopsies and cystoscopy as well as wound irrigation and debridement. The prolapse was able to be successfully reduced in the operating room. Intraoperative observations were significant for left paravaginal nodularity and tethering of the ulcerated area to the paravaginal tissue. Cystoscopy was unremarkable. A rectal exam was unremarkable with the exception of mild prolapse of the rectal mucosa. Histopathology of the vaginal biopsies demonstrated moderately differentiated squamous cell carcinoma with perineural invasion (Figure 2)



Figure 1. Complete uterovaginal prolapse with a well-defined ulcer on the left vaginal side-wall (A-C).

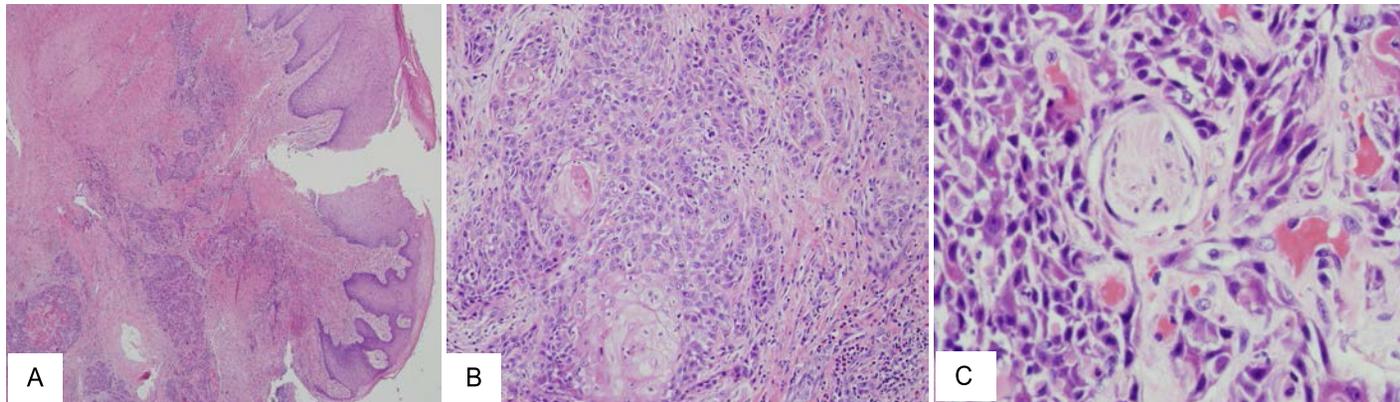


Figure 2. Histopathology of the vaginal biopsies demonstrating moderately differentiated squamous cell carcinoma (A-C) with focal perineural invasion (C).

Table 1. Publications reporting vaginal carcinoma complicated by concurrent pelvic organ prolapse.

Author	Year	Title	Prolapse Stage*	FIGO Stage	Treatment	Comments
Berthelsen ⁶	1957	Vaginal carcinoma associated with total prolapse	4**	Not reported	Vaginal hysterectomy and vaginectomy.	No follow up reported.
Howat ⁷	1984	Carcinoma of the vagina presenting as a ruptured procidentia with an entero-vaginal fistula and prolapse of the small bowel	4**	Not reported	Total abdominal hysterectomy and bilateral salpingo-oophorectomy and vaginal biopsies taken. 15 cm small bowel resection with end-to-end anastomosis followed by radiotherapy.	No follow up reported.
Rao ⁴	1986	Primary carcinoma of vagina with uterine prolapse	3 (all cases)	Not reported	5 patients underwent external beam radiation only. 1 patient refused treatment.	Case series included 6 patients. 2 patients with irreducible prolapse. 2 patients developed vesicovaginal fistula after radiation. 1 recurrence and 1 fatality reported.
Iavazzo ⁸	2007	Vagina carcinoma in a completely prolapsed uterus. A case report	3	1	Radical vaginal hysterectomy with excision of the upper two-thirds of the vagina followed by 5400 cGy external beam radiation.	No recurrence during 3.5 years follow up.
Gupta ⁹	2007	A rare case of primary invasive carcinoma of vagina associated with irreducible third degree uterovaginal prolapse	3	3	Chemoradiation with 5-fluorouracil and carboplatin	Irreducible. Reported clinical improvement and reduction in size of invasive growth. Length of follow up not specified.
Ghosh ¹⁰	2008	Primary invasive carcinoma of vagina with third degree uterovaginal prolapse: a case report and review of literature	3	1	Radical vaginal hysterectomy with bilateral extraperitoneal pelvic lymphadenectomy	No recurrence during 12 months follow up.

Batista ¹¹	2009	Uterine prolapse complicated by vaginal cancer: A case report and literature review	Not reported	1	Partial transvaginal colpectomy followed by 5040 cGy external beam radiation.	No recurrence during 24 months follow up.
Wang ¹²	2014	A rare case of invasive vaginal carcinoma associated with vaginal prolapse	“Third degree”	1	Vaginal hysterectomy, “apex fixation”, anterior/posterior colporrhaphy and partial vaginectomy followed by 5040 cGy external beam radiation.	No recurrence during 4 years follow up.

* The method used to stage prolapse in these reports was not specified.

** Prolapse was described as, “total prolapse,” in the Berthelsen report and as, “complete procidentia,” in the Howat report.

Given the diagnosis of vaginal squamous cell carcinoma, imaging studies were performed for clinical staging. A positron emission tomography/computed tomography (PET/CT) scan demonstrated hypermetabolic foci in the vaginal wall, sigmoid colon, rectum and pelvic and periaortic lymph nodes. A colonoscopy, obtained because of heme-positive stool, demonstrated a nearly circumferential mass 15 cm. from the anal verge. Histopathology of the colonic mass demonstrated moderately differentiated adenocarcinoma. The patient was subsequently evaluated by surgical oncology, radiation oncology and medical oncology. She completed external beam radiation (4500 cGy) and cisplatin (3 cycles, 40 mg/m²) with a number of unscheduled interruptions due to medical complications and a decline in her performance status. Following the completion of chemoradiation, she underwent evaluation to consider palliative vaginal hysterectomy with colpocleisis. However, her medical condition rapidly deteriorated precluding any further surgery. She was admitted to an inpatient hospice facility and expired shortly thereafter,

about 4 months after initial presentation to our institution. The precise cause of death is unknown to us.

Comment

Advanced uterovaginal prolapse presenting with a previously unrecognized primary vaginal carcinoma is a rare occurrence. In this patient, the finding of a secondary tumor – a concurrent colorectal adenocarcinoma – presented further complexity. This case serves to highlight several important points, including the importance of careful evaluation of vaginal erosions or lesions in patients presenting with pelvic organ prolapse. Vaginal wall erosions and ulcerations frequently occur in patients with severe pelvic organ prolapse, although the true incidence of these complications is not well-described. Such patients are often at risk for vaginal wall erosions due to menopause-associated vaginal atrophy. Mechanical irritation from urine leakage, pads and undergarments is not uncommon and results in superficial skin breakdown.

Pessary use may also put the patient at further risk for vaginal erosion. To our knowledge, there are no published guidelines for the management of vaginal erosions or ulcerations associated with or without pessary use. However, mild vaginal erosions may be conservatively treated with vaginal estrogen, careful vulvar-vaginal skin care, treatment of urinary incontinence and removal of any inciting source of injury, such as a pessary. Any erosion that does not resolve with conservative treatment within one month should be biopsied.¹³ Consideration should be given to immediate biopsy for any lesion with concerning characteristics, such as active bleeding, foul smell or an associated solid mass. We performed a review of the English language literature relating to vaginal cancer and concurrent pelvic organ prolapse (Table 1). Our patient had stage 4 prolapse based on both the Baden-Walker and POP-Q classification systems. All of the previously reported cases had stage 3 or 4 prolapse. POP-Q scores were not available in the previously reported cases. Three of the previously reported cases were noted to have irreducible prolapse. Our patient had irreducible prolapse when initially examined in the office. The prolapse was only able to be reduced when the patient was under general anesthesia in the operating room. Therefore, prolapse with concurrent ulceration that is unable to be reduced on exam should cause an elevated index of suspicion for an associated mass or malignancy.

This patient presented with clinical stage 4B vaginal carcinoma and was treated with primary chemoradiation. The PET/CT findings cannot be attributed to

the vaginal carcinoma with absolute certainty since she had a concurrent primary cancer. However, the evidence of lymph node metastasis was presumed to be due to the vaginal carcinoma. No clear guidelines presently exist to guide clinicians in the treatment of vaginal carcinoma, especially in the presence of significant pelvic organ prolapse. Typically, the stage of disease and assessment of the patient's medical comorbidities determine the aggressiveness of therapy. Stage I and early stage II cancers limited to the upper vagina in a medically fit patient may be adequately treated with surgical excision alone in select circumstances. Stage III and IV vaginal cancers are generally treated with external beam radiation with or without brachytherapy. Cisplatin can be used as a radiation sensitizer in the same manner that it is typically used in the treatment of advanced cervical cancer.

In cases of vaginal cancer presenting with significant prolapse there are additional considerations during treatment planning. Most importantly, the bladder and any contents of an enterocele sac will have more exposure to the radiation field in these patients. Of note, two of the six patients described in Rao's 1984 case series developed vesicovaginal fistulas following primary radiation treatment.⁴ Furthermore, brachytherapy may not be technically feasible without prior surgery to reduce the prolapse. Performing a palliative vaginal hysterectomy or colpocleisis prior to radiation treatment is an additional consideration. This treatment approach may limit the risk of urologic complications due to reducing exposure

of the bladder to the radiation field. However, surgery and the necessary recovery period prior to radiation may delay treatment of the cancer. The performance status of the individual patient must be taken into consideration as well. Alternatively, a palliative surgery to address the prolapse may be undertaken following radiation treatment. There are no recommendations in the literature to guide this particular treatment decision.

This case highlights the importance of careful evaluation of vaginal erosions in the setting of pelvic organ prolapse and pessary use. In the absence of well-defined treatment protocols for vaginal cancer with concurrent prolapse, this case also illustrates the importance of a multidisciplinary approach involving urogynecology, gynecologic oncology, surgical oncology, radiation oncology and medical oncology.

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