EP102-WANG

Tianjin Medical University General Hosiptial

Management for hpv-associated multicentric intraepithelial lesions of the lower genital tract in women with autoimmune diseases: a case report

Chen Wang, Aiping Fan, Yingmei Wang, Fengxia Xue

Introduction

Immunosuppressive therapy in patients with autoimmune diseases compromises HPV clearance and predisposing them to multicentric genital lesions. Studies have suggested a higher risk of cervical cancer in patients with autoimmune diseases such as systemic lupus erythematosus (SLE). Managing such patients remains a challenging issue.

This report describes successful 6-year management of a woman with SLE and HPV-related multicentric lesions of the lower genital tract, achieving both disease stabilization and improvement of lesions through active surveillance and multidisciplinary care.

Case report

A 52-year-old woman with SLE presented in February 2019 with a low-grade squamous intraepithelial lesion (LSIL) on cytology and HPV58/6/42-positive. Postmenopausal since age 47 (gravida 2 para 1), she reported 5-year sexual abstinence.

Prior to referral, the patient had 2-year LSIL on cytology with HPV58/39/6/42-positive status, undergoing loop electrosurgical excision procedure (histologically confirmed LSIL) elsewhere. Our initial colposcopy revealed: 1) multifocal dense acetowhite epithelium in vulva; 2) cervical type 3 transformation zone with endocervical extension of acetowhite epithelium (no atypical vessels); 3) focal thin acetowhite changes on the upper third of right vaginal wall. Histopathology confirmed vulvar and cervical HSIL, with vaginal LSIL. Concurrent SLE flare presented with pancytopenia, pulmonary hypertension and heart failure. Laboratory tests revealed white blood cell count of 2.6×10^9/L (reference range, 3.50-9.50×10^9/L), red blood cell count of 2.75×10^{12}/L (reference range, 2.80-5.10×10^{12}/L), platelet count of 62×10^9/L (reference range, 125-350×10^9/L), levels of C3 52.20mg/dL (reference range, 79-152mg/dL), levels of C4 10.60mg/dL (reference range, 16-38mg/dL). Anti-double-stranded DNA antibody, anti-Ro/SSA, anti-La/SSB and anti-Ro-52 were detected.

Following multidisciplinary consultation, the patient commenced immunomodulation with methylprednisolone 8mg twice daily and hydroxychloroquine 200mg twice daily. Upon SLE remission, the steroid dosage was tapered: methylprednisolone was reduced to 8mg once daily, then to 4mg daily, followed by maintenance with prednisone 5mg daily. Concurrent cardiopulmonary management included digoxin 0.25mg and furosemide 20mg daily to optimize cardiac function, sildenafil 25mg daily for pulmonary hypertension control, and warfarin 3mg daily for anticoagulation. Meanwhile, we implemented a rigorous follow-up protocol incorporating cytology, HPV genotyping, and colposcopy. Through six years of active surveillance with adequate colposcopy, the patient achieved effective control of systemic disease activity with maintenance of SLE remission, accompanied by gradual improvement of HPV-related lesions (Figure 1). Transvaginal ultrasonography and tumor marker profiling (CA-125, CA-199, HE4, SCC-Ag, etc.) were normal. Follow-up continues with concurrent topical cantharidin cream for vulvar lesions.

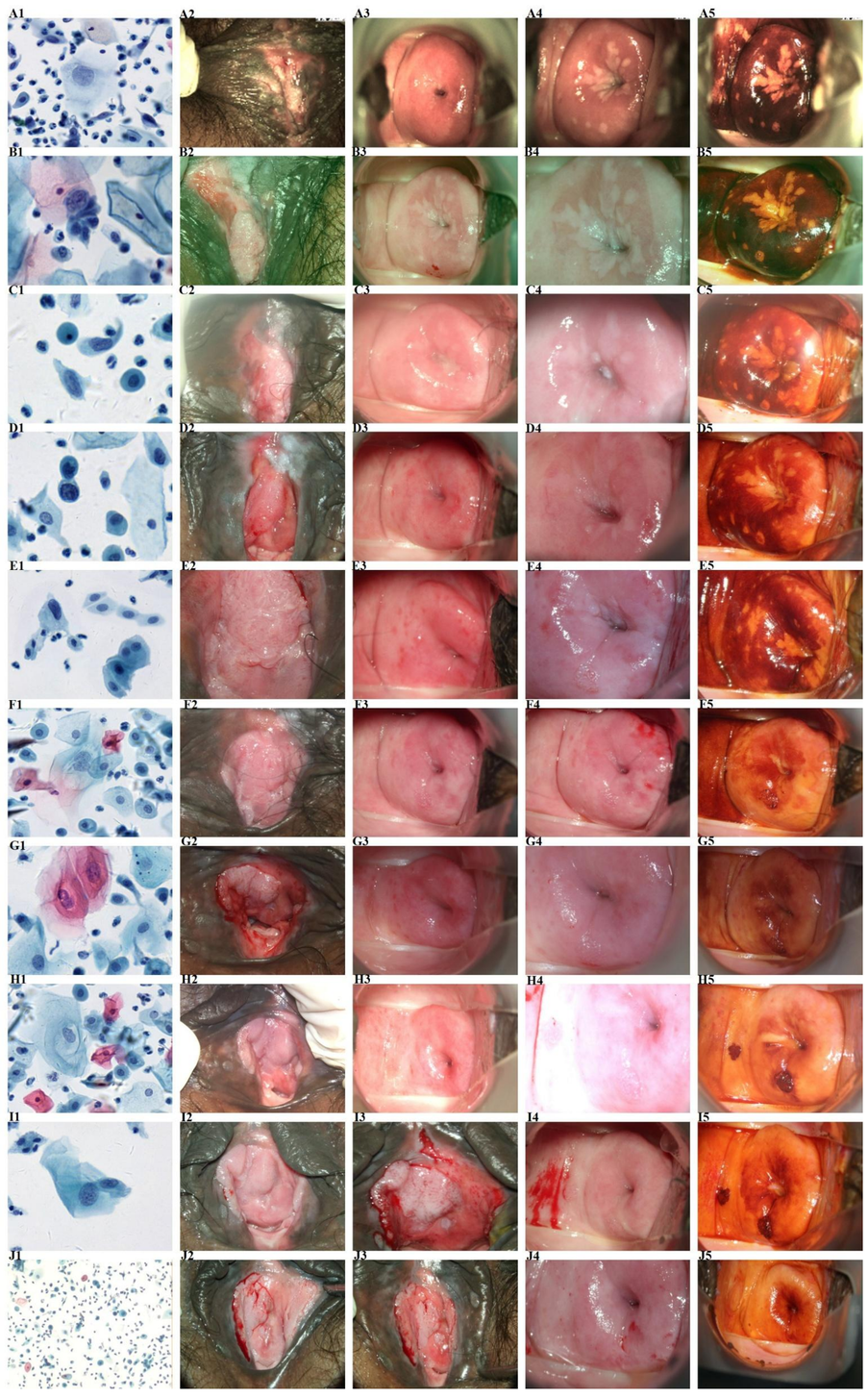

Figure 1. Cytology and colposcopy during follow-up. A1-A5, 4/2019; A1, LSIL; A2, vulvar HSIL; A3-A5, cervical and vaginal HSIL. B1-B5, 12/2019; B1, LSIL, partly small amount of ASC-H; B2, vulvar condyloma. C1-C5, 6/2020; C1, LSIL; partly ASC-H; C2, vulva. D1-D5, 12/2020; D1, HSIL; D2, vulvar wart-like lesions. E1-E5, 7/2021; E1, LSIL, small amount of ASC-H; E2, vulvar wart-like lesions. F1-F5, 2/2022; F1, LSIL; F2, vulvar wart-like lesions. B3-B5/C3-C5/D3-D5/E3-E5/F3-F5, changes after dilute acetic acid and iodine staining; G1-G5, 10/2022; G1, LSIL; G2, vulvar condyloma; G3-G5, cervical condyloma. H1-H5, 8/2023; H1, LSIL; H2-H5, condyloma in vulva, vagina and cervix. I1-I5, 4/2024; I1, LSIL; I2-I3, vulvar LSIL; I4-I5, cervical LSIL. J1-J5, 2/2025; J1, NILM; J2-J3, vulvar wart-like lesions; J4-J5, normal cervix and vaginal wall.

Discussion

Immunocompromised women are at an increased risk of developing malignancies, especially those that are viral-induced, such as invasive cervical cancer caused by HPV. Immunosuppression is a risk factor of persistent HPV infections, which might lead to development of premalignant lesions of the cervix and lower anogenital tract. A study showed that women in SLE cohort had twice the risk of cervical precancer vs. the general population.

Immunocompromised patients, particularly those with SLE, have a substantially higher risk of multicentric lower genital tract lesions. Immune dysfunction accelerates lesion development across the cervix, vulva, vagina and perianal region, though routine aggressive intervention remains controversial. Optimal management relies on stable control of autoimmune disease, close monitoring and regular colposcopy. Clinically, remission of SLE coincided with marked improvement of the patient's multicentric HPV-associated lesions.

Conclusions

This case highlights following insights:

1) autoimmune disorders compromise HPV clearance, predisposing patients to multicentric lower genital tract lesions;

2) multidisciplinary stabilization of immune pathology serves as the foundation for managing HPV-related lesions;

3) active surveillance incorporating cytology, high risk HPV genotyping, and adequate colposcopy offers a viable alternative to excision and ablation in select cases.

These findings necessitate prioritizing autoimmune conditions management before addressing HPV manifestations, favoring longitudinal monitoring with readiness for stepwise therapeutic escalation during immune-stable phases. This dual strategy harmonizes oncological surveillance with systemic disease control, particularly crucial for patients on chronic immunosuppressants and corticosteroids.

Contact

First author: Chen Wang Email: wangchener@tmu.edu.cn

Corresponding author: Aiping Fan Email: fanaipinger@163.com

Department of Obstetrics and Gynecology, Tianjin Medical University General Hospital, Tianjin, China;

Tianjin Key Laboratory of Female Reproductive Health and Eugenics, Tianjin Medical University General Hospital, Tianjin, China

References

1. Kim S C, Glynn R J, Giovannucci E, et al. Risk of high-grade cervical dysplasia and cervical cancer in women with systemic inflammatory diseases: a population-based cohort study. Ann Rheum Dis 2015;74:1360-1367.
2. Wielgos A, Pietrzak B, Suchonska B, et al. A Six-Year Gynecological Follow-Up of Immunosuppressed Women with a High-Risk Human Papillomavirus Infection. Int J Environ Res Public Health 2022;19:3531.
3. Wielgos A, Pietrzak B, Sikora M, et al. Human Papillomavirus (HPV) DNA Detection Using Self-Sampling Devices in Women Undergoing Long Term Immunosuppressive Therapy. Viruses 2020;12:962.
4. Siddiqi K Z, Baandrup L, Diederichsen L, et al. Risk of HPV-associated precancer and cancer in women with systemic lupus erythematosus. Ann Rheum Dis 2025; 84:760-766.
5. Moscicki A, Flowers L, Huchko M J, et al. Guidelines for Cervical Cancer Screening in Immunosuppressed Women Without HIV Infection. J Low Genit Tract Dis 2019;23:87-101.