TREBALL DE FI DE GRAU

BACHELOR'S DEGREE OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

COMPARATIVE ANALYSIS OF DIFFERENT RISK STRATIFICATION MODELS FOR SMOLDERING MULTIPLE MYELOMA APPLIED TO PATIENTS AT THE JOAN XXIII HOSPITAL IN TARRAGONA

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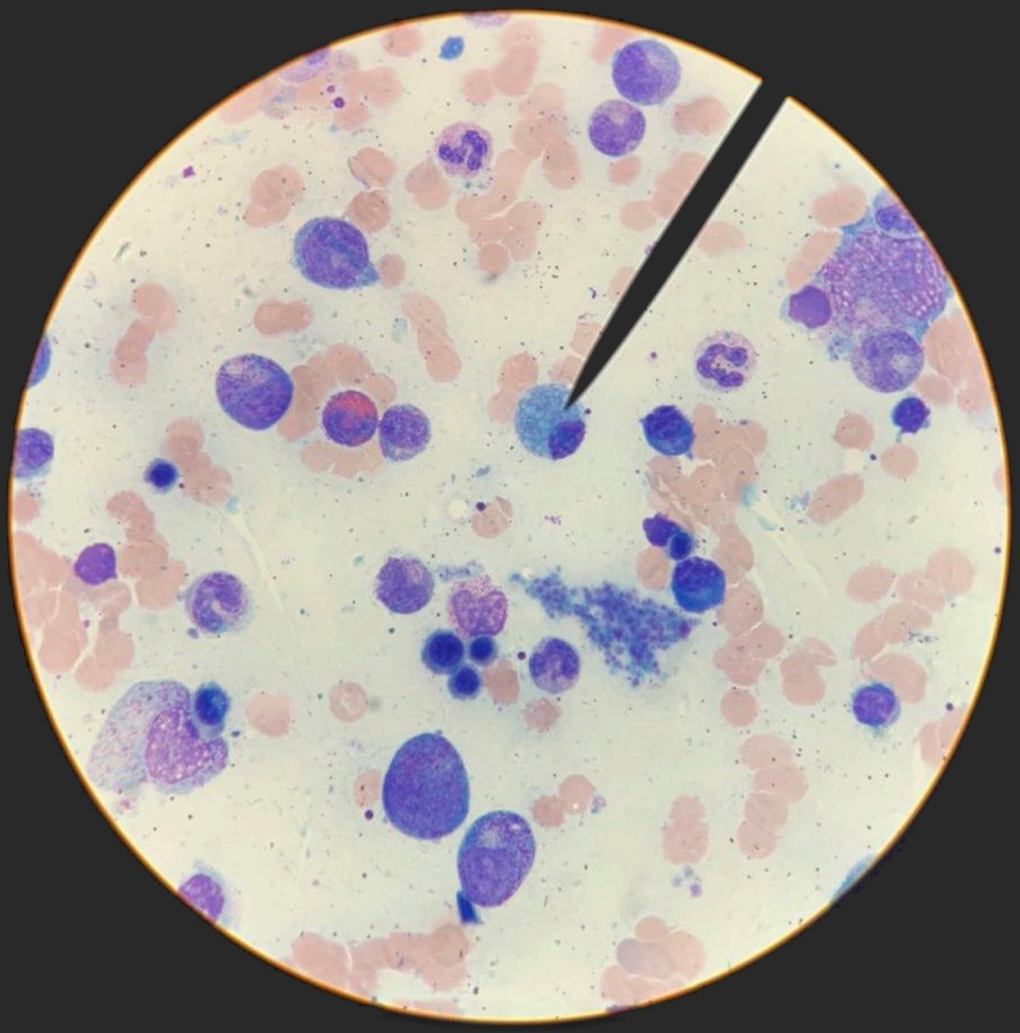

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The content of this final degree project is confidential, for further information please contact: albasoledad.rodriguez@estudiants.urv.cat

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Abstract

Background: Smoldering multiple myeloma (SMM) is an asymptomatic clinical precursor of multiple myeloma (MM). With the aim of delaying the onset of MM and improving its prognosis, experts have suggested treatment for those quiescent patients with a greater than 50% probability of progression. In recent years, different risk stratification models for SMM patients have emerged.

Objectives: This study proposes the evaluation and comparison of risk stratification models in patients with SMM at the Joan XXIII University Hospital. Subsequently, the progression of high-risk patients to MM in two years after diagnosis will be analyzed.

Methodology: A cohort of 42 smoldering patients from 2017 to 2022 was used to achieve these objectives. All information was collected on parameters related to disease progression. The different stratification models were applied to assess the risk of each patient and their progression to MM was evaluated over two years.

Results and conclusion: In this study it was found that the stratification models including cytogenetics achieved a more homogeneous classification of patients. At the same time, the IMWG model has the highest sensitivity, specificity and accuracy in patient's classification. However, further studies are needed to validate its use in clinical and diagnostic practice. Much more research is needed in this field to unify the definition of high-risk SMM patients and to transform the current treatment paradigm.

Keywords: smoldering multiple myeloma, multiple myeloma, monoclonal gammopathy of uncertain significance, risk stratification model, treatment, Mayo Clinic, Spanish Myeloma Group, International Myeloma Working Group.