A Retrospective Study of Tobacco Use and Multiple Myeloma: Evidence Against an Association Between Smoking and Incidence/Outcome

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Background

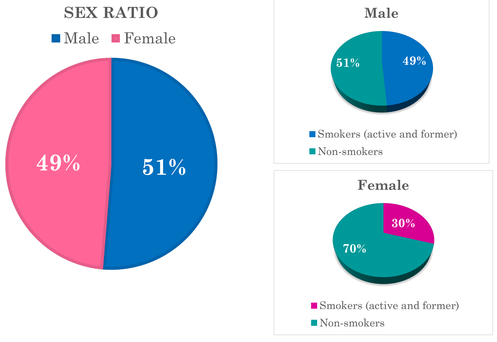
Multiple myeloma (**MM**) is a clonal **plasma cell** proliferative disorder characterized by the abnormal increase of monoclonal immunoglobulins. MM accounts for 1% of all cancers and is the 2nd most common hematologic malignancy after lymphoma. The precise etiology of multiple myeloma is unknown. However, frequent alterations and translocations in the promoter genes are commonly found in multiple myeloma and likely play a role in disease development. Knowledge regarding modifiable risk factors for MM remains limited. Some factors contributing to disease occurrence include obesity, alcohol consumption, environmental causes such as insecticides, organic solvents, agent orange, and radiation exposure. While several epidemiologic studies have indicated a link between smoking and the risk of developing multiple myelomas, the role of tobacco in the etiology of these neoplasms remains unclear.

Objective

This study examined the relationship between smoking cigarettes and other tobacco products and the incidence of multiple myeloma in a cohort of 304 alive patients (out of 405) during a period of 10 years as well as the relationship between smoking and achievement of remission/stable disease.

Methods

This observational retrospective study included patients diagnosed between 2012 and 2022.
Setting: Patients were recruited from the University Clinic for Hematology-Skopje.
Patients: This study includes 304 patients (156 male, 148 female) who were subdivided into three groups based on their smoking habits: active smokers, former smokers, and non-smokers. They were further subcategorized into groups based on whether they had achieved remission/stable disease or were undergoing treatment.



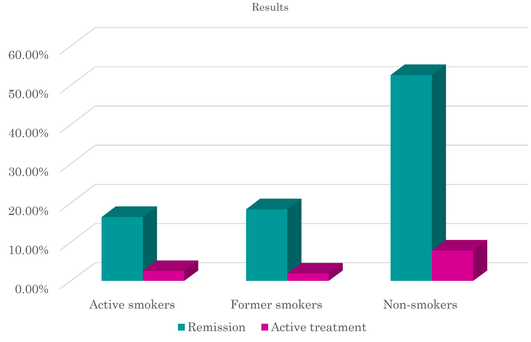
Patients with MM	Male	Female
Smokers (active and former)	25%	14.47%
Non-smokers	26.31%	34.21%

Main Outcome

The hypotheses of this study were made before collecting any of the data and stated that the incidence of multiple myeloma is not higher in patients who are smokers/tobacco users than in non-smoking patients and remission/stable disease and multiple myeloma are not related to smoking.

Results

The collected data showed that 156 patients were male and 148 were female. Fifty-eight (19.1%) of the patients were active smokers, 50 of whom were in complete remission; 62 (20.4%) were former smokers, 56 of whom were in complete remission; and 184 (60.5%) were non-smokers, 160 of whom were in complete remission. Seventy-six smokers and ex-smokers were male and 44 were female, for a total of 120.



Conclusion

Cigarette smoking is one of the most important risk factors for cancer, but the association with multiple myeloma was inconclusive The data collected confirmed that there is no significant association between smoking status (active smoking and former smokers), number of cigarettes smoked, or duration of smoking and the risk of developing multiple myeloma. Also, it is not related to achieving complete remission; in contrast, smokers and ex-smokers easily achieve remission.

References

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