153 Samarium-EDTMP in Myeloablative Doseage Followed by a Second Autotransplantation in Patients with Relapsed Multiple Myeloma

Haematologica 2004; 89(10):124

Even though high-dose chemotherapy followed by autologous stem cell support has proven superior to conventional treatment,1 relapse occurs in approximately 75% of patients within five years after autologous transplantation.2 Initiating salvage treatment after high-dose therapy may be a reasonable approach with survival time from relapse being more than two years as documented recently.3 Reported treatment modalities comprise administration of conventional chemotherapy as well as a further high dose chemotherapy followed by (autologous or allogeneic) hematopoietic cell transplantation. In multiple myeloma, radiotherapy plays an important role both in transplantation settings4,5 and palliation of lytic bone lesions. Recently, a study was published on the use of 166Ho-DOTMP combined with high-dose melphalan in the treatment of myeloma. Application of bone-seeking radioisotopes has proven effective in palliative treatment of osteolytic lesions of both solid tumors and multiple myeloma.6 Malignant plasma cells in myeloma predominantly are adjacent to areas of bone destruction. Thus, targeting osteolytic lesions by the means of locally delivered radiation may be a suitable approach as part of the conditioning regimen in high-dose therapy. When compared to 166Ho-DOTMP, 153 Samarium-EDTMP has some advantages: it has a longer physical half-life; and shows higher skeletal lesions by the means of locally delivered radiation may be a suitable approach as part of the conditioning regimen in high-dose therapy. When compared to 166Ho-DOTMP, 153 Samarium-EDTMP has some advantages: it has a longer physical half-life; and shows higher skeletal doses. This, in combination with higher-dose melphalan, may be an interesting conditioning regimen prior to autologous stem cell transplantation. Distribution kinetics are required for each given patient to avoid organ toxicities, most important of which are kidney, lung and liver toxicity. Bone-seeking radionuclides are probably associated with more adverse effects in extensively pretreated patients especially with regard to renal toxicity. This is due to both myeloma-associated dysfunction and a possible contribution of radiation exposure of the kidney after administration of the radio-pharmaceutic. In the series of patients treated with 166Ho-DOTMP, a significant incidence of HUS/TTP was observed.4 Regarding haematological toxicity of 153 Samarium-EDTMP treatment, a prolonged period of aplasia has to be dealt with. This is one clear disadvantage of the regimen reported here when compared to 166Ho-DOTMP and requires closer monitoring for early treatment of infectious complications.

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References