



Case report

Cervical cancer complicating pelvic organ prolapse, and use of a pessary to restore anatomy for optimal radiation: A case report[☆]Josette C. Dawkins^{*}, Gregory K. Lewis, Eugene P. Toy

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ABSTRACT

Cervical cancer is the most common gynecologic malignancy worldwide and the third most common gynecologic cancer in the USA. Improved screening methods such as liquid-based cytology accompanied by Human Papilloma Virus (HPV) co-testing have contributed to a declining incidence of cervical cancer. There are approximately 13,000 new cases per year in the United States, accounting for 4200 deaths (Siegel et al., 2011). Pelvic organ prolapse increases with age, obesity and parity. In the absence of bothersome urinary, gastrointestinal or pressure symptoms, patients may choose conservative management options.

The index patient was a 72 year old woman with a known history of pelvic organ prolapse who had been managed by her primary physician for 7 years until she developed new-onset vaginal bleeding. One month following worsening prolapse and increased vaginal bleeding she presented to the emergency department and was evaluated. On physical examination the cervix appeared as an 8 cm exophytic fungating mass extruding from the vagina and bled easily from areas of apparent necrosis. Multiple biopsies confirmed an invasive squamous cell carcinoma. The patient underwent the insertion of a Gelhorn pessary and perineorrhaphy to reduce her procidentia, cystocele and enterocele. Chemotherapy with Cisplatin and radiation therapy in the form of brachytherapy and external beam radiation therapy were then administered with curative intent.

Cervical cancer complicating a uterine procidentia in an elderly patient is a rare occurrence in the United States and requires a multidisciplinary approach involving a urogynecologist, a gynecologic oncologist and a radiation oncologist. Nonetheless, in carefully selected patients, the outcome can be successful.

1. Introduction

Cervical cancer, the third most common gynecologic malignancy in the USA, accounts for approximately 13,000 new diagnoses and 4200 deaths annually (Siegel et al., 2011). Pelvic organ prolapse (POP) occurs in up to 20% of women but may be significantly underreported as many cases are not clinically appreciable based on vaginal examination alone (Wu et al., 2014). A common complication of procidentia is ulceration of the most dependent area of the prolapse—often the cervix. However, any ulcerated lesion presenting with symptoms of a procidentia warrants a biopsy. In the rare event that cervical cancer is diagnosed concomitantly with POP, a multidisciplinary approach is necessary to optimize management.

2. Case

A 72-year-old G8P7017 patient with a 7 year history of POP,

presented to the emergency room with a one month history of increasing prolapse and new-onset vaginal bleeding. She also complained of a slow urinary stream and worsening pelvic pressure. Her medical history was remarkable for hypertension, diabetes and atrial fibrillation. Physical examination revealed uterine procidentia, with a wide genital hiatus and a friable 8 cm fungating cervical mass (Fig. 1). Biopsy of the mass revealed a moderately well-differentiated invasive squamous cell carcinoma of the cervix. Significant findings from a computed tomography scan of the abdomen were a 9 cm enlarged uterus protruding through the pelvic floor and mild bilateral hydronephrosis, secondary to renal calculi.

3. Treatment

The subject underwent examination under anesthesia, which revealed an 8 cm cervical mass with necrotic-appearing tissue extending to the cervico-vaginal junction without parametrial extension.

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Fig. 1. Pre-operative appearance of prolapsed uterus with cervical mass.

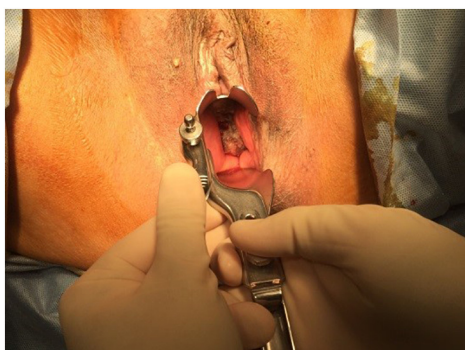


Fig. 2. Immediately post op with reduction of the procidentia and perineorrhaphy.

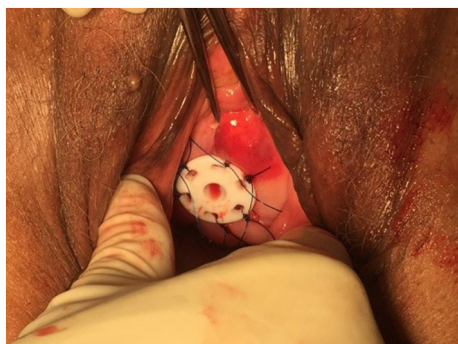


Fig. 3. After External beam radiation therapy and placement of tandem and ovoids for brachytherapy.

Cystoscopy and proctoscopy were performed for staging. The procidentia was reduced utilizing an #8 Gelhorn pessary (3.5 in. diameter Cooper Surgical, Trumbull, CT). A perineoplasty was performed to reduce the wide genital hiatus. She was clinically staged as Stage 2A2 (Fig. 2). A repeat CT scan showed the uterus and bladder in the appropriate location in the pelvis, with the pessary insitu inferior to the bladder.

The patient received radiation sensitizing chemotherapy with cisplatin for 5 cycles. External beam radiation therapy was given for 35 days and consisted of 4500 cGy in 180 cGy fractions to the cervix, vagina, parametria, internal and external iliac nodes, as well as the presacral nodes using Coplanar IMRT Field arrangement. At the end of her therapy, the pessary was removed and High-dose rate (HDR) brachytherapy by tandem and ovoids was administered for 5 days of 3000 cGy in 600 cGy fractions (Fig. 3) (Supplementary Fig. 1).

Following the completion of her prescribed course she was evaluated every 3 months for pessary changes. The patient is now doing well 15 months following completion of her radiation therapy and shows no evidence of recurrence of her disease and reports no radiation side-effects.

4. Discussion

Pelvic organ prolapse (POP), the herniation of pelvic organs to the level of or beyond the vaginal walls, has a significant effect on quality of life. POP has been steadily increasing over the past two decades and has been recently estimated to affect 20% of women in the United States, increasing from 11% in previous studies, and accounting for over 200,000 corrective surgical procedures performed annually (Wu et al., 2014; Boyles et al., 2003; Olsen et al., 1997). This is in stark contrast to the comparative rarity of cervical cancer which has been steadily decreasing in the United States ever since the introduction of the Papanicolaou smear in 1943.

The concurrence of cervical cancer with uterine prolapse is rare. In a retrospective review, Grigoriadis reported that the incidence of cervical cancer in women undergoing a vaginal hysterectomy for pelvic organ prolapse was 0.3% (Grigoriadis et al., 2015). The treatment of these two coexisting conditions is rare but has been summarized in reports by Pardal et al., Cabrera et al. and Matsuo et al. (Pardal et al., 2015; Cabrera et al., 2010; Matsuo et al., 2016).

The rare concurrence of POP and invasive cervical cancer is at least in part the result of their distinctly different age distributions. Cervical cancer peaks in the 5th decade of life whereas POP typically occurs in an older population of women 1–2 decades beyond the peak incidence of cervical cancer (Siegel et al., 2011; Wu et al., 2014). This case report offers a unique opportunity to discuss this unusual occurrence in which both entities coexist.

The treatment strategies for invasive cervical carcinoma are often dictated by clinical stage of the disease, presence or absence of metastatic disease and patient's performance status. Treatment options that have been employed in patients with pelvic organ prolapse complicated by cervical cancer include radio-chemotherapy with obliterative vaginal surgery (Reimer et al., 2008), vaginal hysterectomy with pelvic node dissection followed by radiation therapy (Pardal et al., 2015) and laparoscopic radical hysterectomy (Cabrera et al., 2010). Since the index patient demonstrated both a significant cystocele and enterocele along with a wide genital hiatus, it was necessary to reduce her pelvic organ prolapse before external beam radiation therapy could be initiated. A perineorrhaphy was also performed in order to decrease the size of the genital hiatus and maintain the position of the pelvic organs once they were restored to their normal intra-pelvic condition.

This case is unusual given the patient's age and short duration of worsened prolapse symptoms with contact bleeding. Patients described in case reports tend to be elderly, frail and have a longer history. In addition, the use of a pessary to restore optimal anatomy for radiation therapy makes this case unique. Matsuo and colleagues evaluated seventy eight patients with procidentia and cervical cancer in a case report series and found that the mean age of diagnosis was 68 years and duration of prolapse 147 months (Matsuo et al., 2016). The majority of patients (56.2%) were diagnosed with stage 1 disease, had squamous cell carcinoma (83.9%) and surgical management was associated with a more favorable prognosis and 5 year survival compared with radiation therapy alone (77% vs. 68.2%) (Matsuo et al., 2016). The factors leading to choice of radiation therapy in this study, was not clearly outlined and the patients in the radiation therapy arm may already have preexisting comorbidities contributing to the poor outcome. In this case, the patient had a 7 year history of complete POP, without urinary incontinence, a little more than one half the time described in case series. She sought medical attention after acute worsening of prolapse and associated contact bleeding.

To our knowledge, this is the first reported case that a pessary was

used to reduce the POP, followed by perineorrhaphy, radio-sensitizing chemotherapy, EBRT then brachytherapy. In stage 1 cervical cancer complicating POP, a surgical based approach in properly selected candidates is associated with a better 5 year recurrence free survival rate than a radiation based approach (72% vs. 62.9%) (Matsuo et al., 2016). Despite the index patient presenting with a short history of exacerbation of symptoms, she was already stage 2A2 with bulky disease and multiple medical comorbidities, precluding her from surgical intervention. She tolerated radiation therapy very well and is currently without symptoms of POP, urinary incontinence, recurrence of her cancer, or radiation induced changes.

5. Conclusion

There are few available studies that address or support protocols for managing patients with POP complicated by cervical cancer. Management of such rare cases should be multidisciplinary and involve a urogynecologist, a gynecologic oncologist, medical or radiation oncologists and medical subspecialists as needed. Reducing the prolapse and placing a pessary, in order to allow subsequent radiation therapy with curative intent is a viable option in a patient with stage 2 A cervical cancer, who is also a poor surgical candidate.

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.gore.2018.08.004>.

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