

## P-795 - RESTING-STATE FUNCTIONAL MAGNETIC RESONANCE IMAGING (fMRI) IN CHARLES BONNET SYNDROME

E.Osório<sup>1,2</sup>, A.J.Bastos-Leite<sup>3</sup>, I.Brandão<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry and Mental Health, Hospital de S. João, E.P.E., <sup>2</sup>Faculty of Medicine, University of Porto, Porto, Portugal, <sup>3</sup>Department of Medical Imaging, Faculty of Medicine, University of Porto, Porto, Portugal

**Introduction:** Charles Bonnet syndrome (CBS) is a condition characterized by complex and recurrent visual hallucinations occurring in patients with severe visual loss, in the absence of cognitive or psychiatric disorders. Patients are completely aware of the unrealistic nature of this phenomenon. Previous functional magnetic resonance imaging (fMRI) studies have demonstrated cortical activation during periods of visual hallucinations in patients with CBS pointing to dysfunction in the primary and secondary visual cortices.

**Objectives/aims:** To investigate the pattern of visual activation in a patient with CBS by means of resting-state fMRI.

**Case report/methods:** We studied the case of a 75-year-old woman with pronounced visual loss secondary to diabetic retinopathy and recurrent visual hallucinations consistent with CBS. The patient underwent an fMRI examination. No convincing periods of visual hallucinations occurred at the time of scanning. A blood oxygen level dependent (BOLD) sequence (TE=25ms, TR=3000ms, number of repetitions=200, acquisition matrix=64x64) was acquired. After spatial pre-processing including realignment, unwarping, and coregistration to high-resolution T1-weighted images by means of statistical parametric mapping (SPM, FIL, London, UK), BOLD images were analysed by using multivariate exploratory linear optimized decomposition into independent components (MELODIC, FSL, FMRIB, Oxford, UK).

**Results:** The independent component analysis (ICA) revealed a very extensive visual network, much more pronounced than the usually observed.

**Conclusion:** fMRI data analysed by using ICA seem to demonstrate abnormal visual networks in CBS, even at "rest". This perhaps indicates that there is a sustained state of hyperactivity in the primary and secondary visual cortices in CBS, most probably secondary to deafferentiation.