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INTERCOURSE DYSFUNCTION FOLLOWING SURGERY FOR EXTENSIVE HIGH-GRADE VAGINAL INTRAEPITHELIAL NEOPLASIA WITH CONCURRENT MICROINVASIVE VAGINAL CARCINOMA

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Abstract

Despite the growing interest on the clinical importance of vaginal intraepithelial neoplasia (VAIN), its natural history, preferred method of treatment and risk of progression and recurrence are not completely understood due to its rarity.

We present in our paper an interesting case of a 45 years old woman who was diagnosed after biopsy with VAIN3 and a small focus of microinvasive vaginal carcinoma.

Due to the important local extension of the lesion and taking into account that the patient had completed childbearing we decided to perform total abdominal hysterectomy and colpectomy. The patient underwent adjuvant chemo and radiation therapy.

The recovery was uneventful, but following surgery the patient experienced, as expected, vaginal intercourse impairment. The patient remains disease- free 13 months post surgery.

Keywords:

VAIN, biopsy, hysterectomy, vaginal intercourse.

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INTRODUCTION

Vaginal intraepithelial neoplasia (VAIN) is a rare pre-malignant lesion, representing less than 1% of all intraepithelial neoplasia of the female genital tract.[1]

Yet, the incidence is increasing annually despite the fact that the reported values are likey underestimated; most probably this is the result of the widespread application of cervical cytology, human papillomavirus (HPV) testing and colposcopy which lead to a prompt diagnosis.[2]

Risk factors for VAIN include: advanced age, HPV infection, history of hysterectomy and simultaneous or previous cervical intraepithelial neoplasia (CIN) or cervical cancer.[3]

There is controversial data regarding HPV detection rate in VAIN lesions, varying from 69.3 %[4] to 90-100%, with HPV16 being the most common type in VAIN2/3 (65.8%) and vaginal cancers (55.4%).[5]

VAIN can affect women of any age, but it is more common in women above 50 years; moreover, age, HPV viral load and grade of disease correlate.[6]

Similar to CIN there are three grades of VAIN according to the depth of epithelial involvement.1 VAIN1 only affects the lower one-third of the epithelium, whilst VAIN3 more than two-thirds.[7]

Although the best treatment option for VAIN is uncertain, there are various choices including: partial or total colpectomy, laser ablation, cavitational ultrasonic surgical application, vaginectomy, topical application of 5-fluorouracil and brachytherapy.[8]

Surgical excision is the mainstay of treatment and should be performed if invasion cannot be excluded, while topical agents are useful for persistent, multifocal lesions or for women who cannot undergo surgical treatment.[9]

Besides the risk of progression to cancer (which has been shown to range between 2% and 12%), frequent recurrence after initial treatment for VAIN has been reported.[10]

In consequence. whatever the treatment option is used a long-term follow-up surveillance is warranted.

We present an interesting case of an extensive VAIN3 with a concurrent small focus of microinvasive vaginal carcinoma and low grade CIN in a grand multipara who underwent surgical therapy and experienced postoperative vaginal intercourse impairment.

Case Report

A 45-year-old gravida 9 para 8 patient came to our clinic for a routine gynecologic check-up.

She had a Pap smear and a complete clinical examination which revealed an extended vaginal exophytic lesion on the anterior and right lateral wall having the inferior margin at approximately 4-5 cm from the vaginal introitus.

Multiple vaginal biopses were taken under colposcopic examination and the histopathological examination revealed VAIN3.

The PAP smear result was ASC-H. HPV genotype testing was not performed.

Neither the patient's family nor personal history showed any significant data.

All the deliveries had been vaginally and no incidens reported. The patient reported to be asymptomatic, having experienced ocasional and minor vaginal bleeding after sexual intercourse for the past several months.

After having discussed with the patient the treatment options and taking into account that she had completed chilbearing, she decided to undergo total abdominal hysterectomy with extended colpectomy. The length of the remaining vaginal stump was of approximately 4 cm. (Figures 1 and 2)

The recovery was uneventful and the patient was discharged on the 5th day after surgery.

Interestingly, the final histopathological report showed VAIN3 associated with an area of microinvasive vaginal carcinoma (the maximum depth of invasion of approximately 0.1 cm) and concurrent low-grade cervical squamous intraepithelial lesion (CIN1).

The diagnosis was confirmed by immunohistochemistry (p16, p63 and ki67 positive).

The patient was further referred to an oncology specialist and she underwent adjuvant chemo and radiation therapy.

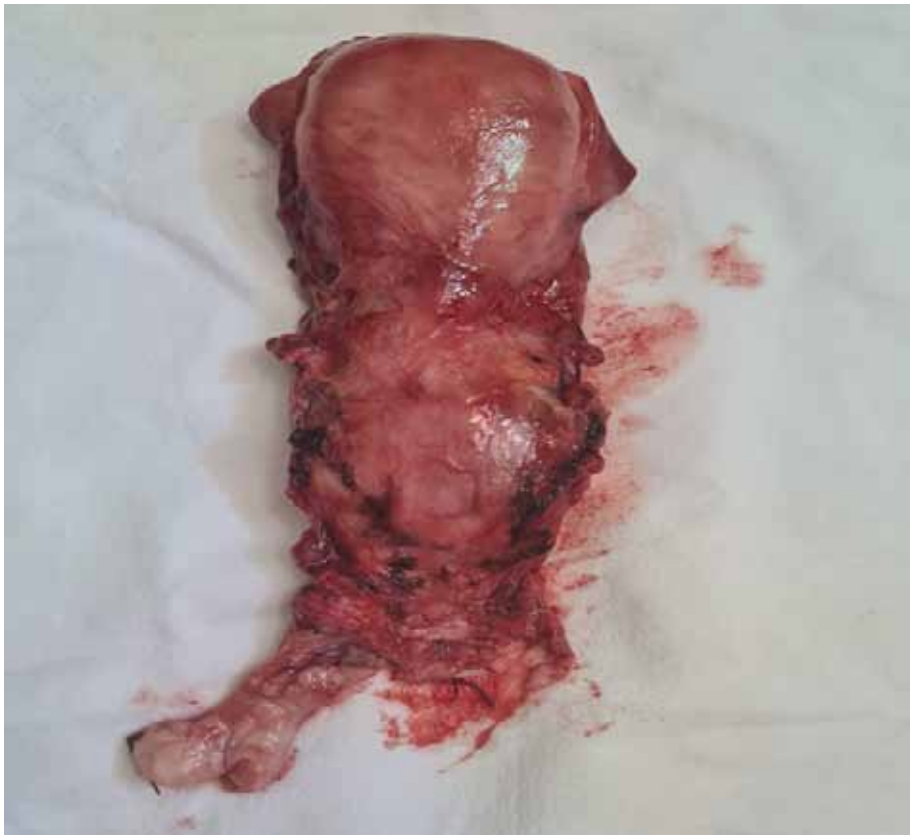

Figure 1. Total hysterectomy with extended colpectomy specimen.

She is currently disease-free at 13 months post surgery.

As discussed before surgery, the patients experiences at the present time vaginal sexual impairment.

DISCUSSION

We presented a case of severe vaginal sexual dysfunction following surgery for VAIN3 and microinvasive vaginal carcinoma in a grand multipara.

As expected, the vaginal lesions were associated with CIN, as the initial site of HPV infection is considered to be represented by the cells in the cervical transformation zone.[11]

Unfortunately we did not assess the patient's HPV status at the time of biopsy, although, as Yu et al report in their study, most patients with VAIN and CIN were confirmed as HPV positive (97.5%) and 71,2% were positive for high-risk HPV.3

Contrary to most data published which shows that mean age at diagnosis for VAIN is above 50 years [12], in our case the patient was younger.

For VAIN 2/3 no consensus on the most effective treatment has been established and various treatment options have been proposed, including local excision, partial or total vaginectomy, radiotherapy, laser vaporization and topical 5-fluorouracil administration.[13]

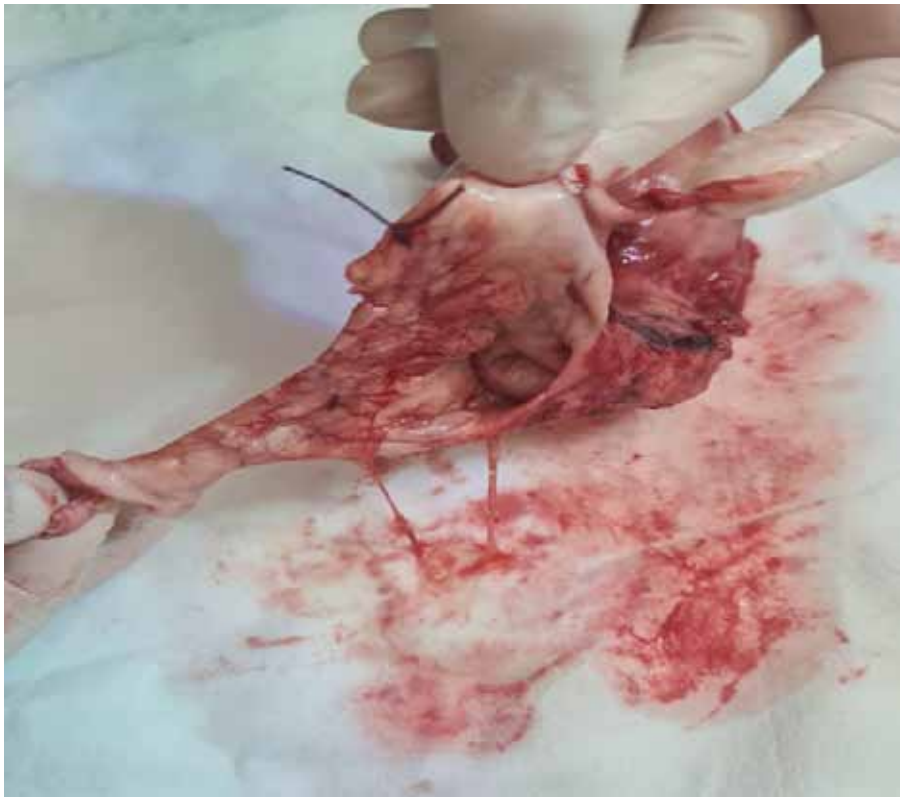

Figure 2. Intraoperative specimen showing the extent of the vaginal lesion.

Although it is obvious that brachytherapy can achieve high cure rates, long-time side effects should be considered since VAIN patients are thought to have a long life expectancy.[14]

Surgical excision is the mainstay of treatment and should be performed if invasion cannot be excluded.[15]

Being a grand multipara and having no desire for future pregnancies the patient choosed to undergo radical surgery being concerned for the risk of invasive lesions.

On the other hand, due to the extensive vaginal dysplasia, we discussed the high risk of having vaginal sexual impairment as a consequence of colpectomy and the patient signed the informed consent for surgery.

As VAIN 2/3 and VAIN associated with CIN or cervical cancer are disease types more likely to recur and progress to invasive cancer, active medical intervention is recommended for these patients.[3]

Taking into account that extensive surgery was performed in our case, the patient had recovered well and she is free of disease at the present time.

She benefits from a supportive family environment and she attends the follow-up oncology appointments; hence we consider the prognosis to be good.

References

1. Lamos C, Mihaljevic C, Aulmann S, et al. Detection of human papillomavirus infection in patients with vaginal intraepithelial neoplasia. PLoS one 2016;11(12): e0167386. doi: 10.1371/journal.pone.0167386
2. Zhou FY, Zhou Qi, Zhu ZY, Hua KQ, Chen LM, Ding JX. Types and viral load of human papillomavirus, and vaginal microbiota in vaginal intraepithelial neoplasia: a cross-sectional study. Ann Transl Med 2020; 8(21):1408. doi: 10.21037/atm-20-622
3. Yu D, Qu Pengpeng, Liu M. Clinical presentation, treatment and outcomes associated with vaginal intraepithelial neoplasia: A retrospective study of 118 patients. J Obstet Gynaecol Res 2021; 47(5):1624-30. DOI: 10.1111/jog.14733
4. Chao A, Jao MS, Huang CC, et al. Human papillomavirus genotype in cervical intraepithelial neoplasia grades 2 and 3 of Taiwanese women. Int J Cancer 2011;128(3):653-9. DOI: 10.1002/ijc.25384
5. Smith SJ, Backes DM, Hoots BE, Kurman RJ, Pimenta JM. Human papillomavirus type-distribution in vulvar and vaginal cancers and their associated precursors. Obstet Gynecol 2009;113(4):917-24. DOI: 10.1097/AOG.0b013e31819bd6e0
6. So AK, Hong JH, Hwang JH, et al. The utility of the human papillomavirus DNA load for the diagnosis and prediction of persistent vaginal intraepithelial neoplasia. J Gynecol Oncol 2009;20(4):232-7. DOI: 10.3802/jgo.2009.20.4.232
7. Ferenczy A, Colgan TJ, Herrington CS. et al. Tumors of the Vagina: epithelial Tumours. In: Kurman JR., Carcangiu ML., Herrington CS., Young RH, eds. World Health Organization Classification of Tumours of the female reproductive Organs. Lyon: IARC Press. 2014;4th ed.:210–7.
8. Gurumurthy M, et al. Management of vaginal intraepithelial neoplasia. J Low Genit Tract Dis 2012;16(3):306-12. DOI: 10.1097/LGT.0b013e31823da7fb
9. Rountis A, Pergialiotis V, Tsetsa P, Rodolakis A, Haidopoulos D. Management options for vaginal intraepithelial neoplasia. Int J Clin Pract 2020;74(11):e13598. DOI: 10.1111/ijcp.13598
10. Kim MK, Lee IH, Lee KH. Clinical outcomes and risk of recurrence among patients with vaginal intraepithelial neoplasia: a comprehensive analysis of 576 cases. J Gynecol Oncol 2018;29(1):e6. doi: 10.3802/jgo.2018.29.e6
11. Hoshi-Sakamoto E, Kiseki H, Ikeda S. Vaginal intraepithelial neoplasia 3 in a woman without simultaneous cervical intraepithelial neoplasia. J Med Cases 2020;11(8):246-8. doi: 10.14740/jmc3532
12. Jentschke M, Hoffmeister V, Soergel P, Hillemanns P. Clinical presentation, treatment and outcome of vaginal intraepithelial neoplasia. Arch Gynecol Obstet 2016;293(2):415-9. doi: 10.1007/s00404-015-3835-6
13. Choi YJ, Hur SY, Park JS, Lee KH. Laparoscopic upper vaginectomy for post-hysterectomy high risk vaginal intraepithelual neoplasia and superficially invasive vaginal carcinoma. World J Surg Oncol 2013;11:126. doi: 10.1186/1477-7819-11-126
14. Song JH, Lee JH, Park JS, et al. High-dose-rate brachytherapy for treatment of vaginal intraepithelial neoplasia. Cancer Res Treat 2014;46(1):74-80. doi: 10.4143/crt.2014.46.1.74
15. Rountis A, Pergialiotis V, Tsetsa P, et al. Management options for vaginal intraepithelial neoplasia. Int J Clin Pract 2020;74(11):e13598. doi: 10.1111/ijcp.13598