

Correspondence

Inflammatory pseudotumor of the kidney arising after unrelated bone marrow transplantation

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Inflammatory pseudotumor (IPT) is a rare benign tumor that is difficult to distinguish from malignant tumors by imaging techniques. Histological features include proliferation of plasma cells and other inflammatory cells, fibrous stromal cells, and spindle cells that are sometimes associated with a granulomatous reaction.¹ While an association with some infectious agents is suggested, the pathogenesis is unclear.² IPT associated with transplantation is rare.^{3–6} We report the first adult case here.

A Japanese female underwent conventional-intensity BMT from an unrelated donor for T-ALL in second CR. Immunosuppression was discontinued 6 months after BMT. At 10 months post-BMT, anemia (hemoglobin 6.6 g/dl) with low-grade fever developed. The patient was 23 years of age then. Abdominal MRI scan showed a nonenhancing, space-occupying lesion in the left kidney (Figure 1a). Gallium 67 scintigraphy showed tumor uptake. Fever persisted despite antibiotics and anemia worsened. No evidence of infection was found. A percutaneous needle biopsy was performed. Histology showed proliferation of atypical spindle cells, and a malignant process could not be excluded. Left nephrectomy was performed in view of persistent fever and anemia. Light microscopic examination demonstrated typical findings of IPT (Figure 1b). After nephrectomy, all symptoms disappeared and anemia improved (hemoglobin 10.5 g/dl).

Although lungs are the predominant site, IPT can develop in any organ such as the brain, orbit, heart, pericardium, pancreas, spleen, liver, retroperitoneum and kidney.⁷ Kidney involvement is rare.⁸

It is thought that IPT represents an inflammatory reaction to infectious agents.² In three previously reported cases associated with organ transplantation, patients were on immunosuppression when IPT developed,^{3–5} suggesting that immunosuppression itself may have been responsible. In our case, IPT occurred 5 months after immunosuppression was discontinued. However, as recovery of immune function after HSCT takes time, it is possible that the patient was still immunocompromised. Two IPT cases reported in children occurred 28 months after allogeneic HSCT and 2 years after autologous HSCT.⁶ It is unlikely that the autograft recipient could have been immunocompromised at that stage.

Secondary malignancies due to irradiation and anticancer agents can occur as late complications after HSCT. Solid tumors are reportedly diagnosed between 2.5 months

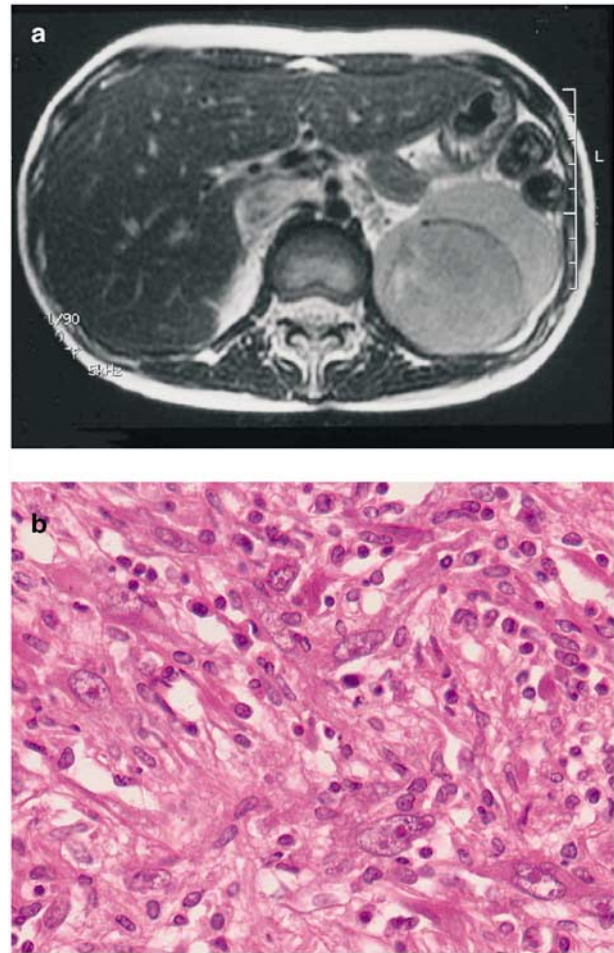


Figure 1 (a) Abdominal T2-weighted MRI showing a nonenhancing tumor in the left kidney. (b) Light microscopic examination showing spindle cell proliferation with infiltration of inflammatory cells such as lymphocytes and plasma cells. Hematoxylin–eosin staining, $\times 400$.

and 14 years (median 4.6 years) after HSCT.⁹ We considered this to be a malignant tumor because of the difficulty in discriminating renal IPT from hypovascular renal cell carcinoma,⁸ both of which appear hypointense on T2-weighted MRI. Fine needle aspiration cytology is insufficient for a definitive diagnosis of IPT because the cell pattern is not specific and merely points to an inflammatory process.¹

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