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High-grade squamous intraepithelial lesion of the vulva secondary to human papillomavirus in a 54-year-old patient: a case report

Lesão intraepitelial escamosa de alto grau de vulva secundária ao papilomavírus humano em uma paciente de 54 anos: um relato de caso

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Abstract

Vulvar high-grade squamous intraepithelial lesion (HSIL) is a premalignant condition often associated with human papillomavirus that may progress to carcinoma. This study reports the case of a 54-year-old asymptomatic woman diagnosed with vulvar HSIL during a routine gynecological examination. Histopathological analysis confirmed the diagnosis, revealing an usual and multifocal vulvar intraepithelial neoplasia grade 3 (VIN3). This case evidences the essential role of anamnesis and physical examination. The selected treatment was the loop electrosurgical excision of the affected area identified by vulvoscopy, ensuring adequate safety margins. To maintain vulvar aesthetics, the procedure was followed by vulvoplasty.

Keywords: Intraepithelial lesion; Vulva; HPV; Neoplasm

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Resumo

A lesão intraepitelial escamosa de alto grau da vulva é uma condição pré-maligna, frequentemente associada ao papilomavírus humano e com potencial de evoluir para o carcinoma. O estudo apresenta um relato de caso de uma mulher de 54 anos, assintomática, diagnosticada com lesão intraepitelial escamosa de alto grau da vulva durante acompanhamento de rotina para exames ginecológicos. O diagnóstico, confirmado pelo exame anatopatológico, evidenciou lesão intraepitelial escamosa de alto grau e neoplasia intraepitelial vulvar grau 3 usual e multifocal. No entanto, vale ressaltar a importância da anamnese e do exame físico. O tratamento escolhido foi a excisão em formato elíptico com bisturi a frio, abrangendo a área identificada pela vulvoscopia, com margem de segurança, seguida de vulvoplastia preservar a estética.

Palavras-chave: Lesão intraepitelial; Vulva; HPV; Neoplasia.

INTRODUCTION

Vulvar high-grade squamous intraepithelial lesion (HSIL), formerly classified as vulvar intraepithelial neoplasia grades 2 and 3, is a premalignant condition often associated with human papillomavirus (HPV), particularly subtypes 16 and 33, which account for 75% to 85% of cases[1]. Besides the HPV infection, smoking and immunosuppression are relevant risk factors, which are correlated with the formation of vulvar squamous cell carcinoma in about 20% of cases[2].

Quadrivalent and nonavalent vaccines, which respectively offer protection against HPV and cover subtypes 16 and 33, have contributed to reducing the incidence of vulvar HSIL in vaccinated patients[3]. However, while HPV-related research has predominantly focused on cervical lesions, specific data on the vulva remain limited, hindering the establishment of protocols for managing vulvar HSIL[4].

This study described a detailed case report of a patient diagnosed with vulvar HSIL to discuss its clinical manifestations, diagnosis, treatment, and follow-up, aiming to enhance understanding and improve the management of HPV-induced vulvar lesions, fostering better clinical outcomes and an improved quality of life for affected patients.

CASE REPORT

A 54-year-old woman, G1P0A1 (spontaneous abortion), asymptomatic, attended a routine gynecological examination. During the vulvar inspection, a lesion was noted in the posterior fourchette, characterized as a whitish plaque with slightly hyperchromic patches, uniform in color, presenting well-defined borders, measuring approximately 4.5 x 2.5 cm. The patient was unaware of the lesion and denied associated symptoms, such as pruritus.

This case was selected due to the absence of symptoms and identifiable risk factors, as

the patient spontaneously attended a routine gynecological consultation. A lesion suggestive of HSIL was identified, with no other associated clinical signs. This case highlights the importance of thorough physical examination, even in asymptomatic patients, emphasizing the potential for early diagnosis in cases without apparent risk factors.

Vulvar ulcers are considered common lesions and may be inadequately treated with topical therapies without proper histopathological investigation. However, persistent or chronic vulvar ulcers should be evaluated for appropriate diagnosis, avoiding delays in the treatment of premalignant or malignant lesions.

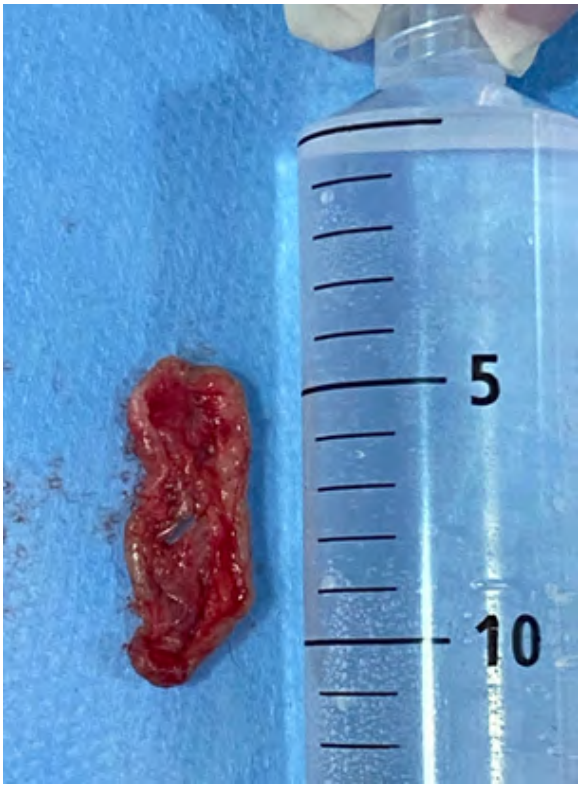
Vulvoscopy initially revealed vulvar HSIL without prominent acetowhitening. A biopsy was performed using six tissue fragments, confirming the diagnosis of HSIL associated with HPV-induced changes and hyperkeratosis.

The patient was reevaluated two months after biopsy; the lesion had slightly regressed, but it remained present. Therefore, surgical excision was indicated using loop electrosurgical excision, with tissue collected for anatomopathological analysis and assessment of lesion margins, reducing the risk of recurrence. The decision for surgery over conservative therapies (e.g., imiquimod or laser therapy) was based on the multifocal and high-grade nature of the lesion and high failure rates associated with non-surgical treatments in these cases.

The procedure was performed under sedation, with asepsis, antisepsis, and placement of surgical drapes. An elliptical cold knife incision was made, encompassing the entire area identified on vulvoscopy and an appropriate safety margin. Donatti interrupted sutures were used to approximate the subcutaneous tissue.

Histopathological examination (Figure 1) revealed an irregular skin segment (1.6 x 0.9 x 0.2 cm) with a central plaque-like lesion of undefined borders. On sectioning, the surface was compact and grayish. All surgical margins (superficial, lateral, and deep) were free of neoplastic involvement. The histopathological processing of the vulvar resection specimen, with unspecified topography, showed HSIL and usual, multifocal vulvar intraepithelial neoplasia grade[3].

Figure 1. Vulvar specimen: irregular skin segment measuring 1.6 x 0.9 x 0.2 cm with a central plaque-like lesion of ill-defined borders.



Source: Authors

Vulvoplasty was performed to preserve aesthetics and enhance the self-esteem of the patient. This procedure was considered necessary to correct potential irregularities resulting from lesion removal (Figure 2).

Figure 2. Vulvar region after vulvoplasty.

Source: Authors

Postoperative follow-up was scheduled every three months for one year, followed by semi-annual evaluations in the second year, and subsequently, annual evaluations. The patient remained under follow-up with no signs of recurrence or other gynecological abnormalities up to the most recent consultation. Treatment success was evaluated based on clinical inspection, absence of symptoms, and the lack of lesion recurrence on vulvoscopy.

DISCUSSION

In cases of suspected vulvar HSIL, the physical examination should extend beyond the vulva to include the anal area, lymph nodes, and pubic region. Lesions must be carefully evaluated for location, size, number, color, shape, and thickness[5]. Vulvar HSIL is frequently multifocal and typically manifests as papules or plaques, commonly found in the interlabial sulci, perineum, and anterior and posterior fourchette[6]; the latter being affected in the present case.

The fourchette lesion may also appear as a confluent area involving the labia majora and minora. Studies report that up to 18% of patients with vulvar HSIL may have associated anal lesions[7]; however, no lesion in the anal region was observed in the present case. Additionally, these lesions tend to occur in hairless areas and may present varied colors (e.g., whitish, brownish, gray, or red)[8]. The lesions in the present case were whitish plaques with slightly hyperchromatic areas.

Although symptoms, such as pruritus, pain, lesion sensitivity, and nodules, may be present, most cases are usually asymptomatic[5], as seen in the present case, in which the lesion was identified during a routine gynecological consultation.

The differential diagnosis of vulvar HSIL is challenging due to the clinical variability of HSIL. Many other vulvar conditions may resemble vulvar HSIL, including vulvar cancer, condyloma acuminatum, lichen sclerosus, lichen planus, and condyloma latum. Hence, anamnesis and physical examination are essential to formulate diagnostic hypotheses, guiding treatment, and implementing secondary prevention strategies. Although physical findings may appear similar among these conditions, the diagnosis is established upon histopathological analysis[8]. In the present case, histopathological analysis confirmed HSIL.

Management options for vulvar HSIL include excisional and ablative procedures[9]. Laser ablation is primarily indicated to preserve anatomy and function; however, it should be preceded by multiple biopsies to rule out malignancy. In the present case, the lesion was excised using an elliptical cold knife incision that encompassed the entire area identified by vulvoscopy, ensuring an adequate safety margin. Vulvoplasty was performed post-excision to preserve aesthetic outcomes and support the self-esteem of the patient.

The recurrence risk is influenced by the type of lesion, age, immune status, and the presence of other lower genital tract lesions[6,8]. In this case, the patient underwent vulvoscopy, cytol-

ogy, and colposcopy during follow-up. Findings included benign inflammatory changes, coccoid microbiota, hypoestrogenic smear, and mild epithelial atrophy. This post-treatment follow-up is important in preventing disease recurrence.

This case underscores the role of studying vulvar HSIL to enhance understanding of HPV vaccination, reinforcing the need for implementing primary and secondary prevention strategies for vulvar HSIL. Inadequate follow-up may lead to progression to invasive carcinoma, emphasizing the urgency of regular preventive exams and timely treatment of precursor lesions. Thus, the benefits of HPV vaccination, information on associated symptoms, and the importance of regular vulvar examinations must be highlighted[6,8].

The lack of evidence available on the relationship between HPV and vulvar lesions evidences the need for deeper discussion on this topic. The role of HPV in the development of precursor and invasive lesions is well established as the most common cause of vulvar intraepithelial neoplasia and a major risk factor for vulvar cancer[6,8].

This case report presented some limitations. HPV genotyping was not performed, which could have provided additional information on the viral subtype involved, especially considering the known association between HSIL and oncogenic HPV. Furthermore, the follow-up duration may be insufficient to fully assess long-term recurrence risk, which is influenced by lesion characteristics and associated viral subtype.

Despite these limitations, this case report evidences the importance of preventive screening and timely treatment of precursor lesions. These lesions should be properly studied to enhance the understanding of the role of HPV vaccination and the potential risk of progression to invasive cancer. In this context, prospective studies with larger patient samples are required, along with the evaluation of primary (vaccination) and secondary (screening) prevention strategies. Additionally, intensifying educational campaigns may increase adherence to preventive measures.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

FAP: Conceptualization, Data curation, Investigation, Methodology, Project administration, Resources, Supervision, Writing – review and editing. **ASG:** Writing – original draft, Writing – review and editing. **PAS:** Writing – original draft, Writing – review and editing. **RLAL:** Writing – original draft, Writing – review and editing. **YIC:** Writing – original draft, Writing – review and

editing. **AFM:** Data curation, Writing – review and editing. **PADC:** Conceptualization, Supervision, Writing – review and editing. All authors read and agreed with the final version of the manuscript.

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