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Squamous Cell Carcinoma of the Anal Canal

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Introduction:

Anal canal cancer is a rare disease, with squamous cell carcinoma representing 95% of cases. Its incidence is increasing, especially among immunocompromised patients. (1)

The mainstay of treatment is primarily radiotherapy combined with concurrent chemotherapy. Surgery is generally reserved for particular cases. (1)

Objective:

Discussing the benefits of surgical intervention for treating squamous cell carcinoma located at the anal margin

Case Report:

We present the case of a 44-year-old patient, a chronic smoker (12 pack-years), chronic cannabis user, and former alcoholic (sober for 12 years), with a history of homosexuality. The disease history dates back 18 years, with the appearance of a mass on the anal margin, gradually increasing in size, without associated rectal symptoms or gastrointestinal bleeding. On general examination, the patient was conscious, hemodynamically and respiratorily stable, with a performance status of 0 and a BMI of 18.1 kg/m². Perineal examination revealed a condyloma on the anal margin, with palpable sphincter tone but no intraluminal mass.

Proctological examination revealed a crest-like, exophytic formation with multiple outgrowths covering the entire anal margin. Histopathological examination of biopsies favored in situ squamous cell carcinoma on anal condyloma.

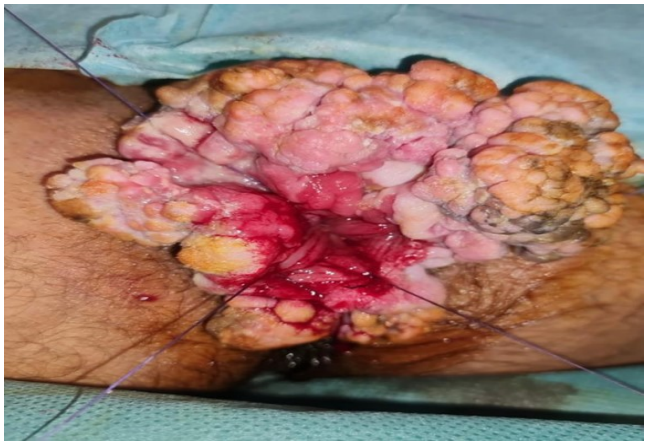


Figure 1: Image of the anal margin condyloma Pelvic

MRI revealed a tissue formation with discreet Flair hypersignal, diffusion hypersignal, enhancing with contrast, with serrated contours measuring approximately 61mm/47mm/55mm, perineal and in contact with the scrotal sac and adductor muscles, with persistent separation without sphincter involvement or detectable lymphadenopathy.

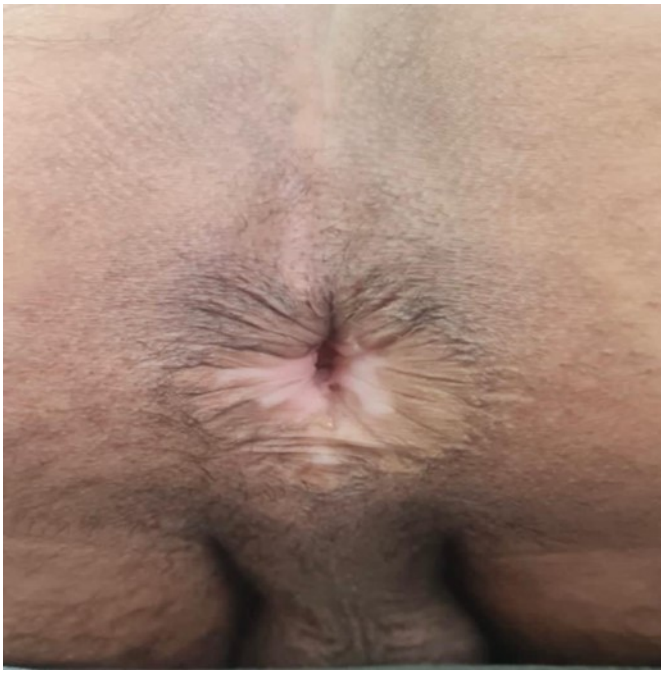
Immuno-serology (hepatitis serology, HIV) was negative.

After multidisciplinary consultation, the decision was surgery. The patient underwent surgical excision of the condyloma.

Figure 2: Image after condyloma resection

Anatomopathological examination of the resection specimen revealed invasive squamous cell carcinoma measuring 6mm in length and 10mm in depth on the condyloma, respecting the lateral and deep resection margins.

Postoperative recovery was uneventful, and the patient was discharged on postoperative day 2. Follow-up was one year.



Discussion:

Anal canal cancer is rare (less than 4% of digestive cancers), with an incidence of approximately 1.3/100,000 in men and 2.1/100,000 in women. In recent decades, the epidemiological profile has changed, with a higher incidence among HIV-positive male homosexuals, despite the advent of antiretroviral therapies. The risk of anal cancer is increased by 40-fold in HIV-infected men and 80-fold in HIV-positive homosexuals. HPV infection is associated with over 90% of anal cancer cases. (2,3)

Risk factors include immunosuppression, smoking, receptive anal intercourse, multiple sexual partners, and advanced age. (3)

The most common histological type of anal canal

cancer is squamous cell carcinoma, often preceded by the development of low-grade and high-grade dysplastic lesions. However, not all dysplastic lesions progress to invasive carcinoma, and the risk of progression is influenced by other factors such as immunosuppression. Therefore, the real risk of progression from anal dysplasia to cancer remains difficult to assess.(5)

Squamous cell carcinoma of the anal canal is a lymphophilic tumor, but visceral metastatic involvement remains rare. Pre-therapeutic assessment allows evaluation of tumor extension and the patient's general condition. Clinical examination, anoscopy, and digital rectal examination are essential to assess the local extension of the lesion. (4). Paraclinical assessment includes at least pelvic MRI, abdominopelvic CT scan, HPV and HIV serology, and PET scan, which is useful for evaluating locoregional lymph node involvement and metastases. (5)

Tumor size greater than 4 cm, lymph node involvement, and male gender are the main poor prognostic factors. (9)

Treatment is based on radiotherapy, often combined with concurrent chemotherapy, especially in locally advanced forms. Surgery should be considered mainly for extensive forms for primary tumor management, in case of radiotherapy/chemotherapy failure or local recurrence, and in the treatment of residual satellite lymphadenopathies. (6)

Surgery is indicated for uT1 lesions if histological evidence of basement membrane invasion cannot be obtained. (5,8)

- Surgery is indicated for uT1 lesions if histological evidence of basement membrane invasion cannot be obtained. (5,8)
- For squamous cell carcinomas of the anal margin, surgical excision with clear margins (> 1 mm) is the standard treatment, as in the case of our patient. (10)
- For squamous cell carcinomas of the anal canal (10)
- Exclusive radiotherapy is the first-line treatment, allowing sphincter preservation and a high rate of locoregional control, provided basement membrane invasion is histologically proven and specified in the pathological report.
- If basement membrane invasion is not histologically proven, the risk of irradiating severe anal dysplasia (AIN3) should be avoided, and surgery should be considered with resection along the internal sphincter and submission of a spread and oriented specimen for histology.

The surveillance protocol after treatment is summarized in the following table: (11,12,13)

Exams	1st & 2nd year	3rd to 5th year	After 5 years
Digital Rectal Examination	Every 4 months	Every 6 months	Optional
Clinical examination			
Anoscopy (optional)			
Abdominopelvic CT Scan Optional: Pelvic MRI & PET Scan	Every 4 months (for stage III tumors in the first year)	Once a year /	/ /

Challenges and Perspectives:

While outcomes are excellent for localized tumors, the prognosis is poor for locally advanced tumors, with a 3-year recurrence-free survival of 60%. For

these tumors, the current question concerns options for therapeutic intensification, either by dose escalation in radiotherapy or by neoadjuvant or adjuvant chemotherapy. New therapeutic combinations are also under study; targeted therapies (anti-EGFr) have yielded controversial results. (14) The advent of immunotherapy constitutes a new research avenue with strong rationale considering the immune pathways involved in virus-induced carcinogenesis. Preliminary results with pembrolizumab and nivolumab appear promising in metastatic forms. Conversely, therapeutic de-escalation may be possible for small tumors, by exclusive radiotherapy or radiochemotherapy with a limited dose to 30 Gy on reduced volumes, or even surgery for T1 stages. (15,16)

Conclusion:

Squamous cell carcinoma of the anus, in 9 out of 10 cases, is associated with HPV and its incidence is increasing. Primary prophylaxis with nonavalent vaccine is being deployed. Screening is justified in HIV-positive individuals, those engaging in anal sex, solid organ transplant recipients for more than 10 years, and/or those with a history of HPV-induced cancer. Treatment is primarily based on radiotherapy and chemotherapy; however, surgery retains a crucial role in certain cases with good results.(17)

Summary:

Anal canal cancer is a rare cancer, but its incidence is increasing. It predominantly affects women in their seventh decade; however, the epidemiological profile is changing with the involvement of younger male patients, seropositive for the human immunodeficiency virus.

It is a lymphophilic cancer with primarily locoregional pelvic extension, with visceral metastatic involvement being rare. The most frequent histology is squamous cell carcinoma.

It is a curable cancer, with treatment based on radiotherapy and chemotherapy, with surgery reserved for failures or recurrences after treatment.

Recent technological advances offer new possibilities, both in terms of imaging for staging or post-treatment surveillance, and in terms of treatment with the development of intensity modulation in radiotherapy or the arrival of targeted therapies in the field of chemotherapy.

The challenge of treatment remains achieving locoregional control while reducing toxicity and sequelae.

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