

IMMUNOLOGICAL AND MOOD CHANGES THE DAY AFTER HEAVY ALCOHOL CONSUMPTION: A COMPARISON OF DRINKERS WITH A HANGOVER VERSUS THOSE WHO CLAIM HANGOVER RESISTANCE

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Introduction and Aims:

The aim of this study was to examine immune reactivity and mood after an evening of heavy alcohol consumption, and compare drinkers with a hangover with drinkers claiming hangover resistance.

Design and Methods:

N=18 hangover resistant drinkers and N=18 drinkers reporting a hangover (age 18 - 35 years) were included in the study. Saliva samples were collected on a control day (no alcohol consumed) and on a hangover day. Cytokine concentrations (IL-1b, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, GM-CSF, IFN-γ and TNF-α) were determined. The Profiles Of Mood Scale (POMS-SF) was administered and hangover severity of twenty-three symptoms was scored from 0 (absent) to 10 (extreme).

Results:

Total alcohol consumed (11.6 ± 6.1 alcoholic drinks) did not significantly differ between the groups (p = 0.61). During hangover, in both groups significant increases in IL-2, IL-4, IL-5, IL-6, IL-10, IFN-γ and TNF-α concentrations were observed. No significant differences were found between the groups except that GM-CSF concentration on the hangover day was significantly lower in the hangover resistant group. Symptoms reported by hangover resistant subjects were limited to modest but significant increases in sleepiness related symptoms (e.g., POMS-fatigue, sleepiness, being tired, concentration problems). In contrast, subjects who did report a hangover additionally reported significant increases in more disabling symptoms such as headache, nausea, vomiting, dizziness and stomach pain.

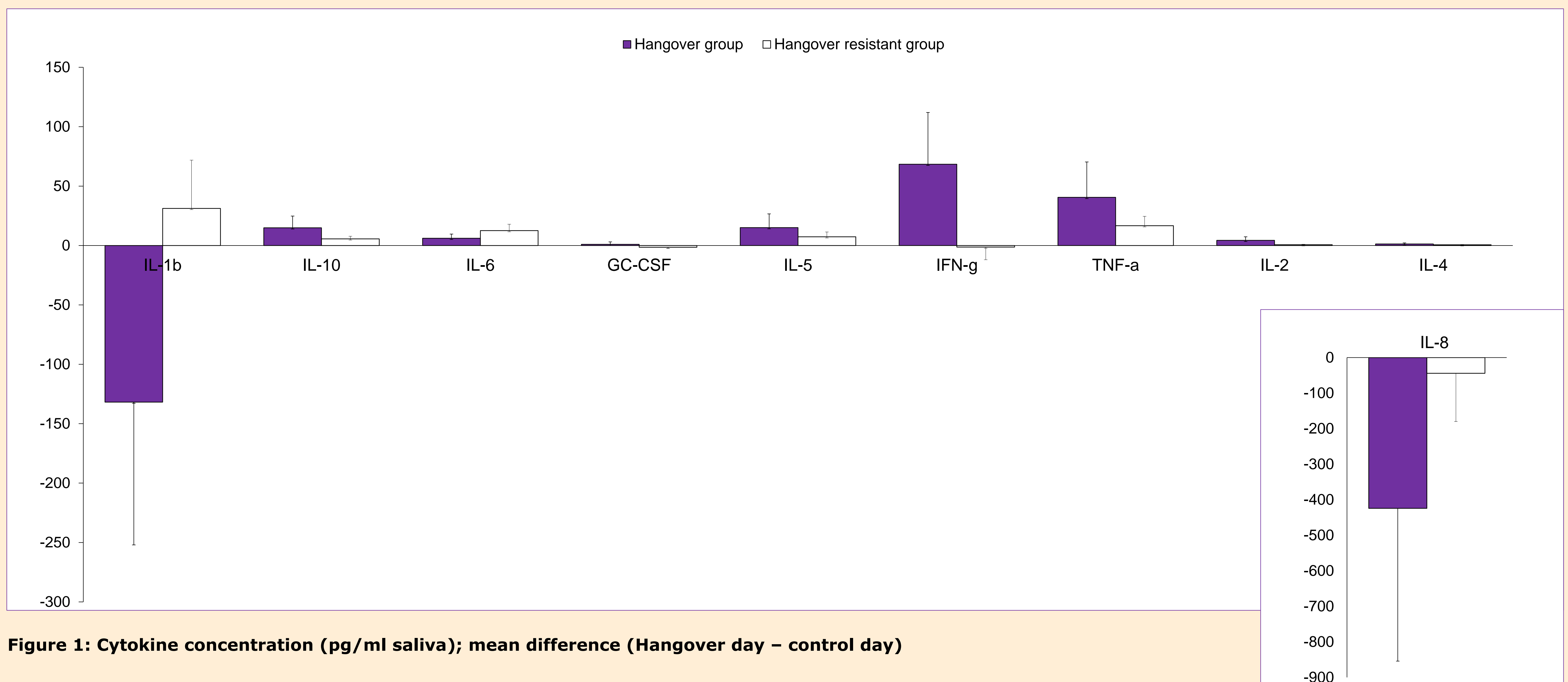


Figure 1: Cytokine concentration (pg/ml saliva); mean difference (Hangover day - control day)

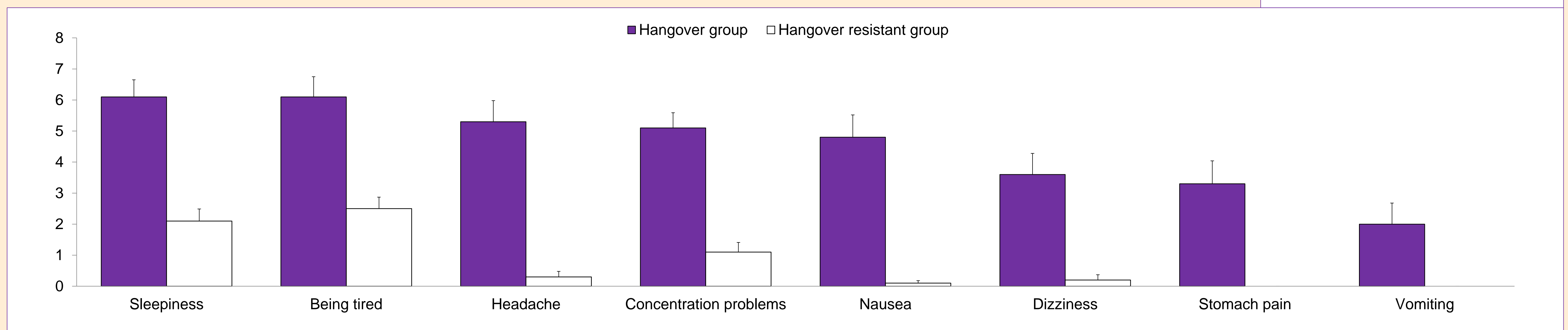


Figure 2: Hangover symptoms (mean score) for hangover resistant subjects and subjects who did report a hangover (hangover day)

Conclusions:

Changes in immune reactivity are associated with the pathogenesis of the alcohol hangover. In hangover resistant subjects next-day effects seem limited to a modest increase in sleepiness-related symptoms.

Disclosure of Interest Statement:

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