



LYMAN SUPPORT
CENTERS



OBSESSIVE- COMPULSIVE DISORDER (OCD)

SCIENTIFIC OVERVIEW

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1. Definition and Diagnostic Criteria

Obsessive-Compulsive Disorder (OCD) is a chronic psychiatric disorder characterized by:

- Obsessions: Recurrent, intrusive, and unwanted thoughts, urges, or images.
- Compulsions: Repetitive behaviors or mental acts performed to reduce distress.

DSM-5 Diagnostic Criteria:

1. Presence of obsessions, compulsions, or both.
2. Time-consuming or causing significant distress.
3. Not attributable to substances or other medical conditions.
4. Not better explained by another mental disorder.

2. Neurobiology of OCD

CSTC Circuit dysfunction is central:

- Orbitofrontal Cortex (OFC): Error detection.
- Anterior Cingulate Cortex (ACC): Conflict monitoring.
- Caudate & Putamen: Filtering intrusive thoughts.
- Thalamus: Relay perpetuating loop.

Neurotransmitters:

- Serotonin: Low levels linked with OCD.
- Dopamine: Involved in compulsivity.
- Glutamate: Elevated in OFC and caudate.
- GABA: May be decreased in some brain regions.

3. Genetic and Environmental Factors

Heritability: 40-60%

Genes: SLC1A1, HTR2A, COMT, SLITRK1.

Environmental: Maternal stress, infections, trauma.

PANDAS: Sudden onset OCD from immune response to strep.

4. Diagnostic Tools

- Yale-Brown Obsessive Compulsive Scale (Y-BOCS)
- Neuroimaging (fMRI, PET)
- Psychometric assessments: OBQ, DAS

5. Treatment Options

Pharmacotherapy:

- SSRIs: Fluoxetine, Sertraline, etc.
- Clomipramine
- Augmentation: Antipsychotics, Glutamate modulators

Psychotherapy:

- CBT with Exposure and Response Prevention (ERP)

Neuromodulation:

- DBS, TMS
- Ablative surgeries (rare)

6. Psychedelic and Novel Therapies

Psilocybin:

- 5-HT_{2A} receptor agonism
- Modulates CSTC circuitry
- Pilot studies show rapid symptom relief

Ketamine:

- Rapid anti-obsessional effects via glutamate pathways

7. Comorbidities

- Anxiety disorders
- Major Depressive Disorder
- Tic disorders
- Body Dysmorphic Disorder
- Autism Spectrum Disorder

8. Prognosis and Course

- Onset in adolescence or early adulthood
- Chronic but treatable
- 60-70% improve with treatment
- Early intervention yields best outcomes

9. References

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