FACTS ABOUT EYE AND BRAIN

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LV Prasad Eye Institute

Indo-German Lab of LVPEI

Stimulus-evoked and endogenous alpha oscillations show a linked dependence on patterned visual experience for development of cortico-cortical interactions

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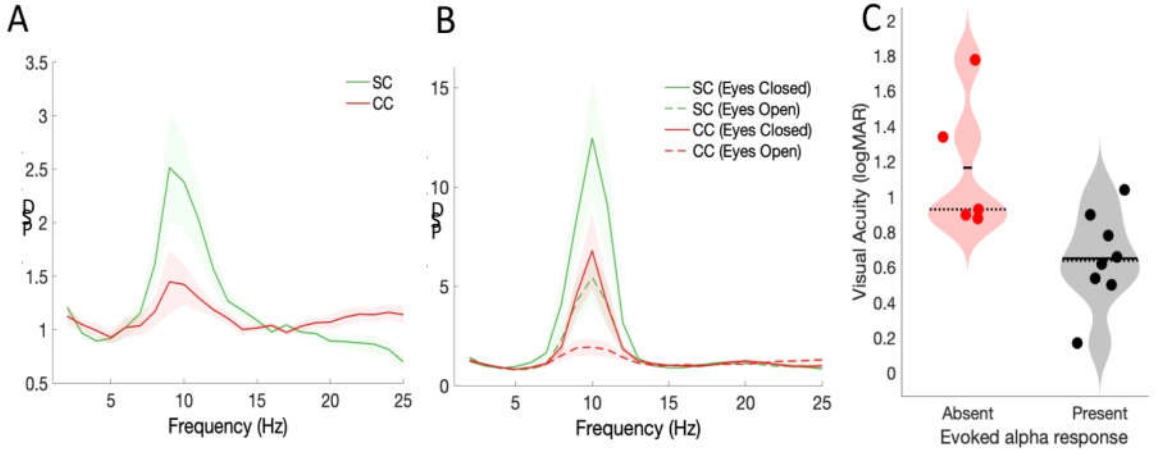

A. The average spectrum of evoked EEG activity across all cataract reversed (CC, red) and normally sighted control (SC, green) subjects. B. The average spectrum resting state EEG activity in the same groups, with eyes closed (solid lines) and eyes open (dashed lines) conditions. C. Visual acuity (logMar) in CC individuals who did vs did not feature an EEG alpha peak.

- Alpha (8-14 Hz) oscillations of the human electroencephalogram have been associated with cortico-cortical interactions, both during visual processing and rest.
- Individuals treated for dense bilateral congenital cataracts displayed reduced resting-state and stimulus-evoked alpha oscillations in the electroencephalogram.
- Reduced stimulus-evoked alpha oscillations were linked to poor visual outcomes even years after cataract surgery.
- We concluded that cortico-cortical interactions are developed based on visual experience and are crucial for precise visual processing.

Full text here:
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NeuroImage: CLINICAL

Child Sight Institute