Cerebral Glucose Metabolism In Obsessive-Compulsive Hoarding

Saxena et al., 2005
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Introduction

Obsessive-Compulsive Disorder
- One disorder (DSM), four symptom subtypes
  - Aggressive, Sexual, Religious
  - Symmetry
  - Contamination
  - Hoarding
- Different patterns of genetic inheritance
- Different responses to treatment

Previous Studies

OCD: PET studies
- grouped patients different symptom patterns together
  - elevated glucose metabolism, treatment normalizes
    - orbitofrontal cortex, anterior cingulate gyrus, caudate nuclei, thalamus

OCD-Hoarding Studies:
- Poor response SSRIs and Cognitive Behavioral Therapy

Purpose

“...to determine whether the compulsive hoarding syndrome is associated with unique abnormalities of brain function...”

Method

- Multiple scales- identifying hoarding as the major symptom
- MRI scans- excluded subjects with structural CNS lesions
Method

- PET Scan: [18F] FDG
- 40 minute uptake period
  - Lying face up in the scanner
- No Cognitive Task
- Statistical parametric mapping (SPM)

Results

Focus:
Compulsive Hoarding vs. Non-Hoarding OCD

Compulsive Hoarding: Significantly lower glucose metabolism in the bilateral dorsal anterior cingulate gyrus

Discussion

Compulsive Hoarding vs. Non-Hoarding OCD
- Different pattern of cerebral glucose metabolism
- Neurobiologically distinct OCD subgroup

Anterior Cingulate Cortex:
- Emotional valence and self control
- Decision making (multiple options)
- Lower metabolism predicts poor treatment response

Opinions

Strengths:
- Selection Process:
  - Patient interviews + in depth OCD profiles
- Medication Free
  - Minimal effects on baseline glucose metabolism

Limitations:
- Age:
  - Compulsive hoarders significantly older than non-hoarders
- Future experiments:
  - Other OCD subtypes

Questions?