

Vaginal cancer in a patient treated for cervical intraepithelial neoplasia (CIN 3): case report

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Summary

In 1% to 3% of patients with cervical intraepithelial neoplasia (CIN), vaginal intraepithelial neoplasia (VAIN) will either coexist or occur at a later date. The time interval from an earlier diagnosis of CIN 3 to a current diagnosis of VAIN 3 varies from two to 17 years. Invasive vaginal cancer occurred in a woman five years after total abdominal hysterectomy for cervical intraepithelial neoplasia. In women who have undergone total hysterectomy for cervical intraepithelial neoplasia or cervical cancer, postoperative cytologic and colposcopic follow-up of the vagina is necessary.

Key words: Vaginal intraepithelial neoplasia; Vaginal cancer.

Introduction

Cruveilhier first described vaginal cancer in 1826. Vaginal intraepithelial neoplasia (VAIN) was subsequently described more than 100 years later at the Mayo Clinic and was reported by Hummer *et al.* in 1970 [3]. In 1981, Woodruff noted that fewer than 300 cases of VAIN had been reported in the literature [11]. Vaginal neoplasms account for 1% to 4% of all gynecologic malignancies [1].

HPV appears to be the primary initiator of vaginal intraepithelial neoplasia and vaginal cancer, as with other squamous lesions of the lower female genital tract [1].

Case report

A 33-year-old, gravida 3, para 2, Greek woman presented with abnormal colposcopy findings (Figure 1). Her past surgical history was significant for LLETZ (CIN 2-3) two years before and cold knife conization (CIN 2-3) one year before, with free surgical margins. Her family history was unremarkable, but her first husband was HPV positive.

There were no palpable inguinal lymph nodes, and the rest of the pelvic examination was normal. Preoperative computed tomography (CT) of the chest, abdomen and pelvis, abdominal ultrasonography (US), chest X-ray, colonoscopy and urethrocytoscropy were normal.

Total abdominal hysterectomy was performed. Pathology examination of the entire specimen demonstrated CIN 3 with clear lateral and deep margins.

Twenty months later a routine Pap smear was interpreted as VAIN 2-3. Vaginal colposcopy and biopsy revealed VAIN 3 - in situ vaginal cancer. The patient refused an upper vaginectomy. She underwent external radiotherapy with a total dose of 5650 cGy.

Twelve months later the Pap smear was abnormal and there was suspicion of recurrence of the disease. The patient again denied any kind of therapy.

Thirty months later the Pap smear was interpreted as VAIN 3 (Figure 2). Vaginal colposcopy and biopsy revealed invasive vaginal cancer. The patient underwent intracavitary brachytherapy with a total dose of 1600 cGy.

Ten months later vaginal colposcopy and biopsy again revealed invasive vaginal cancer (Figure 3).

One month later the patient underwent upper vaginectomy. Preoperatively there were no palpable inguinal lymph nodes. CT of the chest, abdomen and pelvis, US, chest X-ray, colonoscopy and urethrocytoscropy were normal. Pathology examination of the entire specimen demonstrated invasive squamous cell vaginal cancer with necrosis and microinvasion of the bladder (< 0.1 cm) (Figure 4).

Pelvic exenteration is currently being undertaken.

Discussion

In 1% to 3% of patients with cervical neoplasia, vaginal neoplasia will either coexist or occur at a later date [2]. In an early study, the time interval from an earlier diagnosis of CIN 3 to a current diagnosis of VAIN 3 varied from two to 17 years [3].

Compared with CIN development, the development of VAIN following HPV infection may require a greater period of time and may occur less frequently because of the different type of epithelium from which VAIN arises.

VAIN most commonly presents in women who have undergone hysterectomy for CIN. Of women with VAIN 51-62% have been treated for CIN, and as many as 25% have undergone hysterectomies for CIN as well. Almost 75% of women with VAIN have preceding or coexisting squamous carcinomas of the cervix or vulva [4-6].

VAIN affects the upper third of the vagina in 85-92.4% of cases [4]. About half of these cases are multifocal [4, 7].

In women who have undergone total hysterectomy for cervical intraepithelial neoplasia or cervical cancer, postoperative cytologic and colposcopic examinations of the vagina are necessary [8].

If there is any suspicion of invasion, the treatment of choice is partial vaginectomy [9]. The advantage of the procedure is that it provides a specimen for pathologic



Fig. 1

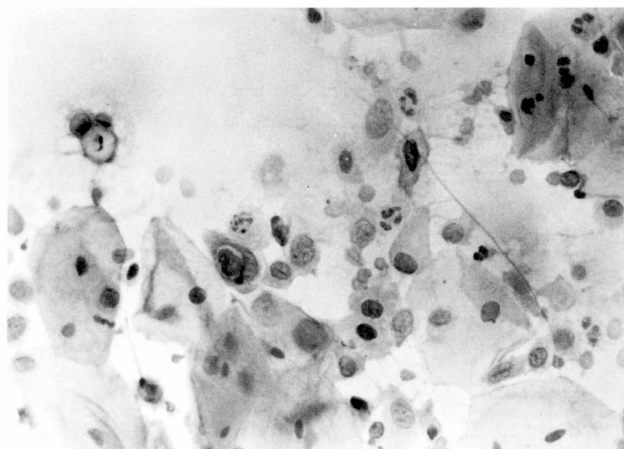


Fig. 2



Fig. 3

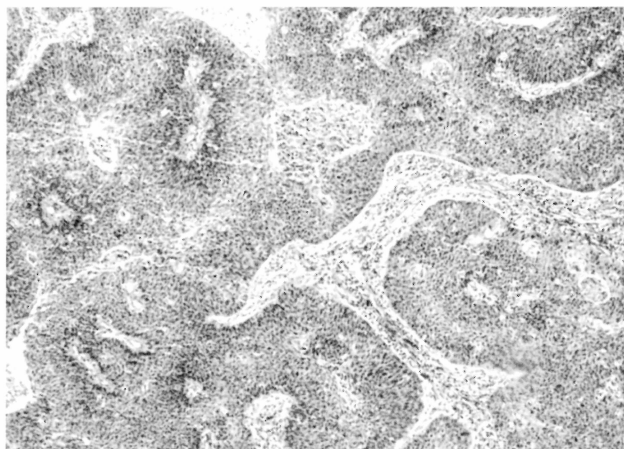


Fig. 4

Figure 1. — Colposcopy: at the upper edge of the cervix there is acetowhite epithelium with punctation and mosaicism consistent with CIN 2-3.

Figure 2. — Vaginal cytology taken five years post-hysterectomy: VAIN 3.

Figure 3. — Vaginal colposcopy six years post-hysterectomy again revealed invasive vaginal cancer.

Figure 4. — Invasive squamous cell vaginal cancer with necrosis.

evaluation. Partial vaginectomy will often result in shortening of the vagina, significant blood loss, and occasional need for a skin graft. Cure rates are reported to be as high as 90%.

If invasion is found after either biopsy or surgical excision of VAIN, radiation therapy may be indicated [10]. Intracavitary brachytherapy has been used for treatment of both VAIN and early invasive vaginal cancer.

Conclusion

In women who have undergone total hysterectomy for cervical intraepithelial neoplasia or cervical cancer, post-operative cytologic and colposcopic follow-up of the vagina is necessary.

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