The Clinical Impact of Macrofocal Disease in Multiple Myeloma Differs between Presentation and Relapse

Leo Rasche1, Amy Buros1, Niels Weinhold1, Caleb Stein1, James McDonald2, Shweta Chavan1, Edgardo Angtuaco2, Sharmilan Thanendrarajan1, Carolina Schinke1, Shmuel Yaccoby1, Joshua Epstein1, Frits van Rhee1, Maurizio Zangari1, Bart Barlogie1, Brian Walker4, Faith Davies1, Gareth Morgan1

1UAMS Myeloma Institute, University of Arkansas for Medical Sciences, Little Rock, AR, USA. 2Radiology Department, University of Arkansas for Medical Sciences, Little Rock, AR, USA

What is macrofocal myeloma/a macrofocal pattern?

Macrofocal Multiple Myeloma (macro MM) is defined by the presence of focal lesions and the absence of significant bone marrow (BM) infiltration. At presentation, macro MM constitutes a distinct disease entity, but its clinical impact and optimal therapy are still largely unknown. Although current evidence supports the presence of focal lesions at presentation, the clinical significance of this finding is not yet fully understood.

MACROFOCAL AT PRESENTATION

Macrophage-Myeloma at presentation has an excellent prognosis

- In macrofocal MM focal lesions frequently occur on a MGUS background
- In 94% of patients were GEP70 low risk
- Paired samples were available in 16 cases
- No difference in proliferation index between macrofocal lesions and randomly taken bone marrow aspirates
- Paired gene expression profiles of macrofocal lesions and random bone marrow aspirates were used for proliferation and expression studies.

CONCLUSION

- 25% of relapsed patients presented with a macrofocal pattern; a surprisingly high proportion. Extramedullary involvement was observed in 25% of patients with a macrofocal pattern at relapse.

- Macro MM at presentation seems to be an early stage of MM with an excellent prognosis. In contrast, a macrofocal pattern at restaging is associated with poor prognosis and early relapse. At this disease stage residual focal lesions may represent drug-resistant clones.