Avid $^{67}$Ga uptake in multiple myeloma relapsing after bone marrow transplant

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Technetium-99-m-sesta MIBI is a reliable positive tracer of skeletal lesions in multiple myeloma (MM), while bone scintigraphy by $^{99}$Tc-MDP and $^{67}$Ga scanning are considered of negligible value. We report the case of a young patient with a 5-year history of light chain MM, which was not eradicated by chemotherapy, radiotherapy, allogeneic bone marrow transplantation, α-interferon and donor lymphocyte infusion. In the final phase of the disease a CT scan showed a 14 cm mediastinal mass (Figure 1A). The neoplastic tissue took up $^{67}$Ga more avidly than $^{99}$Tc-m-sesta MIBI (Figures 1B-C), and focal bone lesions showed $^{67}$Ga uptake even in areas negative by MIBI scan. The patient died of disease progression in a few months. It seems that a $^{67}$Ga scan can identify patients with very aggressive MM.

References

Figure 1. Multiple myeloma in a 30-year old man who relapsed after allogeneic bone marrow transplant.
A: Chest CT scan showing a large mediastinal mass emerging from the sternum. B: $^{99}$Tc m-sesta MIBI scintigraphy, showing multiple osteolysis and mediastinal uptake. C: $^{67}$Ga scan, showing grade IV mediastinal uptake and bone focal lesions even in areas negative by MIBI scan.