

A Case Report—Delayed Vesicocutaneous Fistula After Radiation Therapy for Advanced Vulvar Cancer

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Abstract

This is the first case report of a vesicocutaneous fistula related to prior radiation therapy for recurrent vulvar cancer. Urinary tract complications happen not infrequently after radiation therapy for various pelvic malignancy. It can occur as long as 30 years after cessation of such therapy. Urinary incontinence or obstructive uropathy is, by far, the most common complication. The authors report an unusual complication secondary to radiation therapy. The aetiology, presentation and management of this patient were discussed.

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Key words: Bladder fistula, Radiotherapy, Vulvar neoplasms

Introduction

To our knowledge this is the first reported case of an isolated vesicocutaneous fistula related to previous radiation therapy for recurrent vulvar cancer.

Case Report

A 73-year-old Chinese woman with a history of vulvar cancer was referred to our Department for the complaint of right groin pain and swelling which was aggravated by micturition for two years. She had previously undergone radical vulvectomy in 1986. Seven years later, computerised tomography (CT) demonstrated a large pelvic mass during her evaluation for lower urinary tract symptom. The tumour was found unresectable during laparotomy and only a biopsy was done which showed recurrent undifferentiated carcinoma from vulva. She was treated with external beam radiotherapy (total dose 6000 Gy in 30 fractions in six weeks) with good response.

Two years later she developed right groin and hip pain. Pelvic CT demonstrated no signs of tumour recurrence, fistula or abscess. Bone scan did not detect any metastasis. She was treated symptomatically but she presented again in 1997 with a soft cystic mass in the region of the right medial thigh. CT-guided aspiration biopsy was inconclusive (Fig. 1). However, both aspirated fluid and urine grew *Gp B Streptococcus*. Voiding cystography revealed a large vesicocutaneous fistula (Fig. 2). Flexible cystoscopy demonstrated a 3 cm fistula

opening at the dome of the bladder but no obvious tumour within the bladder.

Exploratory laparotomy was performed via a midline infraumbilical incision. The bladder was noted to be densely adherent to the symphysis pubis. Further dissection in the space of Retzius revealed a defect in the anterior bladder wall communicating with the fluid filled space in the right groin. There was also radiation necrosis of the symphysis pubis. The bladder was closed primarily after adequate debridement. An omental flap based on the right gastroepiploic vessels was interposed between the bladder and the pubic bone. Closed suction drain was placed inside the fistula tract. Pathological examination of the bladder wall and fistulous tract did not reveal any evidence of malignancy. Urinary catheter was removed on the tenth postoperative day after a cystogram showed no leakage of contrast. She was voiding well with no evidence of disease at four months.

Discussion

While radiation treatment may be effective in achieving long-term tumour control even in recurrent squamous cell carcinoma of the vulva, significant treatment morbidity relating to urinary tract damage can occur.¹ To our knowledge this is the first reported case of a vesicocutaneous fistula related to previous radiation therapy for recurrent vulvar cancer. As delayed urinary tract fistulation can develop after radiation therapy, a high index of suspicion is required for early diagnosis.*

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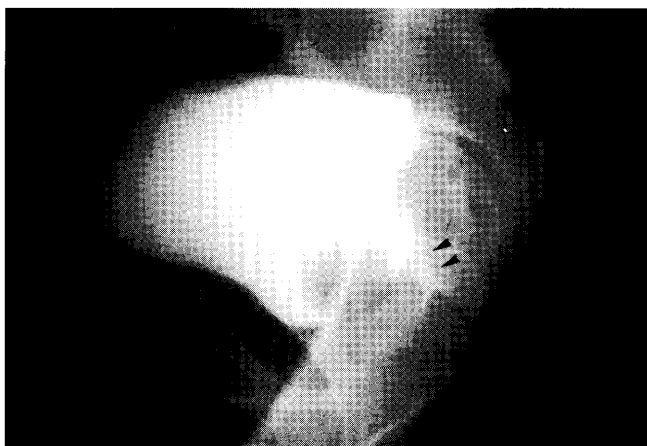


Fig. 1 CT scan clearly shows the cystic space in the right medial thigh

In this patient, the correct diagnosis of the cystic thigh mass was only suspected when the culture from aspirated fluid and urine grew the same organism. Furthermore the aetiology of the urinary bladder fistula (whether related to radiation or tumour recurrence) is often hard to establish preoperatively even after extensive radiological investigation.

This patient was a relatively fit elderly lady who suffered significantly from her symptoms. There was no obvious recurrent disease clinically. Moreover long-term survival was reported in 11% of patients with recurrent vulvar cancer after radiation therapy.¹ Surgical intervention would seem to be appropriate. The management problem is in the choice of a safe reconstructive procedure in a-radiated field with possible underlying malignancy. Most would favour some kind of urinary diversion as tissue viability is always a concern after radiation.³ This patient, however, was strongly against the idea of a stoma. Primary closure of the bladder was attempted after intraoperative assessment showed that there was reasonable bladder capacity and no obvious evidence of tumour recurrence. Successful outcome was achieved in this case. Nevertheless we could not overemphasize that interposition of well-vascularized tissue such as omentum was the key for the good healing of the fistula. Moreover the type of surgery should be tailored to the patient's need after



Fig. 2. Large vesicocutaneous fistula was demonstrated on voiding cystogram

careful consideration of her physical condition and disease status.

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