FENS Forum 2010 - Amsterdam

- Posters: to be on display from 8:00 to 13:15 in the morning and from 13:30 to 18:45 in the afternoon. Poster sessions run from 09:30 to 13:15 in the morning and from 13:30 to 17:30 in the afternoon. A one hour time block is dedicated to discussion with the authors (authors should be in attendance at their posters as from the time indicated.)
- For other sessions, time indicates the beginning and end of the sessions.

First author Rodriguez-Ferrer, Jose Manuel (poster)

Poster board F20 - Tue 06/07/2010, 11:15 - Hall 1
Session 145 - Human cognition 4
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Authors Rodriguez-Ferrer J. M. (1, 2, 3), Mancebo R. (1, 2, 3), Sáez J. A. (1, 2, 3) & Domínguez I. C. (1, 2, 3)

Addresses (1) Lab. Vis. Cog. Neurosci., Granada, Spain; (2) Inst. Neurosci, Granada, Spain; (3) Univ. Granada, Granada, Spain

Title Enhancement of visual perception by covert attention in patients with retinitis pigmentosa

Text In patients with retinitis pigmentosa (RP), we have studied the effects of covert attention (CA) on detection of visual stimuli. In a first session, patients (20 subjects, mean age of 35 years) were asked to press a button following the presentation of stimuli (grey circles of 0.5º of diameter, showed in a monitor placed at 114.5 cm) presented at random at 8 polar coordinates (0, 45, 90, 135, 180, 225, 270, 315º), in 3 eccentricities with respect of fixation point (2.15, 3.83, 5.53º) and with 3 levels of contrast (6, 16, 78%). In a second session, to favour CA, an arrow was presented (100 ms) indicating the polar coordinate where stimuli were going to appear. Ocular movements were registered by electro-oculogram. None of RP patients detected all stimuli presented. The percentage of stimuli detected largely varies among them (range of 15-85%). Depending on detection failure, RP patients can be classified in those having: i) deficit in detection of low contrast stimuli, ii) deficit in perception of stimuli of high eccentricity, or iii) both. When stimuli were covertly attended, 18 RP patients increased the number of stimuli detected. Again, proportion varies with a range of 3-38%. Increments in detection by CA were seen in the three types of RP deficits. Thus, detection of low contrast, as well stimuli presented at the highest eccentricity, was favoured by CA. These results, confirm, in RP, previous data on normal subjects showing that CA increases perception of stimuli contrast and expands, peripherally, the visual field. It would be very interesting to investigate if training CA induces permanent enhancement of visual perception in RP patients for which, at present, there is no treatment. In this research the Declaration of Helsinki was followed and informed consent was obtained from all subjects.

Theme F - Cognition and behaviour
Human cognition and behaviour - Attention
