Case Report

Tuberculosis in postchemotherapy residual masses in germ cell tumor of the testis

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ABSTRACT

Residual masses following chemotherapy in testicular tumors have been characterized as necrosis, mature or immature teratoma, and malignant tumors. Twenty four patients had retroperitoneal lymph node dissection for postchemotherapy residual masses between January 2000 and December 2008. We report two patients; one with late relapse and other with postchemotherapy residual mass, who had tuberculosis. Tumor markers were normal, and PET scan showed increased uptake in residual mass. There are no previous reports of tuberculosis in postchemotherapy residual masses.

Key words: Postchemotherapy, residual mass, tuberculosis

INTRODUCTION

Residual masses after cisplatin-based chemotherapy in germ cell tumor (GCT) contain complete fibrosis/necrosis in 40 to 50% of the patients, mature or immature teratomatous elements in 35 to 40%, and malignant tumor in 10 to 15% of patients.[1] In the present study, we report one patient with late relapse and other with postchemotherapy residual mass, who had tuberculosis.

CASE REPORT

Between January 2000 and December 2008, 24 patients underwent retroperitoneal lymph node dissection (RPLND) for the residual masses after chemotherapy. Two patients in 25 to 35 years age group, one with nonseminomatous GCT (NSGCT) and other with seminomatous GCT (SGCT) testis who initially presented in stage 3 diseases, received primary Cisplatin-based chemotherapy (bleomycin, etoposide, and cisplatin, 3 cycles). Patient with NSGCT prechemotherapy had nodes in retroperitoneum of 5 x 4 cm with normal tumor markers, which regressed by 95% to 1 x1 cm postchemotherapy. On follow-up, he presented with decreased appetite, weight loss, and a mass measuring 4.5 x 3.5 cm in peripancreatic region, 6 years after chemotherapy [Figures 1a andb], a late relapse. Tumor markers, AFP, and Beta HCG were normal with raised LDH levels. Fluorodeoxyglucose (FDG) PET showed increased uptake corresponding to enlarged lymph nodes [Figure 1c]. On exploration for resection of retroperitoneal lymph node, there were multiple nodules all over the peritoneum and mesentery. The frozen section was suggestive of necrosis; resection was abandoned and a biopsy was taken [Figure 2a]. Patient with SGCT presented with pain and residual mass of 4 x 3 cm in right iliac fossa within one-year postchemotherapy for enlarged nodes of 6 x 4 cm. RPLND was done. The final histology of both the patients showed granulomatous inflammation with presence of multiple epithelioid cell granulomas and Langhans giant cells, characteristic of tuberculosis [Figure 2b]. There was no personal or family history of tuberculosis and preoperative chest X-ray was normal. Both the patients showed improvement in signs and symptoms after receiving antitubercular treatment (ATT) for 6 months duration, and are doing well after a mean follow-up of 12 months.

DISCUSSION

The spread of testis cancer is by and large predictable and sequential; hence, the surgical removal of metastatic tumor is curative in 30 to 75% of the time. During the last two decades, the survival for patients with disseminated

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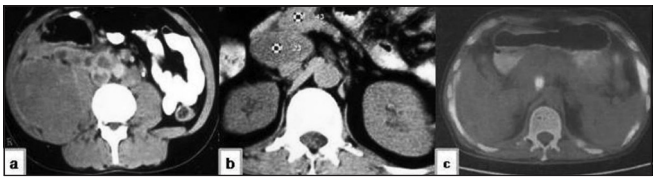

Figure 1: (a) CECT pre chemotherapy retroperitoneal nodes, (b) CECT post chemotherapy with residual mass, (c) PET scan with increased FDG uptake s/o metastases

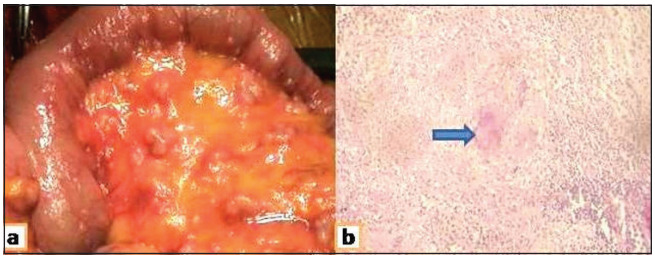

Figure 2: (a) enlarged mesenteric nodes, (b) hitology x40, s/o chronic granuloma, arrow showing langhans giant cells

NSGCT has improved considerably due to the introduction of multimodal therapy (cisplatin-based combination chemotherapy followed by resection of residual tumor). Even though the serum tumor marker (β-hCG and AFP) values are normal after the chemotherapy, the residual masses over 1 cm detected by radiological techniques must be removed. Randomized trials for patients with NSGCT have demonstrated 56 to 74% complete response rate with primary chemotherapy, and an additional 10 to 25% of patients have been rendered disease-free with postchemotherapy resection of residual radiologic abnormalities.[2] RPLND defines three subsets of patients based on histopathologic analysis of the resected specimen: 40%, necrosis/fibrosis; 40%, adult teratoma; and 20%, residual NSGCT. Therefore, approximately 60% of patients with evidence of a residual mass on postchemotherapy imaging studies either have viable cancer or teratoma.

Abdominal computed tomography is the most effective means to identify retroperitoneal lymph node involvement. It can identify small lymph node deposits less than 2 cm in diameter. It provides a view of the retrocrural space in the para-aortic region above the crus of the diaphragm, an important site of metastasis. However, it is not accurate to distinguish fibrosis, teratoma, or malignancy by size criteria alone.[3]

Recently, PET scanning has been widely applied for evaluation of residual masses but significant false-positive and negative results remain an issue.[4] Though tuberculosis is common in immunocompromised patients,[5] it has not been described in association with postchemotherapy residual masses in testicular tumors. In one of the two patients, nontumorous lesions showed an intense FDG uptake on PET, which turned out to be tubercular. This entity should be kept in mind as 8% of our postchemotherapy residual masses turned out to be tubercular, which could well be treated with ATT. Though it would be premature to say that a frozen section of residual mass could avoid formal dissection, it is definitely an entity to be looked into.

CONCLUSIONS

Evaluation of lymph node status is essential for postoperative patients treated for any kind of malignancy. Tuberculosis in postchemotherapy residual mass is a new entity or a chance finding, this is to be seen in future study. There are no previous reports of tuberculosis in postchemotherapy residual masses. However, this entity should be kept in mind as it is curable with the standard ATT.

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