

Interazioni fra consumo di alcol ed esposizione lavorativa ad agenti chimici

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KEY WORDS

Alcohol; chemicals; interactions

SUMMARY

«*Interactions between alcohol and work exposure to chemical substances*». **Background and objectives:** *The quite diffused habit of a significant assumption of alcohol drinks, can interfere with the professional exposure to chemical substances. The interaction may result in increasing their toxicity and/or modifying the parameters of the biological monitoring. It may also act as a confounding factor, not only in epidemiologic researches but also at individual level when the assessment of the occupational exposure and/or the diagnosis of an occupational diseases, is under consideration. We review available references in the literature summarizing major scientific evidences.*

Results: *The interaction between the alcohol assumption and industrial chemicals may be toxicokinetic or toxicodynamic. Alcohol can interfere in the processes of biotransformation of xenobiotics and modify the doses and the effect indicators used for the biological monitoring, causing wrong interpretations of the results. The metabolism of ethanol can be altered by the exposures to toxic industrial materials, creating some clinical pictures of alcohol intolerance, like an "antabuse syndrome" or an "degreaser flush syndrome". Professional exposure to carbon sulfide or to dimethylformamides, trichloroethylene as well as to nitroglycerin and nitroglycole ethylenic can produce similar syndromes. Interactions are reported between alcohol and solvents: on toxicokinetic bases for methanol, isopropanol, glycol ether, trichloroethylene, methyl ethyl ketone and toluene; and on toxicodynamic bases for CNS. Also between alcohol and metals there can occur toxicokinetic interactions, like in the case of lead and mercury. Alcohol can also interfere with the biological monitoring of solvents, producing an over-estimation of the exposure. **Conclusions:** *For the biological monitoring of reported chemical substances, it is suitable to evaluate the biologic indicators in the days in which there is not assumed alcohol. If this cannot be guaranteed, it is necessary to know at least the quantity of the alcohol consumed or at least if the subject is an alcohol abuser.**