

# Bowenoid Papulosis

Bowenoid papulosis (BP) is a dermatological condition that has been traditionally classified by some authors as a form of high-risk genital warts. However, recent research suggests that BP represents an early stage of squamous cell carcinoma (SCC), primarily caused by high-risk types of the human papillomavirus (HPV), especially HPV types 16 and 18. The condition is characterized by asymptomatic, flat, pigmented papules that are typically located on or near the genitalia and perianal region, although internal lesions, particularly on the cervix, may also occur in women, often undetected.

## **Pathophysiology**

Bowenoid papulosis is most commonly caused by the persistent infection of high-risk HPV strains, particularly HPV-16 and HPV-18, which are known to have carcinogenic potential. These viral strains are implicated in the development of various cancers, including cervical, anal, and oropharyngeal cancers. The lesions of BP exhibit histological features that resemble early SCC, but they do not yet demonstrate full-thickness involvement of the skin, which is characteristic of invasive cancer. Instead, these lesions show dysplastic changes in the epidermis, with some cases progressing to invasive squamous cell carcinoma if left untreated.

In both men and women, BP typically manifests as small, flat, sometimes pigmented papules in clusters, but in women, these lesions are often internal and may go unnoticed without routine screening. Given the increased risk of progression to cervical cancer in women, early detection and management are critical.

## **Clinical Presentation and Diagnosis**

Lesions of BP often resemble common genital warts, which are typically caused by low-risk HPV strains. However, BP lesions differ significantly under microscopic examination. A biopsy of BP lesions typically reveals epithelial dysplasia, or abnormal growth of the skin cells, which are considered precancerous. In women, the presence of BP lesions on the cervix increases the risk of cervical cancer, particularly if the individual or their partner has active or past HPV infections.

The diagnosis of BP should be confirmed through histological examination of biopsied tissue to assess for any signs of early squamous cell carcinoma. Given the potential for malignant transformation, any lesion suspected to be BP should be promptly evaluated by a healthcare provider, with a focus on ruling out cancerous changes.

## Treatment Strategies

While genital warts caused by low-risk HPV strains may be managed conservatively with topical treatments, Bowenoid papulosis requires more vigilant therapy due to the potential for malignant progression. The treatment goal is to remove the lesions and reduce the risk of malignant transformation. Several treatment modalities are available, depending on the nature and location of the lesions:

### ➤ **Topical Therapies:**

- **Podophyllin:** This topical resin is applied to external genital warts. It works by causing tissue destruction and is effective in treating external warts but may not be appropriate for internal lesions or for BP specifically.
- **Imiquimod (Aldara):** A topical immune response modifier that is commonly used for treating warts, including genital warts and Bowenoid papulosis. It stimulates the local immune response to fight HPV infection and promote lesion regression.
- **5-Fluorouracil (5-FU):** A topical chemotherapeutic agent that has shown good success in treating Bowenoid papulosis, particularly when lesions are resistant to other therapies. It works by inhibiting DNA synthesis, thereby preventing the growth of abnormal cells.

### ➤ **Cryotherapy:**

- Cryotherapy, which involves the application of liquid nitrogen to freeze and destroy abnormal tissue, is effective for external lesions of BP. The freezing process causes cellular death and tissue sloughing, leading to lesion resolution .

### ➤ **Acid-Based Treatments:**

- Trichloroacetic acid and bichloroacetic acid are sometimes used to treat genital warts and may also be beneficial for BP lesions. These acids cause chemical cauterization, promoting the regression of warts and abnormal skin changes associated with HPV infection.

### ➤ **Surgical Excision:**

- If the lesion shows signs of malignancy or if conservative treatments are ineffective, surgical excision may be required to remove the lesion and prevent further progression to invasive carcinoma.

### ➤ **Vaccination and Prevention:**

- The HPV vaccine is a crucial preventive measure for reducing the risk of infection with high-risk HPV strains, particularly HPV-16 and HPV-18, which are strongly associated with the development of Bowenoid papulosis and cervical cancer. The vaccine is recommended for both men and women and is most effective when administered before the initiation of sexual activity. The CDC has recommended the Gardasil-9 vaccine as part of routine vaccination schedules for both girls and boys, ideally before the age of 13.

## Conclusion

Bowenoid papulosis is an important condition to recognize and treat due to its potential to progress to invasive squamous cell carcinoma, especially in individuals with persistent infection by high-risk HPV types. Diagnosis should be confirmed through histological examination and the removal of lesions is essential for preventing malignant transformation. Treatment options include topical therapies like 5-FU, cryotherapy, imiquimod, and surgical excision. Vaccination against HPV remains a critical tool in the prevention of both Bowenoid papulosis and its associated risks, including cervical cancer.

## References

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