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Corticosteroid modulation and testosterone changes during alcohol intoxication affects voluntary alcohol drinking

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ABSTRACT

A number of studies have shown that stress and an activated hypothalamic-pituitary-adrenal (HPA) axis are associated with increased voluntary alcohol drinking. Recently, associations have been found between activated HPA and hypothalamic-pituitary-gonadal (HPG) axes in alcohol-preferring AA and non-preferring ANA, F2 (crossbred second generation from original AA and ANA), and Wistar rats. The aim of the present study has been to determine the role of corticosterone and alcohol-related testosterone-effects in subsequent alcohol drinking in AA, ANA, F2 and Wistar rats. The present study comprises of four substudies presenting new analyses of existing data, by which correlations between basal corticosterone levels, changes in testosterone levels during alcohol intoxications and subsequent voluntary alcohol consumption are investigated. The results displayed positive correlations between basal corticosterone levels and subsequent alcohol-mediated testosterone elevations, which was positively associated with voluntary alcohol consumption. The results also showed a negative correlation between basal corticosterone levels and alcohol-mediated testosterone decreases, which was negatively associated with alcohol consumption. In conclusion, the

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