

Locally Advanced Cervical Cancer and Concurrent Endometrial Pathology in Patient With Complete Uterine Prolapse: A case Report

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Article Details

Article Type: Case Report

Received date: 17th March, 2021Accepted date: 28th April, 2021Published date: 30th April, 2021****Corresponding Author:** Olga P. Matylevich, MD, Gynecologic Oncology Department, NN Alexandrov National Cancer Centre, a/g Lesnoy-2, Minsk, 223040, Belarus. E-mail: omatylevich@tut.by**Citation:** Matylevich, O.P., Perevoschikov, P.A., & Trukhan, H.V. (2021). Locally Advanced Cervical Cancer and Concurrent Endometrial Pathology in Patient With Complete Uterine Prolapse: A case Report. J Case Reports Cancer 2(1):107. doi: <https://doi.org/10.33790/jcrc1100107>.**Copyright:** ©2021, This is an open-access article distributed under the terms of the [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

The standard treatment for locally advanced cervical cancer is concurrent chemoradiotherapy. However, the presence of genital prolapse complicates the situation, as the altered anatomy must be carefully considered during radiologic planning, and can also increase the risks of side effects of treatment. This report describes a rare occurrence of locally advanced cervical cancer in a patient with complete uterovaginal prolapse. Besides, in the presented case, the examination revealed an additional pathology of the endometrium. Therefore, the patient was treated with hysterectomy and pelvic lymph node dissection, followed by adjuvant chemoradiation therapy. Given the lack of clear guidelines, these patients should be treated after the decision of the multidisciplinary tumor board to determine the optimal treatment option.

Keywords: locally advanced cervical cancer; uterovaginal prolapse; hysterectomy with pelvic lymph nodes dissection; chemoradiation therapy

Introduction

Cervical cancer combined with complete uterovaginal prolapse is an uncommon condition. This association usually occurs in developing countries, mainly in older women [1-3]. According to the current guidelines, for locally advanced cervical cancer (LACC), including IB3-IV stages of the disease [the International Federation of Gynecology and Obstetrics (FIGO) classification, 2018] concomitant chemoradiotherapy is a standard treatment [4, 5]. Implementation of this treatment in cases of complete genital prolapse is challenging

because a procidentia needs to be reduced at the beginning of the radiotherapy, or such treatment, as a rule, is not possible in the case of a combination with another gynecological pathology [6]. Due to the rarity of the coincidence of LACC with uterovaginal prolapse, currently there are no evidence-based recommendations for the most optimal treatment [1-6]. The aim of our study was to present a case of LACC associated with procidentia and unexpected concurrent endometrial pathology, when a non-standard treatment was successfully applied.

Case presentation

A 68-year-old postmenopausal female, gravida two para two, with an 8-year history of pelvic organ prolapse presented with one-month occasional vaginal bleeding and pelvic pain. Her medical history remarkable for hypertension and varicose veins of the lower extremities. She had no major surgeries. She denied any history of alcohol, tobacco, drug abuse, or exposures to hazardous materials.

Workup

Patient underwent extensive workup including gynecological exam, colposcopic evaluation, pelvic Magnetic Resonance Imaging (MRI), Positron Emission Tomography/Computed Tomography (PET/CT), and endocervical curettage.

On pelvic examination a stage IV uterovaginal prolapse was discovered: cervix and uterus have both descended outside introitus. The procidentia was completely reducible, and manual exam did not find any abnormalities in the pelvis (Figure 1).



Figure 1: A pelvic exam pictures show stage IV uterovaginal prolapse (A), which is completely reducible (B)

Colposcopy examination was performed, which revealed infection with no visible tumor (Figure 2). on the ectocervix signs of Human Papillomavirus (HPV)

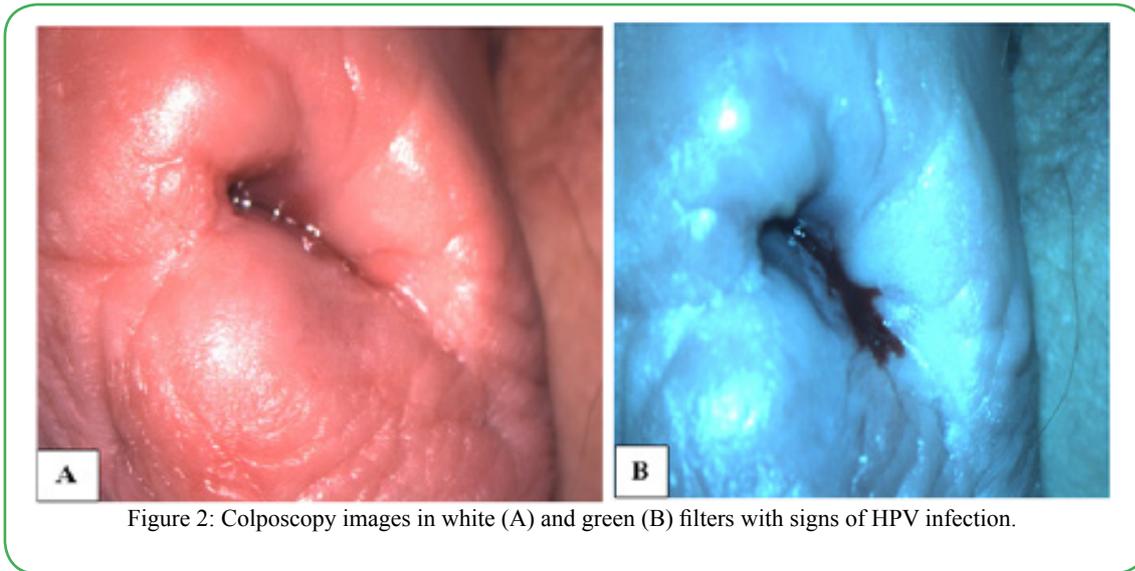


Figure 2: Colposcopy images in white (A) and green (B) filters with signs of HPV infection.

Staging studies with pelvic MRI on sagittal view showed complete uterovaginal prolapse and a large endocervical lesion measuring 39x24x51 mm. MRI Coronal view detected advanced uterovaginal prolapse and a tumor with a complete disruption

of the stromal ring on the left side of the cervix. The uterine body cavity was expanded to 9 mm due to the thickening of the endometrium over a length of 23 mm, the MR signal from it was heterogeneous (Figure 3).

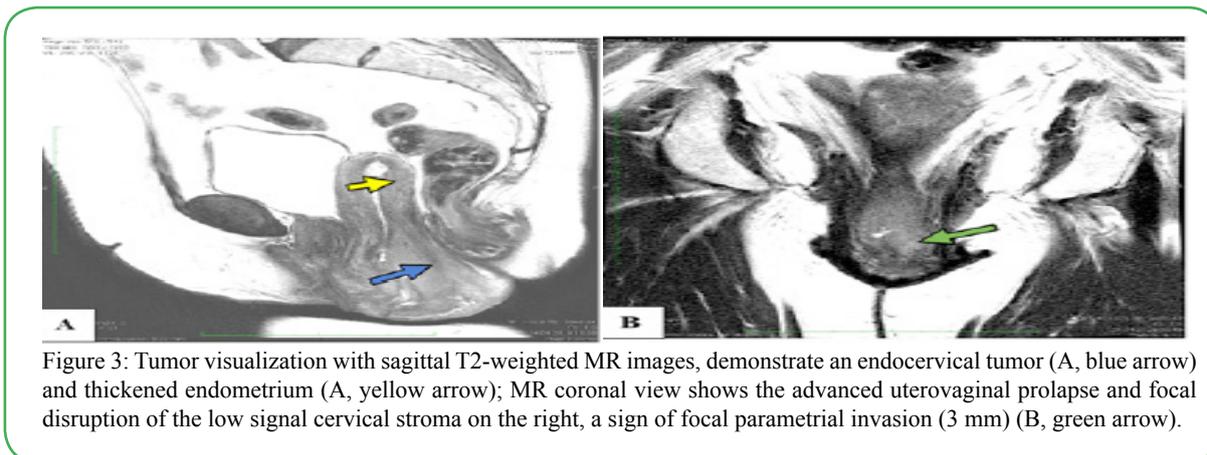


Figure 3: Tumor visualization with sagittal T2-weighted MR images, demonstrate an endocervical tumor (A, blue arrow) and thickened endometrium (A, yellow arrow); MR coronal view shows the advanced uterovaginal prolapse and focal disruption of the low signal cervical stroma on the right, a sign of focal parametrial invasion (3 mm) (B, green arrow).

Positron Emission Tomography/Computed Tomography images showed the hypermetabolic uptake in the cervix measuring 33x18x45 mm with maximum standard uptake value above 8.3. No

hypermetabolic groin, pelvic, and/or paraaortic lymph nodes were noted. There was no evidence of distant metastases (Figure 4).

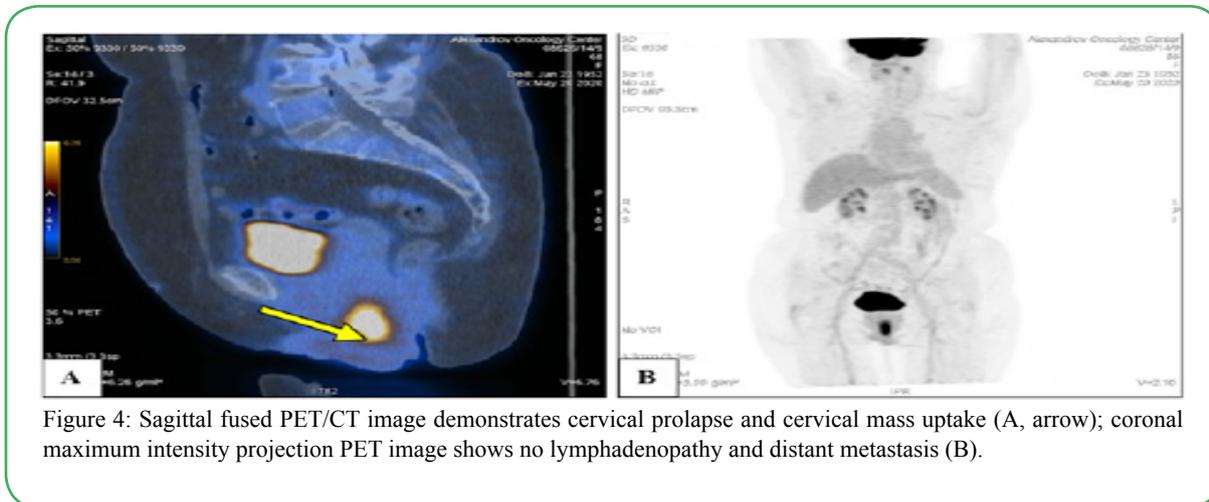


Figure 4: Sagittal fused PET/CT image demonstrates cervical prolapse and cervical mass uptake (A, arrow); coronal maximum intensity projection PET image shows no lymphadenopathy and distant metastasis (B).

Histological examination of endocervical curettage revealed invasive squamous cell carcinoma (Figure 5).

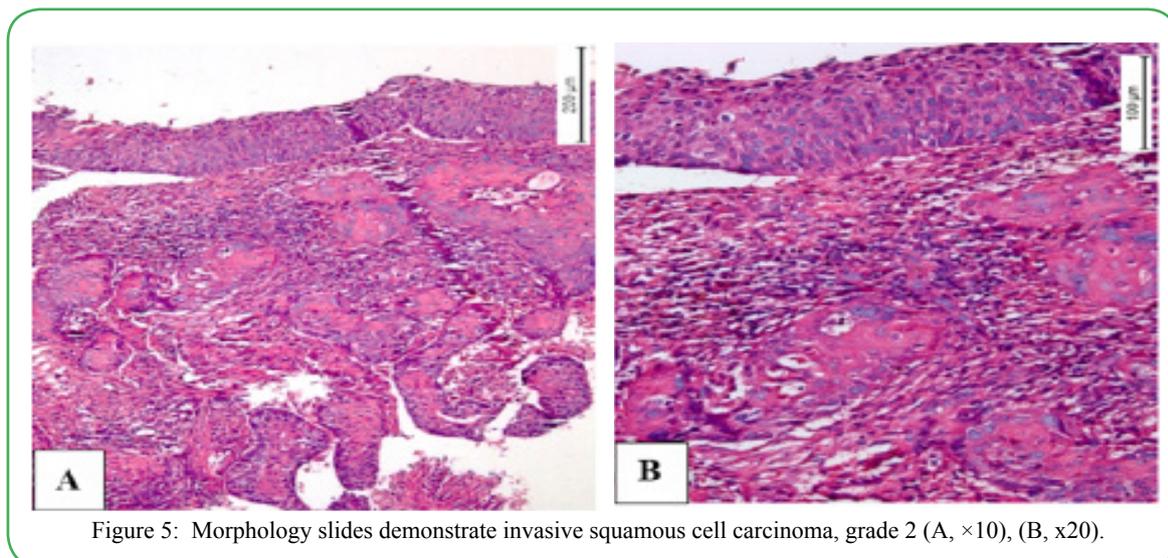


Figure 5: Morphology slides demonstrate invasive squamous cell carcinoma, grade 2 (A, $\times 10$), (B, $\times 20$).

According to the FIGO classification, the patient was diagnosed with stage IIB invasive squamous cell carcinoma of the cervix with endocervical localization of the tumor and transition to the left parametrium, complicated by genital prolapse and concurrent endometrial lesion.

Treatment and follow-up

The patient's treatment plan was discussed during Multidisciplinary

Conference. Given the impossibility of the endometrial assessment due to the tumor's obstruction of the endocervical canal, it was decided to start treatment with a surgical intervention.

A radical abdominal hysterectomy (type III, C) [7] with pelvic lymph nodes dissection was performed. Macroscopically, an endocervical tumor of the cervix with a maximum size of 45 mm with deep stromal invasion, fluid in the endometrial cavity and an endometrial polyp were found (Figure 6).



Figure 6: A macroscopic view of hysterectomy specimen with bilateral adnexa, parametrial tissues and a vaginal cuff (A, B); gross endocervical tumor (C); polyp of endometrium (D)

Final pathology report of hysterectomy specimen: invasive cervical squamous cell carcinoma, grade 2, with depth of stromal invasion 21 mm and maximal horizontal spread 45 mm, focal parametrial fat invasion and two pelvic lymph node metastasizes (one on each side). Surgical margins were negative. Endometrium showed cystic hyperplasia and benign endometrial polyp. (Figure 7).

Based on these data, postoperative chemoradiotherapy was admitted.

External beam pelvic radiotherapy at a total dose of 44 Gy fractionated over a period of 31 days was given. The patient received radiation sensitizing chemotherapy with cisplatin 40 mg/m² once per week for 4 cycles. She tolerated radiation therapy well and is currently without symptoms of pelvic organs prolapse, urinary incontinence, recurrence of her cancer, and radiation induced changes. She is free of the disease at 6 months of follow-up.

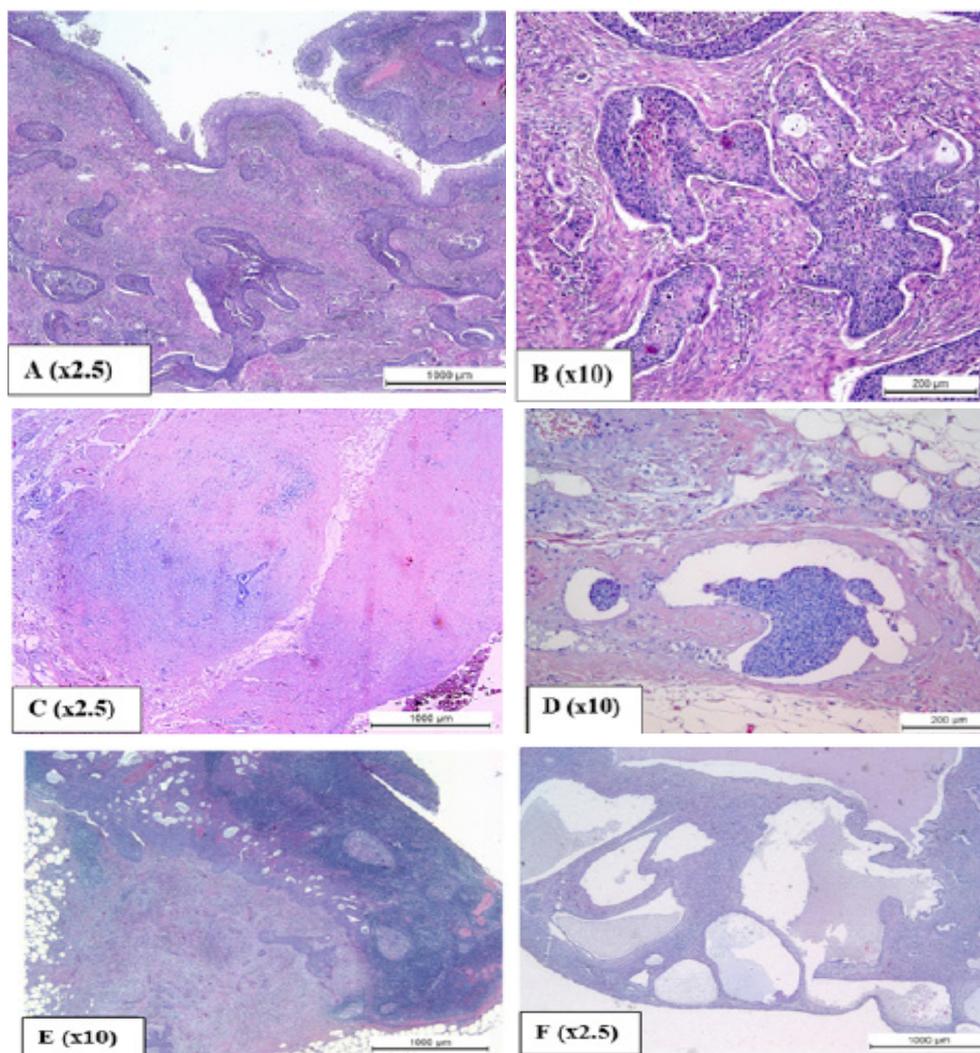


Figure 7: Pathology of hysterectomy specimen. Squamous cell carcinoma, grade 2, with overlying HSIL (A, $\times 2.5$; B, $\times 10$); parametrial fat focal tongue-like invasion (C, $\times 2.5$); tumor emboli in parametrial fat (D, $\times 10$); metastasis in pelvic lymph node (E, $\times 10$), benign endometrial polyp (F, $\times 2.5$).

Discussion

The management of LACC in patients with complete uterovaginal prolapse is challenging because radiation therapy can predispose to serious visceral damage to other prolapsed internal organs, so at the beginning of standard chemoradiotherapy a procidentia needs to be reduced [2, 6, 8]. According to the literature, some authors performed for this meta perineorrhaphy, cystocele, enterocele and Gellhorn pessary placement followed by external beam radiotherapy and brachytherapy. Using such a preparatory maneuver, authors report good long-term outcomes of treatment after 15 months following completion of standard concurrent chemoradiotherapy [6]. Our patient presented with LACC complicated by severe uterovaginal prolapse. Therefore, the question of prescribing a course of concomitant chemoradiation therapy with previous implantation of a pessary has been considered too. But during the examination, the simultaneous pathology of the endometrium was diagnosed and it was not possible to clarify the nature of this pathology. Frick et al. [9] found an unexpected uterine pathology in 2.6% of 644 hysterectomy specimens in patients operated on for genital prolapse. Despite the low risk of endometrial lesions, in women with a history of postmenopausal bleeding, even with a negative endometrial assessment, the authors do not recommend preserving the uterus

during prolapse surgery. Therefore, in our case, due to forced circumstances, after a multidisciplinary consultation, surgical intervention followed by a course of chemoradiation therapy became the treatment of choice. The patient is now doing well 6 months follow-up after completion of her treatment and shows no evidence of recurrence of her disease and reports no any side effects of the therapy.

Treatment for these rare coexisting conditions, recently presented by RM Kahn et al. in a systematic literature review that included all cases of cervical cancer from 1990 to 2018 complicated by stage III-IV uterovaginal prolapse from online databases (PubMed, EMBASE, Medline and the Cochrane Library) [2]. The authors analyzed 15 cases when cervical cancer was associated with procidentia. According to this data, patients with early cervical cancer were mostly treated with a surgery, for stages IIB-IIIB, the treatment options varied very widely: surgery, radiation therapy, and palliative chemotherapy. For these patients, the results were also mixed. In a study conducted by Matsuo et al. [10], 78 cervical cancer patients with complete genital prolapse were included. Authors reported, that only surgery was the method of choice in 33.3% of cases, and only radiation therapy was performed in 38.5% of cases. In this study authors highlight that surgery was associated with significantly better outcomes in terms

of disease-free survival and overall survival compared to radiation therapy in both univariate and multivariate analyzes. However, it should be noted that in this study, stage 1 of the disease was most often diagnosed (56.2%). The results of this study confirm the difficulty of choosing the optimal treatment approach for patients with LACC combined with procidentia.

Given the limited options for patients with recurrent and metastatic cervical cancer, if available in the setting, Kahn RM et al. recommend to consider immunotherapy with pembrolizumab in this category of patients complicated by severe uterine prolapse with PD-L1-positive status [2].

Conclusions

In the presented case, LACC associated with genital prolapse was accompanied by simultaneous pathology of endometrium. Thus, patient could not be a candidate for standard chemoradiotherapy, therefore, surgery was performed followed by concurrent chemoradiation. All this highlights that each patient with LACC combined with uterovaginal prolapse requires a multidisciplinary team of specialists to accomplish the best possible outcomes. The aim of this report was to add to cervical cancer complicated by a procidentia database additional information in order to determine in future the most effective therapies.

Acknowledgement

The authors thank the patient for granting permission to publish her information.

Statement of ethics

We have reported this case in compliance with the Declaration of Helsinki. Written informed consent was obtained from the patient to publish her case details (including images).

Conflicts of interest

The authors have no conflicts of interest to disclose.

Funding declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author contributions

OPM identified the patient, wrote and edited the manuscript; PAP provided the histopathological data; AVT provided the clinical and radiological data. All authors have read and approved the final version of the manuscript.

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