

## EPV0900

## Long-term effects of Cushing's Disease on visuospatial planning and executive functioning

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**Introduction:** Patients with remitted Cushing's Disease (CD) often present persisting impairments in executive and cognitive functioning domains. Little research has been conducted regarding the functional neural correlates of an important executive functioning skill, namely the ability to plan, in these patients.

**Objectives:** To examine visuospatial planning related brain activity in remitted CD patients and matched controls using functional magnetic resonance imaging (fMRI).

**Methods:** fMRI scans were made using a 3-Tesla scanner while remitted CD patients (n=21) and age-, gender-, and education matched healthy controls (HCs; n=21) completed a parametric Tower of London (ToL) task. Psychological and cognitive functioning were assessed using validated questionnaires. Clinical severity was assessed retrospectively using the Cushing's syndrome Severity Index (CSI).

**Results:** CD Patients were on average 45.1 (SD=7.1) years old, 81% female, and in remission for mean 10.68 (SD=7.69) years. No differences were found in number of correct trials, response times per ToL trial, or in the region of interest analyses. Exploratory wholebrain analyses found that CD patients showed more activation in several brain regions associated with higher cognitive processes on 2-, 3-, and 5-step trials compared to HCs. Over-recruitment of the right parietal operculum cortex in the patients was significantly negatively associated with the prior active disease state on the CSI ( $r=-0.519$ ,  $p=0.02$ ).

**Conclusions:** The increased brain activation during the ToL in remitted CD patients versus controls signals over-recruitment of certain brain areas involved in higher cognitive processes. CD may thus result in long-lasting, subtle scarring effects during demanding executive functioning tasks, despite remission.

**Disclosure:** No significant relationships.

**Keywords:** Cushing's Disease; cognitive planning; executive functioning

## EPV0901

## The brain in oral clefting: preliminary results of a systematic review with meta-analyses.

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**Introduction:** Previous neuroimaging studies of individuals with nonsyndromic oral clefts have revealed subtle brain structural differences compared to matched controls. Additional studies strongly suggest that the higher incidence of neuropsychiatric issues observed in these individuals may be explained by these neuroanatomical differences. Currently there are no studies that have assessed the overall empirical evidence of the effect of oral clefts on the brain.

**Objectives:** Our aim was to summarize available evidence on potential brain structure differences in individuals with nonsyndromic oral clefts and their matched controls. In the current presentation, we discuss the results of regional brain structural differences.

**Methods:** Five databases were systematically searched in September 2020 for case-control studies that reported neuroimaging in healthy individuals and individuals with nonsyndromic oral clefts. Duplicate study selection, data extraction, random effects meta-analyses of mean differences (MDs) and their 95% confidence intervals were performed in order to compare regional brain MRI volumes.

**Results:** We have identified 245 records following the database searches, from which 12 records met the inclusion criteria. Quantitative data on brain structure were available in three studies. The cerebellum, occipital and temporal lobes were significantly smaller in the cleft group compared to controls (MD: -12.46, 95% CI: -18.26, -6.67, n=3 studies; MD: -7.39, 95% CI: -12.80, -1.99, n=2 studies; MD: -10.53, 95% CI: -18.23, -2.82, n=2 studies, respectively).

**Conclusions:** There may be structural brain differences between individuals with nonsyndromic oral clefts and their controls based on the available evidence.

**Disclosure:** No significant relationships.

**Keywords:** cleft lip; cleft palate; Brain; Neuroimaging

## EPV0902

## Image testing in psychiatrics: a bibliographic review

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**Introduction:** Psychoradiology is a term that describes a growing interest in relating psychiatry and radiological images, proposing a radiological approach in the management of major psychiatric illnesses. This includes the diagnosis, the planning of the treatment and the study of the clinical course.

**Objectives:** The objective of this communication is to review the current status of the importance and indications of neuroimaging tests in psychiatry.

**Methods:** A literature review has been carried out to review this issue.

**Results:** In schizophrenia, longitudinal studies have been carried out that compare the anatomical structures between a first psychotic episode and in a chronic state, locating regional changes that progress as the disease does. Anatomical alterations have also been detected among patients with a predominance of positive symptoms or negative symptoms. Although more and more studies demonstrate a