

ORAL MICROBIOTA AND ALCOHOL CONSUMPTION IN CANCERS OF THE UPPER AERO-DIGESTIVE TRACT: AN OBSERVATIONAL STUDY

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Background:

Alcohol consumption is strongly associated with an increased risk of certain types of tumors, especially those of the upper aero-digestive tract (UADT). Recently, it has been found that some microorganisms present in the human oral cavity may locally metabolize ethanol, forming acetaldehyde, a carcinogenic metabolite of alcohol.

Methods and Results:

We analyzed a cohort of patients firstly visited for UADT cancers. We correlated the real alcohol consumption with the appearance of UADT cancer, by measuring Ethyl Glucuronide (a long-lasting metabolite of ethanol) in the hair and Carbohydrate-Deficient Transferrin in the serum, with the presence of *Neisseria subflava*, *Streptococcus mitis* and *Candida albicans and glabrata*, in the oral cavity. The analysis revealed that 60% of heavy drinkers presented microorganisms generating acetaldehyde locally. In particular, 30% of patients presented *S. mitis*, 20% *C. albicans*, and 10% *N. subflava*. Most of the abstemious or social drinkers had a prevalence of resident microflora.

Conclusions and Significance:

These data suggest that oral microbiota composition could be consider a risk factor for the formation of cancerogenic compounds. We will investigate the presence of the same microorganisms in patients screened for the presence of oral pre-cancerogenic lesions, in order to identify innovative early cancer biomarkers.

Keywords:

oral microbiota; upper aero-digestive tract cancer; alcohol consumption; cancer biomarker.

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Thematic Area:

- Frontiers in Microbiome Research
- Microbiome: from Research to Clinics

Infrastructures:

N.A.