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Smouldering Multiple Myeloma: Experts Identify Risk Factors For Disease Progression And Establish Monitoring Guidelines

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The International Myeloma Working Group, a group of leading myeloma doctors, recently published a report identifying risk factors for disease progression in patients with smouldering myeloma. In addition, the myeloma experts established guidelines for the monitoring and management of this condition.

The International Myeloma Working Group (IMWG) identified the following risk factors for patients with smouldering, or asymptomatic, myeloma: the amount of monoclonal protein, the number of bone marrow plasma cells, and the free light chain ratio.

A smouldering myeloma diagnosis is made when monoclonal (M) protein levels are 30 g/l or greater and the proportion of plasma cells in the bone marrow is 10 percent or greater, but there is no associated organ damage.

The IMWG emphasizes that smouldering myeloma must be distinguished from MGUS because there is a higher risk of progression to multiple myeloma or a related disorder for smouldering myeloma patients.

The frequency of progression to multiple myeloma or a related disease is 10 percent per year in patients diagnosed with smouldering myeloma as compared to 1 percent per year in MGUS patients.

In a previous study, researchers found that five years following a smouldering myeloma diagnosis, 51 percent of patients were predicted to progress to active myeloma or a related disease. This number increased to 73 percent by 15 years post-diagnosis.

Smouldering Myeloma Risk Factors

In smouldering myeloma, the IMWG identified the amount of the M-protein and the number of plasma cells in the bone marrow as the most important risk factors of disease progression.

In smouldering and multiple myeloma, the M-protein is overproduced by plasma cells and cannot effectively fight infections.

Patients with both 10 percent or greater bone marrow plasma cells and 30 g/l or greater of M-protein were found to be at the greatest risk of disease progression.

Patients with 10 percent or greater bone marrow plasma cells and 30 g/l or greater of M-protein had a risk of disease progression of 87 percent at 15 years, while those with 10 percent or greater bone marrow plasma cells and less than 30 g/l of M-protein had a risk of disease progression of 70 percent at 15 years. Patients with less than 10 percent bone marrow plasma cells and 30 g/l or greater of M-protein had the lowest risk of disease progression (39 percent) at 15 years.

The free light chain ratio was identified as an additional independent factor for disease progression. An abnormal free light chain ratio was associated with higher rates of progression. In healthy individuals and the majority of myeloma patients, an immunoglobulin is composed of two light chains bound to two heavy chains. In some patients, the light chains are separated, creating abnormal “free” light chains in their blood stream.

Abnormal MRI scans of the spine have also been demonstrated to be an increased risk factor for progression.

Smouldering Myeloma Monitoring and Management Guidelines

The IMWG recommends patients have blood and urine analysis both at the time of diagnosis with smouldering myeloma and two to three months thereafter. At the time of diagnosis, the IMWG also considers a bone marrow biopsy and a bone scan mandatory procedures.

If the results of initial tests are stable, patients should be monitored every four to six months for a year. At the end of the year, if results are still stable, evaluation can be extended to once every 6 to 12 months.

Conclusion

Dr. C. Ola Landgren, researcher at the National Institutes of Health and investigator in this study, believes there remains a need to find specific tests to determine which patients will progress to multiple myeloma.

He stated, however, that the guidelines published in the IMWG report “serve as a clinical tool to focus routine labs and clinical work-up on the precursor patients, who, based on crude clinical markers, are more likely to progress. There is no doubt this is a step in the right direction!”

He added that “I truly think there will be a change in the myeloma field during the coming years. Instead of waiting for the precursor disease to get active and to spread to full-blown multiple myeloma before the doctor will start therapy, I think we will see new targeted treatment concepts, based on molecular profiling/imaging and biologic biomarkers. These strategies will better guide the doctor to start earlier therapy, and they will have abilities to monitor chronic disease management/cure.”