# Multiple Myeloma

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Multiple Myeloma is a cancer of plasma cells, a type of white blood cell normally responsible for producing antibodies. In multiple myeloma, collections of abnormal plasma cells accumulate in the bone marrow, where they interfere with the production of normal blood cells and cause bone lesions. The produced  paraprotein – an abnormal antibody – can cause renal failure.

Major symptoms are bone pain, anemia, infection, renal failure and hypercalcemia, these symptoms are associated in an acronym CRAB C= hyperCalcemia, R= Renal failue, A=Anemia and B= Bone lesions.

Myeloma is diagnosed with serum and urine protein electrophoresis, bone marrow examination and X-rays commonly involved bones.

The amount of paraprotein, the percentage of marrow plasma cells and the presence of CRAB symptoms distinct monoclonal gammapathy of undertermined significance ( MGUS), asymptomatic or symptomatic multiple myeloma. Other prognostic factor are serum albumin and β2microglobulin ( score ISS), cytogenetic abnormalities and gene profiling.

Myeloma is incurable and actually is considered as a chronic disease. Therapies decrease the clonal plasma cell population and consequently decrease the signs and the symptoms of the disease. Therapies are reserved to symptomatic myeloma. Initial treatment depends on the patient's age and comorbidities. High-dose chemotherapy with autologous hematopoietic stem-cells transplantation has become the preferred treatment for patients under the age of 65. Prior to stem-cells transplantation, these patients receive an initial course of induction chemotherapy mostly with Velcade®, Thalidomide and dexamethasone. After transplantation they receive consolidation therapy with the same regimen that is used in induction and maintenance therapy is questionable. Patients over 65 and patients with significant concurrent illness often cannot tolerate stem cell transplantation. For these patients, the standard of care has been chemotherapy with melphalan, prednisone and thalidomide or bortezomib. Recently, the association of Lenalidomide with Dexamethasone was proved superior.

The natural history of myeloma is of relapse following treatment. Depending on the patient's condition, the prior treatment modalities used and the duration of remission, options for relapsed disease include re-treatment with the original agent, use of other agents and a second autologous stem cell transplant.

Supportive cares are important in this disease : biphosphonate for bone disease , radiotherapy or kyphoplasty for hyperalgic lesion, prevention and therapies for infections, prevention for thrombosis.