Transitional cell carcinoma of the bladder in an HIV-infected patient

Hussam Al Soub

Summary
A case of transitional cell carcinoma of the urinary bladder in a patient infected with the human immunodeficiency virus is reported. The tumour was very large, occupying most of the bladder, however cystoscopic removal of the tumour was successful with no recurrence after one year. This association has never reported before. The possible contribution of human immunodeficiency virus infection to its occurrence is discussed.

Keywords: urinary bladder, transitional cell carcinoma, HIV

Infection with the human immunodeficiency virus (HIV) is known to be associated with an increased incidence of certain malignant neoplasms, the two most common of which are Kaposi's sarcoma and non-Hodgkin's lymphoma. Several other tumours have been also reported, although there is no good conclusive evidence to establish these as part of the AIDS spectrum. Bladder cancers are more frequent in iatrogenically immunosuppressed patients, but no previous case of bladder cancer in a patient infected with HIV has been reported. I report a case of transitional cell carcinoma of the urinary bladder in a patient with HIV infection and review the pertinent literature.

Case report
A 49-year-old Qatari man was admitted to Hamad General Hospital on 23 November 1992 with complaints of dysuria, frequency, and lower abdominal pain of one month duration. The patient was found to be seropositive for HIV-1 in December 1991, acquired homosexually; he was not receiving any antiretroviral therapy. He had a long history of cigarette smoking. Physical examination on admission revealed blood pressure 130/70 mmHg, temperature 37°C, pulse rate 84 beats/minute, otherwise physical examination was unremarkable. Laboratory investigations revealed haemoglobin 16.2 g/dl, white blood cell count 5 × 10³/l, platelet count 182 × 10⁹/l, CD4+cell count 0.27 × 10⁹/l CD4+/CD8 ratio 0.51, HIV1 P24 antigen was negative, microscopic examination of urine revealed 30 red blood cells and 70 white blood cells per high power field. Urine culture was negative. Renal, liver functions, and chest radiograph were normal. Intravenous urogram revealed a large filling defect occupying most of the bladder cavity, a large radiopaque stone, 1.5 × 3 cm in diameter, in the left side of the bladder, marked dilatation of the right ureter, and minimal dilatation of the left ureter (figure 1). Computed tomographic (CT) scan of abdomen and pelvis confirmed the presence of the large mass extending from the base of the bladder posteriorly up to the dome of the bladder with gross thickening and irregularity of the bladder wall, the lower end of the right ureter was engulfed by the tumour mass; it also demonstrated the presence of the stone (figure 2). There was no evidence of involvement of liver, spleen, pancreas, pelvic or intraperitoneal lymph nodes on CT scan. A bone scan showed no evidence of bone metastasis. Cystoscopy revealed that the bladder was almost filled with a papillary tumour and biopsy revealed a (grade 1) well-differentiated transitional cell carcinoma of the urinary bladder. There was evidence of early invasion of lamina propria but

![Figure 1 Intravenous urogram showing large tumour filling the bladder cavity with gross dilatation of the right ureter and minimal dilatation of the left ureter.](http://pmj.bmj.com/)

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Figure 2: CT scan of the pelvis showing tumour occupying the bladder cavity with thickening and irregularity of the bladder wall

Figure 3: Histologic section demonstrating (grade 1) well-differentiated transitional cell carcinoma of the urinary bladder (haematoxylin and eosin stain, original magnification x 120)

no deep invasion (figure 3). The patient was assigned to group II according to the 1987 CDC classification of HIV infection, and the tumour was staged as T1N0M0. The patient left for the UK where a repeat cystoscopy was performed and the bulk of the tumour was removed. Biopsy of the resected tumour confirmed the diagnosis of transitional cell carcinoma. The patient received radiotherapy with 5000 Gy over 28 days to the whole tumour and margins, however with little response. The patient then had a transurethral removal of the remaining tumour and stone. He made a good recovery. He was given zidovudine 500 mg daily which he stopped on his own after two months. Repeat cystoscopy and multiple random biopsies one year later showed no evidence of recurrence. After that he was lost to follow-up.

Discussion

The use of antiretroviral drugs and prophylactic antibiotics to prevent opportunistic infections have changed the natural history of HIV infection. Patients now live longer and develop less opportunistic infection, however, they do have more malignancy-related morbidity and mortality. The association of HIV infection with neoplasms such as Kaposi's sarcoma and B-cell non-Hodgkin's lymphoma is well established. In January 1993, the US Centers for Disease Control added invasive cervical cancer to the list of AIDS-defining conditions, not because the evidence that HIV caused invasive cervical cancer was conclusive but because HIV-infected women have a high frequency of cervical dysplasia. Other tumours, including multiple myeloma, anorectal carcinoma, melanoma, lung cancer, squamous cell carcinoma of the head, neck, and oral cavity, have been reported in HIV-infected patients, although there is no conclusive evidence to establish these as part of the AIDS spectrum. The association between HIV infection and tumours of the genitourinary tract has been reported by the Italian Group on AIDS-related tumours who found 21 germinal testicular tumours, and 28 cervical carcinomas (intra-epithelial in eight and advanced, with rapid progression, in one) among 94 HIV-related solid tumours in the period 1986–91. Tessler et al also reported 25 cases of testicular cancers in association with HIV infection, however the association with transitional cell carcinoma of the bladder has not previously been reported. A Medline search since 1980 failed to reveal any case of bladder tumour in association with HIV infection. Our patient thus represents the first such case. The factors related to the development of cancers in HIV-infected persons include defective immunosurveillance, uncontrolled B-cell stimulation and the presence of multiple infecting organisms that may bring about malignant transformation. The retrovirus itself may play a direct oncogenic role or act indirectly through growth factors derived from HIV-infected T cells.

Transitional cell carcinoma of the urinary bladder is generally a disease of the elderly with a mean age at the time of diagnosis of 70 years, and with a well known relationship to nephro lithiasis, recurrent urinary tract infections, analgesic abuse, iatrogenic immunosuppression, and long-term exposure to aromatic amines such as in cigarette smokers and persons working in dye and rubber industries. It is one of the most common cancers in human, being the fourth and eighth most common cancer in men and women, respectively. The absence of previously reported cases of bladder cancer in association with HIV infection, in spite of it being such a common cancer and the large number of patients infected with HIV, is not explained in previous studies. It may reflect the young age of HIV-infected patients or may be due to under reporting. Our patient had some interesting features. In spite of having a very large tumour that totally filled his bladder, and the presence of HIV infection, he responded well to cystoscopic removal of the tumour with no recurrence one year after treatment, indicating

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that conventional treatment of bladder cancer can be still successful in the presence of HIV infection. Another feature of interest in this patient is that he was relatively young for bladder cancer which may suggest a contribution of his HIV infection to the occurrence of the tumour.

In conclusion, the development of transitional cell carcinoma of the bladder in a patient with HIV infection may be fortuitous, however, it is possible that HIV infection may be implicated in the pathogenesis of the bladder tumour in our patient. As the HIV epidemic advances and survival of patients increases we might anticipate seeing more of these tumours in HIV-infected patients. Early diagnosis and treatment are essential for the good control of these malignancies.


Spindle cell stromal tumour of the rectum treated by restorative resection

JD Harrison, C Musgrove, RM Kirby

Summary
Stromal tumours of the rectum and anal canal are rare, representing 0.02 – 0.03% of malignant neoplasms in the region. Current advice in their management is treatment by abdomino-perineal resection. We report a case of malignant spindle cell stromal tumour in which adequate clearance was obtained whilst preserving the anal sphincter, using a posterior pararectal approach.

Keywords: spindle cell stromal tumour, rectum, surgery

A 44-year-old man was admitted as an emergency with a two-month history of malaise, tenesmus and the passage of watery stools. This was associated with lower abdominal pain which was relieved by defaecation. Rectal examination revealed a posterior midline mass with ulceration of the overlying mucosa. A barium enema confirmed the presence of of a low rectal lesion (figure 1) with no evidence of a synchronous lesion. CT scan of the pelvis showed prominent thickening of the rectum, mainly in the pre-sacral space (figure 2). The lesion was thought to be intrinsic rather than extrinsic. There was no evidence of intra-abdominal metastases. At examination under anaesthesia a mobile tumour was found in the midline, 7 cm from the anal verge. Needle biopsies demonstrated a spindle cell tumour with little mitotic activity. The tumour stained positively for S100 protein favouring a diagnosis of a tumour of nerve sheath origin of uncertain malignant potential.

Surgical clearance was undertaken under general anaesthetic with the patient in a ‘jackknife’ position. The lesion, measuring 3.5 cm, was exposed using a posterior approach, excising the coccyx (as in a ‘York-Mason’ procedure). A full thickness excision of the posterior rectal wall including the lesion was
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