INTRODUCTION

Genomic damage is probably the most important fundamental cause of development and degenerative disease. It is also well established that genomic damage is produced by environmental exposure to genotoxins, medical procedures (e.g. radiation and chemicals), micronutrient deficiency (e.g. folate), lifestyle factors (e.g. alcohol, smoking, drugs and stress), and genetic factors such as inherited defects in DNA metabolism and/or repair. Tobacco smoke has been associated to a higher risk of development of cancer, especially in the oral cavity, larynx and lungs, as these are places of direct contact with many carcinogenic tobacco’s compounds. Alcohol is definitely a recognized agent that influence cells in a genotoxic form, been cited as a strong agent with potential in the development of carcinogenic lesions. Epidemiological evidence points to a strong synergistic effect between cigarette smoking and alcohol consumption in the induction of cancers in the oral cavity. Approximately 90% of human cancers originate from epithelial cells. Therefore, it could be argued that oral epithelial cells represent a preferred target site for early genotoxic events induced by carcinogenic agents entering the body via inhalation and ingestion. The MN assay in buccal cells was also used to study cancerous and precancerous lesions and to monitor the effects of a number of chemopreventive agents.

AIM OF THE STUDY

Determine the influence of lifestyle factors such as alcohol consumption and smoking habits by measuring the frequency of micronucleus in buccal mucosa cells.

METHODOLOGY

The study was carried out in Portugal in a sample of 85 subjects without any occupational exposure and was asked about their smoking and drinking habits. The evaluation of genotoxic effects was conducted by applying MN test in exfoliated cells from buccal mucosa. Buccal cells were removed by endobrush and stained with Feulgen technique without counterstain.