



Advanced Squamous Cell Carcinoma of the Vulva (FIGO IIIb): Clinical Presentation, Imaging and Multidisciplinary Management

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Abstract

Background: Squamous cell carcinoma of the vulva is a rare malignancy accounting for less than 5% of gynecological cancers. In locally advanced stages (FIGO III–IVA), the prognosis remains poor, particularly when surgical resection is not feasible.

Case Presentation: We report the case of a 69-year-old woman presenting with a moderately differentiated, keratinizing and infiltrating squamous cell carcinoma of the vulva, classified as FIGO IIIb, with large bilateral necrotic inguinal lymphadenopathy. Pelvic MRI revealed a tissue process measuring 62 × 39 × 20 mm and inguino-perineal lymph nodes reaching 47 × 60 mm. The multidisciplinary team decided on neoadjuvant concurrent chemoradiotherapy (CCRT) with curative intent. The course was unfavorable, with the patient dying during a hospitalization for metabolic complications and tumor-related infection.

Conclusion: This case illustrates the diagnostic and therapeutic challenges of locally advanced vulvar cancer and underlines the importance of early detection and prompt multidisciplinary management.

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Introduction

Squamous cell carcinoma of the vulva (SCCV) is a rare neoplasm, accounting for approximately 3–5% of all gynecological cancers and less than 1% of all cancers in women [1]. Its incidence increases with age, with a peak between 65 and 75 years. Two principal oncogenic pathways have been described: an HPV-dependent pathway, more common in young women, and an HPV-independent pathway, associated with lichen sclerosus or differentiated vulvar intraepithelial neoplasia (dVIN), predominantly affecting older women [2].

Diagnosis is often late: nearly 30% of patients present at a locally advanced stage (FIGO III–IVA), which compromises the possibilities of surgical resection and worsens the prognosis. In this context, concurrent chemoradiotherapy (CCRT) represents the reference therapeutic alternative, administered either in a neoadjuvant or exclusive setting [3].

We report the case of a 69-year-old patient managed at the National Institute of Oncology (INO) in Rabat for a locally advanced squamous cell carcinoma of the vulva, FIGO stage IIIb, in order to discuss its clinical, radiological, histological and therapeutic features.

Case Report

Clinical Presentation

Identity: Mrs. K.M., 69 years old (born 08/05/1955), G7P7, with no notable medical or surgical history (PMH = 0), WHO performance status 1, ASA 1.

Reason for Consultation: Management of a progressively growing exophytic vulvar lesion evolving over three months.

History of Present Illness: Symptoms began approximately three months before the first consultation, with the progressive appearance of an exophytic lesion of the left labium majus, of increasing extension, associated with malodorous leukorrhea.

Physical Examination

Clinical Examination Revealed:

- A large exophytic and necrotic mass of the left labium majus, with an irregular, ulcerated surface, areas of necrosis and a hemorrhagic appearance (Figures 1 and 2);
- Bilateral vulvar swelling, without involvement

of the urethra or anus.

- Large bilateral inguinal lymphadenopathy, palpable on clinical examination.

On speculum examination: healthy-appearing cervix; malodorous leukorrhea.



Figures 1 and 2. Clinical appearance of the vulvar tumor: large exophytic and necrotic mass of the labia majora and minora with bilateral inguinal lymphadenopathy. Note the areas of superficial necrosis, ulceration, and the hemorrhagic appearance of the lesion.

Pathology

Macroscopy

The biopsy fragment received for examination measured 5 mm along its greatest axis and was embedded in its entirety without preliminary sectioning.

Microscopy

Histological analysis demonstrated a malignant cellular proliferation of carcinomatous nature with invasive features. This proliferation consisted of large cells with irregular nuclei showing frequent atypical mitotic figures. The neoplastic elements were organized into thick trabeculae and nests, sometimes centered by keratin (keratin pearls). The surrounding stroma was inflammatory in type.

Histological Conclusion

Moderately differentiated, keratinizing and infiltrating squamous cell carcinoma.

Radiological Staging

Pelvic MRI

Pelvic MRI was performed using multiplanar sequences in T1- and T2-weighting and with gadolinium injection. It revealed:

- A tissue process of the labia minora lateralized to the right, measuring 62 × 39 × 20 mm, remaining

at a distance from the urethra superiorly and anteriorly, extending laterally toward the right labium majus, and remaining at a distance from the vagina and the anal sphincter posteriorly.

- A free and regular vaginal canal; ovaries without abnormality.
- Three rounded inguinal and perineal lymph nodes, with necrotic centers and peripheral enhancement after gadolinium injection, the largest measuring 47×60 mm.
- Subcentimetric, oval and well-defined lymph nodes at the bilateral external iliac level.
- Preserved bladder and rectum; no pelvic effusion; no dilatation of the urinary tract; no bone lesion in the explored field.

Classification: Vulvar process classified as **FIGO IIIb** (unilateral or bilateral inguinal lymph node involvement without fixation or ulceration).

T2 section): vulvar tumor process clearly visible with two nodular formations.

Figure 4 (coronal T2 section): large bilateral inguinal lymphadenopathy with necrotic centers, the largest measuring 47×60 mm.

Thoraco-Abdomino-Pelvic Ct

The contrast-enhanced thoraco-abdomino-pelvic CT scan (portal phase) showed:

- A vulvo-vaginal tissue formation lateralized to the left, rounded, well-defined, enhanced after contrast injection, measuring 23×21 mm, with infiltration of adjacent fat;
- Bilateral necrotic inguinal lymphadenopathy, the largest measuring 41 mm on the left and 36 mm on the right (short axis);
- No suspicious bone lesion for malignancy; condensing islet on the posterior aspect of S1 consistent with degenerative spinal changes;
- No distant metastatic disease.

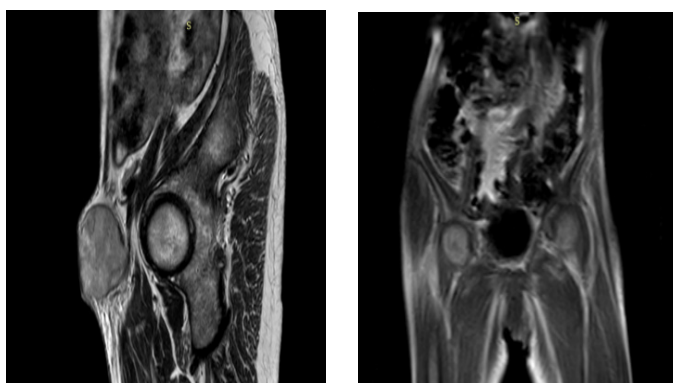


Figure 3 and 4: Pelvic MRI. Figure 3 (sagittal

Classification and Staging

Table 1: Staging Summary.

Criterion	Result
Primary organ	C51 – Vulva (left labium majus)
Histology	Moderately differentiated, keratinizing and infiltrating squamous cell carcinoma
Tumor size (MRI)	$62 \times 39 \times 20$ mm
Lymph node involvement	Bilateral necrotic inguinal and perineal LN (max. 47×60 mm)
Iliac lymph nodes	Subcentimetric, oval, well-defined
Distant metastases	Absent
FIGO 2021 stage	IIIb
TNM classification	T2 N2 M0 (estimated)

Therapeutic Management

Multidisciplinary Tumor Board Decision

The case was presented at a multidisciplinary tumor board meeting bringing together specialists in medical oncology, radiation oncology, gynecology-obstetrics, oncologic surgery, radiology and pathology.

Decision: Neoadjuvant concurrent chemoradiotherapy (CCRT) with curative intent.

Therapeutic Rationale

The surgical opinion concluded that there was no indication for upfront surgery given the locoregional extension of the disease. Two strategies were discussed:

- Neoadjuvant CCRT: aimed at tumor downsizing to subsequently allow salvage surgery;
- Exclusive CCRT: in the absence of any surgical option.

The tumor board ultimately opted for neoadjuvant CCRT with curative intent. The standard protocol for locally advanced vulvar carcinoma typically combines pelvic and inguinal irradiation (50–60 Gy in conventional fractions) with sensitizing weekly cisplatin-based chemotherapy [4].

Complications and Clinical Course

Before treatment initiation, the patient was admitted as an emergency for a severe clinical presentation combining:

- Severe hyponatremia (128 mmol/L), hyperkalemia (6.4 mmol/L), malignant hypercalcemia (131 mg/dL);
- Metabolic acidosis (bicarbonate reserve: 14 mmol/L);
- Major infectious syndrome (CRP 81 mg/L, hyperleukocytosis at 80,000/mm³);
- Severe deterioration of general condition (WHO performance status on admission: 1, with rapid worsening).

Despite appropriate antibiotic therapy and hydroelectrolyte resuscitation, the patient's condition rapidly deteriorated. She was transitioned to palliative care and died three days after admission in a context of multi-organ failure.

Discussion

This clinical case illustrates several characteristic features of locally advanced squamous cell carcinoma of the vulva in elderly women.

Epidemiology and Risk Factors

Vulvar cancer primarily affects women over 60 years of age. In the HPV-independent subtype — the most frequent in elderly women — the main risk factors are chronic lichen sclerosus, differentiated vulvar intraepithelial neoplasia (dVIN), and chronic inflammatory conditions [2]. The absence of any documented history in this case raises the question of an under-evaluation of precancerous lesions, which is common in resource-limited settings.

Clinical Features and Diagnostic Delay

The clinical presentation with an exophytic, necrotic, ulcerated and malodorous mass, associated with large inguinal lymphadenopathy, is characteristic of advanced-stage vulvar cancer. The three-month interval between symptom onset and the first consultation may appear short, but it likely reflects a pre-existing undiagnosed tumor evolution. This diagnostic delay is frequently reported in the literature, sometimes reaching several years, and constitutes a major determinant of the stage at presentation [5].

Role of Imaging

Pelvic MRI is the reference examination for local staging of vulvar cancer. In this case, it allowed precise assessment of the anatomical relationships of the tumor with adjacent structures (urethra, vagina, anal sphincter) and evaluation of regional lymph node extension. The presence of lymph nodes with necrotic centers and peripheral enhancement is highly suggestive of metastatic involvement, as evidenced by dimensions reaching 47 × 60 mm [6]. The thoraco-abdomino-pelvic CT scan complemented this workup by excluding distant metastases, thus confirming the locoregional nature of the disease.

Therapeutic Strategy in Locally Advanced Forms

For FIGO stage III–IVA tumors that are not upfront resectable, international guidelines (ESGO, NCCN) recommend concurrent chemoradiotherapy, either in a neoadjuvant setting to attempt to render the tumor resectable, or as exclusive treatment [3,7]. In this case, the decision for neoadjuvant CCRT was appropriate, but could not be implemented due to the early death of the patient.

Malignant Hypercalcemia

The hypercalcemia (131 mg/dL) observed in this patient deserves particular attention. This paraneoplastic syndrome, mediated by the secretion of PTHrP (parathyroid hormone-related protein) by squamous tumor cells, represents a potentially lethal oncologic emergency. It complicates approximately 10–20% of advanced squamous cell carcinomas and constitutes an adverse prognostic factor [8]. Its presence, combined with tumor-related infection and other metabolic disturbances, contributed decisively to the patient's death.

Limitations and Lessons Learned

This case raises several important issues for oncologic practice: (1) the need for screening and awareness of vulvar precancerous lesions in elderly women; (2) the importance of early multidisciplinary management; (3) the management of paraneoplastic metabolic complications as an integral part of oncologic treatment; (4) the ethical and practical challenges of therapeutic decision-making in severely deteriorated patients.

Conclusion

This case of locally advanced vulvar squamous cell carcinoma (FIGO IIIb) illustrates the severity of this pathology when diagnosed late. The dramatic clinical presentation, with an exophytic and necrotic mass associated with large necrotic inguinal lymphadenopathy, reflects the aggressive evolution of the disease. The multidisciplinary decision of neoadjuvant CCRT with curative intent, although clinically justified, could not be implemented due to the early death of the patient in a context of multi-organ failure related to tumor complications.

This case underlines the crucial importance of early detection of vulvar neoplasms, of better education of patients and healthcare professionals, and of prompt and coordinated oncologic management. In resource-limited countries, strengthening gynecological screening programs constitutes an essential lever for improving the prognosis of these cancers [9,10].

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