Obsessive-Compulsive Disorder (OCD) with and Without Psychotic Symptoms; Psychopathological and Neuroimaging Aspects: Case-Control Study

Amany Ibrahim Falah ¹,Tarek Ahmed Okasha ², Nermin Mahmoud Shaker ², Reem Elsayed Mohamed Hashem ², Yousra Abdel Zaher Abdallah ³

Ministry of health, Egypt ¹ , Institute of Psychiatry, Ain Shams University ² , Radiology department, Faculty of Medicine, Ain Shams University, Egypt ³

BACKGROUND

- OCD can have disabling effects throughout the patient's lifespan. (Attullah et al., 2000).
- It is crucial to differentiate between OCD and a psychotic disorder, because some antipsychotics may induce or exacerbate symptoms of OCD (Singer, 2014).
- Despite this phenotypic heterogeneity, standard nomenclatures (DSM-IV and ICD-10) regard OCD as a unitary nosological entity, while this parsimony has some esthetic appeal, it may be misleading.
- Neuroimaging studies have the potential to increase our understanding of the connection between observable symptoms and associated neurobiology, and perhaps lead to improvements in treatment and in matching treatment to patient needs (Rauch and Saxena, 2000).

METHODS

- The clinical sample of this study consisted of a convenient sample of 100 patients diagnosed with OCD.
- Patients were divided into two groups: OCD patients with psychotic symptoms (B) and without psychotic symptoms(A).
- Patients were subjected to SCID I, SCID II, YBOCS, PANSS, BSRs.
- 60 DTI Scans were included in the neuroimaging analysis by using TBSS, comparing 30 patients from each group and both groups were compared to a matched control group.

FURTHER INFORMATION

Dr. Amany Ibrahim Falah
Consultant Psychiatrist, Ministry of health, Cairo, Egypt.
Amanyfalah@hotmail.com

RESULTS

Fig (1): FA results of the selected tract among study group. Group A (OCD only) & Group B (OCD with psychotic features)

Fig (2): FA results of the selected tract among study group- continued.

volume of tracts	OCD		OCD with psychotic features		Control		P1	P2	P3
	Mean	SD	Mean	SD	Mean	SD			
Anterior RT thalamic	60911	13045.3	54424.7	6592.3	52835.5	4858.2	0.01*	0.05 *	0.4
Anterior Lt Thalamic	53658.1	9237.8	49496.5	5825.8	42427.2	3823.2	0.04 *	0.000 **	0.001 **
Lt corticospinal	46488.7	6256.4	42472.1	5122.1	37060.5	3172.9	0.009**	0.000 **	0.002 **
Rt corticospinal	45941.4	7408.6	41668.6	4091.9	35867.7	2250.9	0.008 **	0.000 **	0.000**
Lt Cingulate	27969.1	3447.8	25566.1	2688.4	22557.4	3167.5	0.004 **	0.000 **	0.004**
Rt Cingulate	21833.7	2537.7	20110.6	2522.3	15530.8	2285.6	0.01 *	0.000 **	0.000**
Lt Hippocampal	9220.1	1104.7	8532	1446.3	8021.8	959	0.04 *	0.003 **	0.2
Rt Hippocampal	9564.1	1188	8640.9	1141.9	8140.4	1146	0.003 **	0.001 **	0.2
Lt forceps major	56634.5	8333.2	48625.2	7416	46372.3	6156.1	0.000 **	0.001 **	0.3
Forceps minor	46477.4	5238.9	43798.6	4182.7	40200.9	3808.5	0.03 *	0.001 **	0.01*
Lt Inferior fronto occipital	41575.4	4471	38711	3642.4	38405.4	3322.5	0.009 **	0.03 *	0.8
Rt Inferior fronto occipital	57697.5	6098.7	53583.4	5619.2	48518.6	5397.6	0.009 **	0.000 **	0.01*
Lt Inferior long fasciulus	59804.6	6416.8	57534.1	5609.8	44541.4	4645.4	0.1	0.000 **	0.000**
Rt inferior long fasciulus	51395.8	6798.2	48776.3	5215.5	39161.1	3874.1	0.09	0.000 **	0.000**
Lt superior long fasciulus	127773	15855.4	118221.3	13127.8	90406.1	9242.1	0.01 *	0.000 **	0.000**
Rt superior long fasciulus	126135.8	13248.8	114788.9	12124.1	92065.5	7450.5	0.001 **	0.000**	0.000**
Lt Uncinate	8655.5	1145.1	8769.2	1087.7	9453.7	853.3	0.6	0.04*	0.06*
Rt uncinate	8159	910.7	7873.3	853	6979.7	687.8	0.2	0.000**	0.003**
Lt longitudinal fasciulus	1820.8	259.1	1724.2	291.5	1229.5	186.1	0.1	0.000**	0.000**
Rt long fasciulus	5531.1	843.4	4951.5	877.3	4898.4	572.6	0.01 *	0.02*	0.8

Table (1): Volume results in selected tracts among the study group.
P1 correlation between Group A (OCD only) & Group B (OCD with psychotic features); P2 correlation between Group (OCD only) & control; p3 correlation between group B (OCD with psychotic features) & control

REFERENCES

1. Attiullah N, Eisen JL, Rasmussen SA (2000): Clinical features of obsessive compulsive disorder. Psychiatr cli North Am 2000, 23:469-491.
2. Singer, J. (2014): The Connection between OCD & Psychosis. Psych Central. Retrieved on July 6, 2014, from <http://psychcentral.com/lib/the-connection-between-ocd-psychosis/00018989>
3.Rauch SL and Saxena S (2000): Functional neuroimaging and the neuroanatomy of obsessive-compulsive disorder, *Psychiatr Clin North Am.* 2000 Sep; 23(3):563-86.

RESULTS CONTINUED

- Comparison between the two groups using DTI (FA of the ROI and selected tracts) showed that: -right hippocampal showed statistical significant difference across all groups -left uncinate tract showed affection among OCD patient with psychotic features in comparison to control only while it didn't affect OCD patients without psychotic features.
- There was statistical significant difference between the volume of tracts (anterior right & left thalamic, right & left corticospinal, right & left cingulate, right & left hippocampal, forceps major & minor, right & left inferior fronto occipital , right & left superior fasciulus, & right long fasciulus) between the OCD only group & OCD with psychotic features.

CONCLUSIONS

- Patients suffering from OCD with psychotic symptoms have neuro-imaging aspects different from other OCD patients which makes them distinct subgroup.
- Taking into consideration, the need to add a specific specifier in the diagnostic classification which means that those groups of patients need a specific plan of management.

APPENDIX

- BSRs: brief psychiatric rating scale
- DTI: diffuse tensor imaging
- FA: fractional anisotropy
- PNSS: positive and negative syndrome scale
- ROI: region of interest
- SCID: structured clinical interview for DSM
- Y.bocs: Yale brown obsessive compulsive scale