Metastatic squamous cell carcinoma urinary bladder coexisting with tuberculosis in pelvic lymph nodes

Abstract

Squamous cell carcinoma (SCC) of the urinary bladder is usually associated with Schistosoma haematobium and chronic bladder irritation. We report a case of coexistent metastatic SCC and tuberculosis in obturator lymph nodes in radical cystoprostatectomy and pelvic lymphadenectomy specimens. Though tubercular iliac lymphadenitis and metastatic transitional carcinoma following intravesical BCG has been reported, the concurrent presence of non-transitional cell cancer and primary lymph nodal tuberculosis in regional lymph nodes is rare. This case is reported to highlight the paucity of management guidelines available presently in the treatment of such patients who require systemic chemotherapy and antitubercular therapy.

Background

The risk factors for squamous cell carcinoma (SCC) urinary bladder include schistosomiasis, chronic irritation due to vesical calculus, long-term indwelling catheters and cystitis.1 In the background of chronic inflammation the lining transitional undergoes metaplastic changes to the squamous cell epithelium with a greater proliferation rate leading to cancer development and progression. Invasive SCC can spread both by lymphatic and haematogeneous pathways, the former being the commonest. We report a rare case in which the obturator lymph nodes in the radical cystectomy and pelvic lymphadenectomy specimen demonstrated SCC and concurrent tuberculosis on histopathological evaluation. Though concurrent tuberculosis and transitional cancer deposits in regional lymph nodes following intravesical BCG are reported,2 to the best of our knowledge the finding of primary lymph nodal tuberculosis and non-transitional cancer is not yet reported.

Case presentation

A 65-year-old man presented with two episodes of haematuria and lower urinary tract symptoms for 2 weeks.

Investigations

On evaluation by an ultrasonogram and a CT scan, a large proliferative growth about 5×4 cm was noted in the left posterolateral bladder wall (figure 1).

Treatment

Transurethral resection of the bladder tumour demonstrated SCC with deep muscle infiltration. Subsequently the patient underwent radical cystoprostatectomy and bilateral extended pelvic lymphadenectomy with ileal orthotopic neobladder (Studer pouch) after confirming negative ureteral and urethral margins. The final histopathology revealed an SCC bladder (T2b; figure 2) with metastatic

deposits in the right obturator lymph nodes (figure 3A). Three lymph nodes in addition to squamous cell carcinomatous deposits also demonstrated coexistent granulomatous lymphadenitis with caseating granulomas and negative for acid-fast bacilli (figure 3B). The patient had no history suggestive of tuberculosis in the past. The chest radiograph, Mantoux test, erythrocyte sedimentation rate, sputum for acid-fast bacilli and urine culture for acid-fast bacilli were all negative on three consecutive specimens. He was started on antitubercular treatment (ATT). Six weeks later, he was administered four cycles of gemcitabine and cisplatin-based systemic chemotherapy along with ATT.

Outcome and follow-up

The patient completed 6 months of ATT and is now on regular follow-up without locoregional recurrence or reactivation of tuberculosis.

Discussion

The urothelium of the bladder is lined by transitional cells, which can transform into a variety of benign and malignant tumours. The majority of bladder cancer is of transitional cell in histology, with SCC accounting for only 5–7% of bladder cancers worldwide.3 Radical cystectomy with pelvic lymphadenectomy is the standard treatment for muscle invasive bladder cancer. In cases of non-urothelial cancers such as SCC or adenocarcinoma, chemotherapy is not routinely recommended and surgery remains the mainstay of treatment.1 Patients with lymph node metastatic SCC bladder may require systemic chemotherapy.4

The presence of metastatic SCC deposit and tuberculosis in regional lymph nodes is rare. An extensive literature search with keywords ‘squamous cell carcinoma urinary bladder’ or ‘squamous cell carcinoma bladder’ with ‘tuberculosis urinary bladder’ or ‘tuberculosis bladder’ or ‘urinary tract tuberculosis’ was performed. Three cases of SCC and one case of transitional cell carcinoma with genitourinary tuberculosis has been reported so far.3 5 Biers et al2 have reported the only documented case of metastatic transitional cancer with coexistent tuberculosis in iliac group of lymph nodes in a patient with high-risk superficial bladder cancer (T1G3) following intravesical BCG therapy. This was detected only after 36 months of follow-up since multiple biopsies of the persistently enlarged lymph node revealed only tuberculous lymphadenitis. Though tuberculous iliac lymphadenitis is a rare complication of intravesical BCG therapy,6 our case is unique as to present with a combination of metastatic non-transitional cancer and tuberculosis in iliac nodes without any history of tuberculosis treatment or intravesical BCG administration.

There is a paucity of guidelines in managing coexistent tuberculosis and an SCC bladder. Kim et al7 in a retrospective study have shown that the clinical response to ATT in the setting of anticancer chemotherapy does not differ from therapy in an ordinary setting. Nair et al reviewed the results of anticancer chemotherapy in patients with the history of tuberculosis and reported that there was no risk of tuberculosis reactivation in their study group. They concluded that probably short course of chemotherapy induces lesser degrees of immunosuppression not sufficient enough to cause reactivation of tuberculosis.8 On the contrary, disseminated tuberculosis has been reported in allogeneic bone marrow transplant recipients due to impaired cell-mediated immunity.9 With the available evidence, we started standard ATT regimen first in our patient for 6 weeks followed by induction of systemic chemotherapy. Our patient did not have any systemic or florid tuberculosis and tolerated the regimen

well. The patient is under active surveillance for the past 1 year without any signs of tubercular reactivation.