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SQUAMOUS CELL CARCINOMA OF THE PENIS: EPIDEMIOLOGY AND TREATMENT

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Abstract: Penile cancer, although relatively rare in the Western world, remains a disease with significant morbidity and mortality, not to mention significant psychological consequences. In addition, the disease is observed with dramatically increased frequency in other parts of the world. Risk factors for penile cancer include lack of circumcision in childhood, phimosis, chronic inflammation, poor penile hygiene, smoking, immunosuppression, and human papillomavirus (HPV) infection. Localized and advanced penile cancer and its treatment have profound physical and psychosexual impacts on the quality of life of patients and survivors, altering sexual and urinary function and causing lymphedema. Public health interventions such as the prophylactic use of circumcision have been successful but are controversial.

Learning Objective

By the completion of this learning activity, participants should be familiar with squamous cell carcinoma of the penis, its risk factors, its clinical and histologic presentation, and the treatment options currently available for its management.

Squamous cell carcinoma of the penis is a rare cancer with an orphan disease designation and an incidence of 0.5–4 per 75,000 men in high-income countries, but it accounts for up to 15% of male malignancies in parts of Africa, Asia, and South America.

Epidemiology

Penile carcinomas in situ are generally considered rare but are likely to be underreported. Their true incidence is unknown because reliable epidemiological data are lacking. Erythroplasia of Queyrat and Bowen's disease are most commonly seen in older, uncircumcised white men. Bowenoid papulosis occurs primarily in younger, circumcised men with a history of heavy sexual activity.

In some cases, striking differences between different populations living in the same geographic area, such as India or Indonesia, are strongly related to different cultural and religious traditions, since squamous cell carcinoma of the penis is rare among religious communities that practice neonatal or prepubertal circumcision, such as Muslims, Jews, and the Ibo of Nigeria, compared with those that do not routinely circumcise, such as Hindus. Verrucous carcinoma accounts for 9% to 30% of all penile malignancies and represents 9% to 22% of all squamous cell carcinomas. It has been reported in young men as well as the elderly, but two-thirds of cases occur before age 55. It may be relatively common in uncircumcised homosexual men.

CLINICAL PRESENTATION

Erythroplasia of Queyrat is a specific type of Bowen's disease that, on clinical examination, is found on the mucosa of the glans or prepuce as a sharply demarcated, velvety, bright reddish plaque or plaques. Patients may have erythema, crusting, and scaling, and difficulty retracting the foreskin.

Many experience itching or pain locally, while some report bleeding.

Erythroplasia of Queyrat usually progresses slowly. Ulceration suggests that it has become invasive SCC with the risk of penile submucosa involvement, regional lymph node metastasis, or distant metastatic disease.

Invasive SCC may present with two distinct clinical patterns: papillary or squamous. The former develops as a localized area of exophytic wart-like growth that subsequently progresses to an irregularly shaped fungating nodule or tumor, whereas the latter develops as a superficial, reddish, and flat area of induration that simultaneously enlarges and penetrates into deeper tissues, undergoing early superficial erosion.

TREATMENT

Treatment procedures for in situ and invasive SCCs vary depending on tumor type and stage.

Tis (Bowen's disease, erythroplasia of Queyrat)

There is no consensus on treatment guidelines for erythroplasia of Queyrat Bowen's disease due to small case series. Topical 5-fluorouracil, used alone or in combination, may be effective for noninvasive lesions in hairless areas, since recurrence of secondary progression of Bowenoid areas from hair follicles is common. Effective treatments also include local simple excision, circumcision for lesions limited to the foreskin, and Mohs micrographic surgery, which have the advantage of providing histologic evidence of tumor resolution. In addition, Mohs micrographic surgery, consisting of layer-by-layer excision of the lesion with serial microscopic examination of the margins on frozen sections, provides increased precision with maximum organ preservation.

Lymph node management

Appropriate lymph node management is important because survival rates are significantly reduced in the presence of persistent regional metastases. Untreated patients with involved lymph nodes have a survival rate of 3 to 4 years, whereas lymphadenectomy is curative in 45% to 55% of such patients. A course of oral antibiotics should be given before superficial dissection and histologic examination of enlarged lymph nodes, because only 45% of such nodes show histologic evidence of metastasis, and lymphadenectomy carries a significant risk of morbidity.

CONCLUSIONS

Penile cancer is a rare disease in the Western world, but quite common elsewhere, where it may affect up to 30% of men. Although the cause is still unclear, several pre-existing disorders have been identified that, if left untreated, may progress to cancer. Close monitoring of at-risk patients is recommended to preserve organ function, as is early recognition of potentially curable disease through conservative therapeutic methods.

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