Carcinoma of the vagina
A case report and review of the literature

O. SADAN, S. KRUGER, B. VAN IDDEKINGE

Summary
The clinical details of a case of primary carcinoma of the vagina are described. The literature on the management of vaginal cancer is reviewed.

Treatment must be individualized and planned according to the location and stage of the primary tumour. All patients treated for malignant lesions of the vagina must be followed up for life with regular pelvic and vaginal cytological examinations.

Primary carcinoma of the vagina is rare and represents only 1 - 2% of all gynaecological malignant tumours. The current systems for the classification and staging of malignant gynaecological lesions probably result in some primary vaginal cancers being listed as either cervical or vulval. This complicates the understanding and assessment of the incidence of the disease, and contributes to the difficulty of individuals or institution obtaining experience with and reliable data on management of the disease.

With the current emphasis on routine examination of asymptomatic patients, it is hoped that not only early cervical but also vaginal lesions will be identified. Early and aggressive management offers excellent results in the early stages of carcinoma of the vagina.

Case report
A 54-year-old multiparous patient was admitted to the Gynaecological Unit at Baragwanath Hospital, Johannesburg, in November 1983. Her last normal menstrual period had been 9 years before admission. She complained of spontaneous heavy vaginal bleeding of 2 days' duration and lower abdominal pain of recent onset. Systematic history-taking was non-contributory. On examination the patient's general condition was good. Her chest was clinically clear, the abdomen was soft and non-tender, no masses or visceromegaly were noted, and no suspicious lymph nodes were palpable.

Vaginal examination revealed a large, friable mass involving the lower third of the anterior vaginal wall. The size of the tumour was 2 x 4 cm, it was pink in colour and bled easily when touched. The cervix, uterus and adnexa were all clinically normal. Rectal examination revealed no abnormalities. Blood count and urea and electrolyte values were normal. Liver function tests showed several elevated enzyme levels, including that of alkaline phosphatase.

The chest radiograph showed three small, rounded lesions of 0,5 - 1 cm in the lung fields, consistent with secondary deposits. However, in view of the sites of the lesions, cytological or histological confirmation of secondary malignant deposits could not be obtained. An intravenous pyelogram demonstrated normal calices and excretory systems. The liver scan was normal. Lumbar, sacral spine, pelvic and both upper femoral radiographs suggested marked degenerative disease, but secondary deposits could not be excluded. The bone scan revealed suspicious areas in the lower lumbar spine and left iliac bone consistent with secondary spread, later confirmed by computed axial tomography (CT). In view of the cumulative evidence obtained by the bone scan, radiography and CT, we felt that histological diagnosis could be technically difficult and was not justified in this case.

On CT the brain was normal. The bladder, rectum and lateral walls of the pelvis were not involved by tumour. The internal iliac and para-aortic nodes were seen and varied between 1 and 2 cm in size. Erosion of the lower lumbar vertebrae was noted, as well as a mass of the left iliac bone consistent with secondary deposits. The Papanicolaou smear and colposcopic directed biopsies of the cervix were negative.

A formal examination under anaesthesia, diagnostic dilatation and curettage, cystoscopy and biopsy of the lesion were performed. The clinical findings were confirmed. Biopsy of the lesion showed a moderately differentiated squamous carcinoma of the vagina (Fig. 1). Cystoscopy demonstrated cystitis with haemorrhagic areas, and very oedematous mucosa with no obvious malignant infiltration. A biopsy specimen taken during cystoscopy from an area adjacent to the vagina revealed inflammatory changes with numerous bilharzial ova. No malignant changes were noted in the specimen.

Fig. 1. Infiltrating moderately differentiated squamous carcinoma (H and E x 79).
Primary carcinoma of the vagina stage IV was diagnosed and chemotherapy followed by radiotherapy was considered to be the treatment of choice. Antibilharzial therapy was given in the form of a single oral dose of praziquantel 40 mg/kg.

Discussion

For years the prognosis of invasive tumours of the vagina has been surrounded with pessimism. Most early reports on the treatment of vaginal cancer gave cure rates in the range of 10-20% and there was a high incidence of failure to control the primary growth. Of late, the previous hopelessness of the early years has given way to new enthusiasm and significantly improved cure rates.

Although primary carcinoma of the vagina is extremely rare (1-2% of all malignant gynaecological lesions1), secondary squamous carcinoma of the vagina more commonly occurs in association with primary carcinoma of the cervix and occasionally with vulval carcinoma. Primary carcinoma of the vagina was clinically misdiagnosed in 2 of 186 cases of proven primary carcinoma of the cervix on cytological, colposcopic and histological investigations at Baragwanath Hospital during 1983. It is therefore essential to adhere to the criteria that establish that squamous carcinoma of the vagina is of primary origin, as shown in Table I.2,6,7

**TABLE I. CRITERIA TO ESTABLISH THE DIAGNOSIS OF PRIMARY SQUAMOUS CARCINOMA OF THE VAGINA**

| 1. Primary carcinoma of the vagina must develop at least 5 years after the initial treatment of either cervical or vulval cancer |
| 2. The primary site of growth must be in the vagina |
| 3. The uterine cervix must be intact (negative cervical smears and biopsies are preferable) |
| 4. There must be no clinical evidence of a primary carcinoma at other sites |

Most vaginal carcinomas will be squamous in origin.1,2 The lymphatic drainage from the upper vagina is similar to that of the cervix, while drainage from the lower third is primarily that of the vulva. The middle-third drainage overlaps the above two.

Primary squamous carcinoma of the vagina occurs in older women, mainly during the 5th and 6th decades.1,6,8-10 There appears to be no aetiological or consistently associated factor, but there is some evidence of an increased incidence of cancer in patients with uterine prolapse or in those who have worn a pessary. This may indicate that local irritation could be a causative factor.1,6,8-10 In the case history described the finding of bilharzial ova in the bladder is interesting and should be investigated further in view of the proven association of carcinoma of the bladder with bilharzia. Vaginal bleeding and discharge are the most frequent symptoms.1,6,8-10 The most common site of vaginal cancer is the upper posterior wall.1,6,8-10

The clinical stage is the most important index of survival and guide to therapy. Vaginal cancer is staged according to the system proposed by the International Federation of Gynaecology and Obstetrics with a minor modification for stage II (Table II).7 Tumours with parametrial invasion show distinctly more aggressive clinical behaviour than those with paravaginal submucosal infiltration only.2

It is difficult to review treatment regimens (Table III), since they are based on small numbers of patients. Radiation and surgery are used for treatment of vaginal cancer, but the proximity of the bladder and rectum complicates this. The treatment for posterior wall tumours in the upper part of the vagina presents fewer problems than that of tumours lower in the vagina, or involving the anterior wall. Patients with early stage lesions, especially in the upper third of the vagina, have excellent survival rates with surgery or radiotherapy. In patients with advanced lesions survival rates are low and complication rates high, no matter which mode of therapy is chosen.1,4,6,8-10

Benedet et al.6 summarized the treatment of carcinoma of the vagina. The 5-year survival rate of the six pooled series was 45%. Improved salvage of patients with early and locally advanced lesions is readily apparent, absolute survival rates of patients in stage I being 71% and of those in stage II 47%. These results reflect improvement in both surgery and radiation therapy. Their proposed method of treatment, based on experience with 97 patients treated for carcinoma of the vagina between 1950 and 1980, is radiotherapy. Radical surgery is reserved for stage I-II patients with lesions at the upper or lower third of vagina, and selected stage IV patients with a fistula and disease confined to the pelvis. Pre-operative radiation for lesions lower in the vagina followed by radical vaginectomy, partial vaginectomy and node dissection is advocated.

Herbst et al.8 reviewed 29 cases of vaginal carcinoma treated by different surgical procedures. Patients chosen for Werth-
Chemotherapy trials

Chemotherapy for cancer is an unpleasant and expensive form of treatment. However, most patients put up with it in the hope that it may cure or palliate their disease. Measuring its effectiveness is not easy if only for the reason that if previous trials have shown any positive results at all, it may then be ethically difficult to compare treatment groups with those from whom treatment is withheld. This is one of the factors which has probably led to survival comparisons being made between those who respond to chemotherapy and those who do not. A critical look has now been taken at such trials (Oye and Shapiro, JAMA 1984; 252: 2722).

Eighty nonadjuvant trials of chemotherapy published in refereed English-language journals were critically scrutinized: 35 were on lung cancer, 7 on pancreatic, 6 on gastric, 28 on colorectal and 4 on mixed gastro-intestinal cancers. Response to chemotherapy was reported as an end point in 95% of these trials. Of 38 studies which reported 15% or greater objective responses, 76% dealt with the significantly greater survival of responders to treatment over non-responders. In 21 studies containing statements about treatment effectiveness, 95% based them on the superior survival of responders over non-responders. These claims, say Oye and Shapiro, may be invalid. Non-responders may represent the patients with most rapidly progressive disease whose survival may actually be shortened by treatment, and responders may well have lived longer without treatment. They make the point that there are many variables in survival, and that in the absence of an untreated control group, it is difficult to draw conclusions about treatment efficacy. They also comment that the subdivision of patient responses into increasing numbers of categories is not justified and may encourage invalid conclusions. They conclude by reiterating that the widespread practice of comparing survival of responders with non-responders is not a valid way of demonstrating the effectiveness of chemotherapy.

REFERENCES