DREAM RECALL, REMS AND SPECTRAL EEG COMPONENTS IN BLIND AND SIGHTED

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Abstract

Objectives: To evaluate the EEG spectral content and rapid eye movements (REMs) associated with dream recall in sighted subjects and congenital blind.

Methods: 10 congenital blind (CB) subjects (age: 28.2±5.2; 5 males and 5 females) were studied and compared with a control-sighted group (CS) (age: 28.2±5.5; 3 males and 5 females). Polysomnographic recordings were performed at subjects home; both groups were subjected to periodic awakenings (period=90 minutes) and requested to dictate any dream recall to a voice-activated tape recorder. Only REM sleep awakenings were selected, whenever they were preceded by a stable REM epoch of at least 5 minutes duration. Power spectra were obtained for C4-A1 and O2-A1 EEG channels, by means of the Fast Fourier Transform. Dream recall was defined by the existence of a dream report. Statistics used F-test and 2-way ANOVA.

Conclusions: In line with previous findings blind have lower REMs density. CB showed an increase in the lower frequency bands (delta and theta) and in sigma activity (spindles) and CS have higher fast activities (alpha and beta). The ability of dream recall in Congenital blind and Sighted controls is identical. Dream recall is associated with an increase in REM bursts and density, higher sigma activity in C4 and O2 and lower delta activity in O2. REM bursts also show differences in the temporal profile.

REM dream recall is associated with changes in EEG frequencies and increased REMs activity.

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