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Management of Cervical Cancer in the General Surgery Department of the Avicenne Military Hospital of Marrakech

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Abstract

Cervical cancer is the second most common gynecological malignancy in developing countries and remains a major cause of cancer-related mortality among women worldwide. This retrospective descriptive study, conducted on 38 cases at the General Surgery Department of the Avicenne Military Hospital in Marrakech from 2018 to 2022, revealed a predominance of squamous cell carcinoma in women aged 50 to 60 years. Vaginal bleeding was the main presenting symptom. Concomitant chemoradiotherapy based on weekly cisplatin followed by uterovaginal brachytherapy was the most frequently used treatment. Strengthening and expanding cervical cancer screening programs remain crucial to improve early detection and patient outcomes.

Keywords: Cervical cancer–Radiotherapy–Chemotherapy–Surgery.

BACKGROUND

Cervical cancer remains a major public health concern, particularly in developing countries where it represents one of the leading causes of cancer-related mortality among women. In Morocco, it ranks second after breast cancer. Its etiology is dominated by persistent infection with high-risk oncogenic human papillomavirus (HPV), primarily types 16 and 18, transmitted mainly through sexual contact. The main identified risk factors include early onset of sexual activity, multiple sexual partners, multiparity, and smoking. Despite screening programs, locally advanced forms still account for nearly 80% of diagnosed cases.

RESEARCH OBJECTIVES

This study aims to analyze the epidemiological, clinical, paraclinical, therapeutic, and prognostic aspects of cervical cancer in patients managed in the General Surgery Department of the Avicenne Military Hospital of Marrakech. It also seeks to evaluate the outcomes of surgical and radio-surgical treatments according to disease stage.

MATERIALS AND METHODS

This is a retrospective and descriptive study including 38 patients diagnosed with cervical cancer and treated between January 2018 and December 2022. Inclusion criteria concerned patients with histologically confirmed cervical cancer according to the FIGO 2018 classification. Non-operated cases, benign tumors, and incomplete medical records were excluded. Data were collected from medical files in strict compliance with anonymity and confidentiality.

MAIN RESULTS

1. Epidemiological Profile

Most patients were between 40 and 60 years old, with an average age of 52. Squamous cell carcinoma represented the most frequent histological type (nearly 90% of cases). Patients often had a history of multiparity, low socioeconomic status, and a lack of regular screening.

2. Clinical and Paraclinical Data

The most common initial symptom was postcoital vaginal bleeding.

The staging workup was based on:

- Comprehensive gynecological examination
- Abdominopelvic CT scan
- Cystoscopy, rectoscopy and chest X-ray when indicated

These assessments helped determine the FIGO stage and guide therapeutic strategy. In the present series, most patients were diagnosed at a locally advanced stage (IIB–IIIB).

3. Therapeutic Aspects

Management was multidisciplinary, combining surgery, radiotherapy, and brachytherapy.

- Radiotherapy was administered to 78.9% of patients, following a combined protocol of external beam irradiation (45 Gy) and uterovaginal brachytherapy (25 Gy).
- Radical surgery (extended hysterectomy) was performed in patients with early-stage disease (I and IIA).
- Concomitant chemoradiotherapy with cisplatin was used for advanced or recurrent stages.

Postoperative complications were rare and mainly involved urinary and digestive infections. No major urinary fistula was reported.

4. Outcome and Prognosis

The locoregional recurrence rate was 11.5%, and distant metastases (nodal or visceral) occurred in 3.8% of cases. Patients who received comprehensive treatment (surgery + radio-brachytherapy) showed better medium-term survival. Prognostic factors included FIGO stage, tumor size, and lymph node involvement.

DISCUSSION

1. Natural History and Pathophysiology

Cervical cancer results from a persistent infection with a high-risk oncogenic human papillomavirus (HPV), particularly types 16 and 18 (Dargent, 2000; Jensen *et al.*, 1990). After a long latency period (10 to 15 years), this infection leads to the development of precancerous lesions, which may progress to invasive carcinoma (Dargent, 2000; Jensen *et al.*, 1990). The disease is therefore infectious, slow, and preventable, highlighting the importance of primary prevention through HPV vaccination (de Sanjosé *et al.*, 2019).

2. Epidemiological Data

Globally, cervical cancer is the fourth most common cancer among women, with approximately 570,000 new cases and 311,000 deaths per year according to GLOBOCAN 2018 (Buskwofie *et al.*, 2020; Bray *et al.*, 2018; Sung *et al.*, 2021). In our Moroccan series, the mean age was 51 years, consistent with findings from African and Maghrebian literature (Fritih, 2009; Kochbati, 2011; Mapoko *et al.*,2022). The peak incidence between 50 and 60 years corresponds to the postmenopausal period, during which precancerous lesions often progress to invasive cancer.

3. Risk Factors

The main identified risk factors include:

- HPV infection (the determining factor) (Abounouh *et al.*, 2019; de Sanjosé *et al.*, 2019);
- Multiple sexual partners and early sexual activity (RCGC Morocco, 2019; RCGC Morocco, 2020);
- Smoking (Haverkos *et al.*, 2003), multiparity (Brinton *et al.*, 1989), and prolonged hormonal contraception (Smith *et al.*, 2003; Marais, 2008);
- Low socioeconomic status and lack of screening (Benrissoul, 2009; Alliance for Cervical Cancer Prevention, 2004).

These findings are consistent with other African studies (Dakar, Yaoundé, Bamako) (Dem *et al.*, 2008; Yomi *et al.*, 1996; Muteganya *et al.*, 1999).

4. Diagnosis and Imaging

Diagnosis relies on clinical examination, Pap smear, colposcopy, and histological analysis (Shafi, 2002). Pelvic MRI is the preferred imaging modality for local staging, assessing tumor volume, parametrial, and lymph node involvement (Chastan *et al.*, 2010). 18F-FDG PET-CT provides precise metabolic staging (Decocq, 2016; Abaouz & Guensi, 2023). In our study, most cases were diagnosed at a locally advanced stage (IB to IIB), reflecting delayed consultation.

5. Therapeutic Management

The therapeutic strategy depends on the FIGO stage, patient's age, fertility desire, and general condition (Querleu & Cibula, 2008). In early stages (IA to IB1), treatment is mainly surgical (radical hysterectomy or trachelectomy as appropriate) (Plante *et al*., 2004).

For locally advanced stages (IB2 to IVA), concomitant chemoradiotherapy is the standard of care (Eifel *et al*., 2004; Chemoradiotherapy for Cervical Cancer Meta-Analysis Collaboration, 2008). In our series, the majority of patients received combined therapy, consistent with international recommendations (WHO, 2020).

6. Follow-Up and Prognosis

The prognosis of cervical cancer mainly depends on the stage at diagnosis (Parkin *et al*., 2008; RCGC Morocco, 2019). Five-year survival rates exceed 90% for early stages but drop below 50% for locally advanced forms (Chantalat *et al*., 2020). Follow-up is based on regular clinical examinations and imaging surveillance as indicated (Pecorelli *et al*., 2009).

7. Prevention and Screening

Prevention is based on HPV vaccination and screening through Pap smear or HPV testing (WHO, 2020; Drolet *et al*., 2019). In developed countries, these

strategies have led to a significant reduction in incidence (Bosch *et al*., 2008; de Sanjosé *et al*., 2019).

In Morocco, the national cervical cancer screening program was launched in 2010, targeting women aged 30 to 49 years (RCGC Morocco, 2019). However, coverage remains insufficient, particularly in rural areas (Benrissoul, 2009).

8. Study Limitations

The main limitations of our study are its retrospective nature and the limited number of patients. Some clinical and therapeutic data were missing from patient records, restricting the statistical analysis. Nevertheless, this study provides valuable local insight into the epidemiological and therapeutic profile of cervical cancer in Marrakech.

CONCLUSION

Cervical cancer remains prevalent in Morocco, particularly among middle-aged women of low socioeconomic status. Early detection, access to HPV vaccination, and multidisciplinary management tailored to disease stage are essential to improving prognosis. The study highlights the need for better coordination among gynecology, oncology, and surgical departments, along with rigorous post-treatment follow-up to detect recurrences and prevent complications.

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