

CIGARETTE SMOKING - AN IMPORTANT RISK FACTOR FOR DEVELOPMENT AND PROGRESSION OF MULTIPLE SCLEROSIS

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Introduction: Multiple sclerosis (MS) is a common neurological disorder affecting the central nerve system followed by progressive and relapsing neurological disability. Its cause is unknown but several risk factors were identified, e. g. genetic variability and family history, geographic variation, vitamin D deficiency, some infectious agents and smoking. Data of epidemiological and pharmacological studies are conflicting, e. g. for the role of smoking on MS development and progression and its role in treated patients. Study aim was a literature review on the role of smoking in MS. Materials and methods: A PUBMED search was made for publications regarding the role of smoking in pathogenesis and treatment of MS. Results: Several studies and meta-analyzes showed an increased risk for MS development and progression (e. g. determined by the Expanded Disability Status Scale (EDSS)) in smokers correlated with cigarette consumption. Others showed a significant and time dependent reduction in the risk of disability progression after smoking cessation. Underlying mechanisms, e. g. immune modulatory effect of smoke components, modulation of the blood brain barrier by smoke components followed by immune cell egress, nicotine-induced increased blood flow and direct toxic effects, e. g. of NO and CO are complex. Studies investing the effect of smoking on different types of treatment are sparse. Conclusions: Smoking is an important risk factor for MS development and progression. The underlying mechanisms are complex. Data underline the need of smoking cessation in MS patients. Future studies should investigate the effect of alternate modes of nicotine administration on MS progression.