Abstract

P50 event-related potential was studied in abstinent chronic alcoholic patients to determine whether they had normal sensory gating. Repeated tones were presented to 17 recently detoxified chronic alcoholic patients and 17 healthy subjects while EEG was recorded. Low-resolution tomography (LORETA) was performed to obtain cerebral sources of P50. Abstinent chronic alcoholics showed reduced P50 sensory gating. Present results suggest an inhibitory deficit in early pre-attentive auditory sensory processing in chronic alcoholism.

Keywords: P50; Alcoholism; Event-related potential; LORETA
P50 sensory gating could be explained by an alcohol induced decrease of GABA A activity [4] and/or direct interaction with α-7 nicotinic receptor of interneurons [21] that has been argued to mediate the P50 suppression [10].

In summary, present study proposes that there is a deficit in auditory sensory gating in abstinent chronic alcoholics that could be interpreted as a deficit in inhibition sensory processing. Future studies will be necessary to determine the precise neuronal processes underlying this deficit and its consequences for the study of alcoholism.

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