Primary invasive vaginal cancer. Report of 12 cases

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Summary

The aim of this study was to describe the clinical features, methods of treatment and results of treatment among patients with primary invasive cancer. Twelve women in whom primary invasive cancer of the vagina was diagnosed between 1996 and 2001 were studied. The mean age of women with primary invasive vaginal cancer was 70.1 years. Half of the patients had advanced stage carcinoma at the time of the diagnosis and 85% of patients had not had a Pap-smear in the last 15 years. Treatment consisted of radiotherapy or a combination of surgery and radiotherapy.

Four patients out of six with advanced stage disease died in 30 months.

In conclusion, the present study confirms that early detection of the disease could lead to more successful management and therefore better prognosis.

Key words: Invasive vaginal cancer; Surgery; Radiotherapy.

Introduction

Primary vaginal cancer is a rare disease accounting for less than 2% of all female genital neoplasias or between 0.1-0.2% of all cancers [1]. This is in contrast to cancers of the cervix which are quite common. The FIGO staging allocate cancers involving both the vagina and the cervix to primary cervical cancer. It is well established that the sexually transmitted human papillomaviruses (HPV) are considered among the causes of cervical cancer. Fewer studies of vaginal cancer have been conducted, but the causes of those tumors are also believed to be sexually related. Little is known about the natural history of VAIN although it is probably similar to that of CIN.

However, a few studies have shown a progression from VAIN to invasive carcinoma.

The aim of this study is to report our experience with patients who had primary invasive vaginal cancer and were treated at our hospital.

Patients and Methods

This retrospective study involves 12 patients with primary invasive vaginal cancer. The clinical records and pathological material of all patients were reviewed. Patients who had a history of cervical or vulvar cancer were excluded. The diagnosis of primary vaginal cancer was confirmed histologically and staging was done according to the FIGO system [2].

Patients' charts were reviewed for the following information: age, menopausal status, history of hysterectomy, history of cervical surgery for dysplasia, history of gynaecologic cancer, history of pelvic radiation therapy and history of VAIN. Treatment consisted of surgery, radiotherapy, or a combination of surgery and radiotherapy.

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Two patients with Stage I disease underwent radical hysterectomy and pelvic lymphadenectomy plus colpectomy. These patients also received radiotherapy. Ten patients received primary radiotherapy which consisted of external beam radiation and brachytherapy.

A 6MeV linear accelator was used for the external radiotherapy. A total dose of 5600cGy was given in fractionated courses with a daily dose of 200cGy per fraction.

The radiation fields depended on the Body Mass Index (BMI). We used two fields (posterior-anterior) for women with low BMI and four fields (posterior-anterior, right and left lateral) for women with high BMI.

The range of the fields was: 17 x 15 cm for the posterior-anterior fields and 8 x 17 cm for the lateral fields. If the lesion was located at the lower third of the vagina, the range of the anterior field was 19 x 15 cm. In all patients we used a Pb block when the radiation dose extended to 4000cGy to avoid bowel injury.

Cs-137 was used for brachytherapy. A total dose of 2800cGy was given in fractionated courses with a weekly dose of 700cGy per fraction, 15-20 days after the external radiotherapy.

In the patients undergoing surgery, the total dose of external radiotherapy was 4600cGy (fractionated courses with a daily dose of 200cGy per fraction) and the total dose of the brachytherapy was 1400cGy (fractionated courses with a weekly dose of 700cGy per fraction).

Results

The age of the patients ranged from 24 to 85 years with a mean age of 70.1 years. For patient characteristics see Table 1.

Patients with Stage I, II, III and IV had the following mean ages of 50.7, 71.7, 74 and 71 years, respectively.

Histologically, ten patients had squamous cell carcinoma, one patient had a clear cell adenocarcinoma and one patient had an undifferentiated carcinoma.

Table 1. — *Primary invasive cancer. Report of 12 cases.*

Case	Age	Stage	Involved vaginal site	Histology	Bleeding	Previous hysterectomy	VAIN	Pap test
1	68	I	Upper 1/3	Epidermoid	+	+	Not known	–
2	70	III	Whole vagina	Epidermoid	+	–	Not known	–
3	75	III	Lower 1/3	Epidermoid	+	–	Not known	–
4	75	II	Upper 1/3	Epidermoid	+	–	+	–
5	63	I	Upper 1/3	Epidermoid	+	+	+	VAIN 3
6	70	I	Upper 1/3	Epidermoid	+	–	–	–
7	71	III	Lower 1/3	Epidermoid	+	–	Not known	–
8	24	I	Upper 1/3	Clear cell adenocarcinoma	–	–	Not known	Atypical cells
9	65	I	Upper 1/3	Epidermoid	+	–	–	–
10	85	III	Upper 1/3	Undifferentiated	+	–	Not known	–
11	71	III	Lower 1/3	Epidermoid	+	–	Not known	–
12	70	III	Upper 1/3	Epidermoid	+	–	Not known	–

Two of the ten patients with squamous cell carcinoma had previously undergone hysterectomy for uterine leiomyoma and ovarian cystadenoma.

The clinical (FIGO) Stage was Stage I in two patients, Stage II in four patients, Stage III in four patients and Stage IV in two patients.

Among patients with Stage I disease who had their lymphnodes assessed, pelvic nodal metastases were found in one (50%). The disease most often arose in the upper third of the vagina (7/12).

Eleven patients presented with vaginal bleeding and ten patients had never had a Pap smear before. Three patients with Stage III and one patient with Stage IV died 24-30 months after therapy.

Discussion

Primary vaginal cancer appear to be one of the rarest female malignancies. The relative rarity of these lesions limited our experience concerning their treatment. In our study, we reviewed the clinical records of 24 patients with invasive vaginal cancer between 1996 and 2001. Twelve patients were excluded from our study because the cervix or the vulva were involved.

The mean age of women with primary invasive vaginal cancer in our study was 70.1 years which is higher than that reported in our previous study in women with VAIN [3]. In the literature, invasive epithelial carcinomas are the most common carcinomas with the majority presenting in patients older than 60 years. The exception is adenocarcinoma, which is more common in patients aged more than 30 years old [4]. In our study, the woman with clear cell adenocarcinoma was 24 years old and had been exposed to diethylstilbestrol in utero.

Six out of 12 patients (50%) had advanced stage carcinoma (III, IV) at the time of diagnosis, and ten out of 12 (83%) had not had a Pap smear in the last 15 years. The role of screening for vaginal cancer has been debated [4, 5]. Eleven out of 12 patients (92%) had vaginal bleeding, while in our previous study women who had VAIN were asymptomatic [3].

The optimal treatment methods for patients with vaginal carcinoma have been the subject of considerable investigation during the 20th century. As the tumors may arise anywhere along the vaginal cylinder, therapy must be individualized often resulting in a paucity of homogenous treatment programs [5].

In our study, two patients with Stage I disease underwent radical hysterectomy and pelvic lymphadenectomy plus colpectomy. Obviously there are differences in treatment planning when considering patients with very small Stage I lesions.

All the women in our study received external beam radiation therapy and brachytherapy.

Survival of vaginal carcinoma patients as anticipated was related to stage. In the literature, patients with in situ lesions have a 5-year relative survival rate of 100%, while for Stage I it is 82%, for Stage II 70% and for Stage III less than 30% [6].

In our study, four patients out of six with advanced stage died within 30 months versus none of the six patients with Stage I or II.

In conclusion, the present study confirms that squamous invasive vaginal cancer is a disease of older women. It presents with vaginal bleeding and early stage could be managed more successfully leading to better prognosis.

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