

Obsessive Compulsive Disorder Associated Autoimmune Conditions

Self-Study

Contributors

Lauren M Osborne, MD, Johns Hopkins University

Pre-Assessment Learning

- Mataix-Cols D, Frans E, Pérez-Vigil A, Kuja-Halkola R, Gromark C, Isomura K, Fernández de la Cruz L, Serlachius E, Leckman JF, Crowley JJ, Rück C, Almqvist C, Lichtenstein P, Larsson H. A total-population multigenerational family clustering study of autoimmune diseases in obsessive-compulsive disorder and Tourette's/chronic tic disorders. Molecular Psychiatry (2017) 00, 1–7.
- Gray SM, Bloch MH. Systematic Review of Proinflammatory Cytokines in Obsessive-Compulsive Disorder. Curr Psychiatry Rep. 2012 Jun 1;14(3):220–8.

Clinical Vignette

Marcia H. is a 27-year-old partnered G1P1 of Eastern European Jewish heritage. She has a strong family history of autoimmune disease, with a mother and brother with ulcerative colitis. Marcia was diagnosed with Crohn's disease at age 12 and has had a moderate disease course. Since childhood, she has also exhibited numerous fears and anxieties, with a childhood ritual that involved counting and turning all the objects on her bureau before bed out of fear that her family would come to harm if she did not. Her parents did not seek mental health treatment for her, and over time she was able to pare down the ritual so that by the time she left for college she was merely tapping two objects. In college she considered herself to be a "high-anxiety" person but found that this trait meant she was always prepared for her classes, and she does not feel that it interfered with her functioning. Since giving birth to her first daughter 6 weeks ago, she has been consumed by fear that her husband will come to harm during his commute to work. She frequently follows him in her car to ensure that he arrives safely, although this means she must strap the baby into her car seat and sometimes endure her crying for some time. She always calls her husband to make sure he has arrived at work, and will often call him multiple times (up to 3 or 4) during his forty-minute evening commute to ensure that he is okay. She understands that these fears are not rational. She presents for a psychiatric evaluation at the urging of her husband and of her gastroenterologist, both of whom have reported that her intrusive thoughts and rituals are consuming a considerable portion of her time each day. She is also undergoing a flare of her Crohn's disease in the postpartum, though it was in relative remission during pregnancy.

Use the above vignette and the pre-reading material (additional sources at end) to answer the following questions:

2) Is the fact that she has Crohn's disease relevant here? Why or why not?



3) Why does the vignette bother to point out that Marcia's mother and brother also have autoimmune diseases? 4) Marcia's Crohn's was in remission during pregnancy, but has flared in the postpartum. What is the usual patter for autoimmune diseases during pregnancy?
5) Does Marcia's Crohn's flare have anything to do with her OCD symptoms?
6) Can anti-inflammatory treatments help OCD?
7) What about pediatric OCD? How should we think about PANDAS?



References

Akhondzadeh, S.; Jafari, S.; Raisi, F.; Nasehi, A. A.; Ghoreishi, A.; Salehi, B.; Mohebbi-Rasa, S.; Raznahan, M.; Kamalipour, A., Clinical trial of adjunctive celecoxib treatment in patients with major depression: a double blind and placebo controlled trial. *Depress Anxiety* 2009, 26 (7), 607-

Dale, R. C., Post-streptococcal autoimmune disorders of the central nervous system. *Dev Med Child Neurol* 2005, 47 (11), 785-91.

da Rocha FF, Correa H, Teixeira AL. Obsessive—compulsive disorder and immunology: A review. Prog Neuropsychopharmacol Biol Psychiatry. 2008 Jul 1;32(5):1139–46.

Denys, D.; Fluitman, S.; Kavelaars, A.; Heijnen, C.; Westenberg, H., Decreased TNF- alpha and NK activity in obsessive-compulsive disorder. *Psychoneuroendocrinology* 2004, *29* (7), 945-52.

Fluitman SBAHA, Denys DAJP, Heijnen CJ, Westenberg H. GM. Disgust affects TNF-α, IL-6 and noradrenalin levels in patients with obsessive–compulsive disorder. Psychoneuroendocrinology. 2010 Jul 1;35(6):906–11.

Fontenelle LF, Barbosa IG, Luna JV, de Sousa LP, Abreu MNS, Teixeira AL. A cytokine study of adult patients with obsessive-compulsive disorder. Compr Psychiatry. 2012 Aug 1;53(6):797–804.

Gray SM, Bloch MH. Systematic Review of Proinflammatory Cytokines in Obsessive-Compulsive Disorder. Curr Psychiatry Rep. 2012 Jun 1;14(3):220–8.

Konuk, N.; Tekin, I. O.; Ozturk, U.; Atik, L.; Atasoy, N.; Bektas, S.; Erdogan, A., Plasma levels of tumor necrosis factor-alpha and interleukin-6 in obsessive compulsive disorder. *Mediators Inflamm* 2007, 2007, 65704.

Lopresti AL. Curcumin for neuropsychiatric disorders: a review of in vitro, animal and human studies. J Psychopharmacol. 2017 Mar;31(3):287-302.

Marazziti, D.; Presta, S.; Pfanner, C.; Gemignani, A.; Rossi, A.; Sbrana, S.; Rocchi, V.; Ambrogi, F.; Cassano, G. B., Immunological alterations in adult obsessive-compulsive disorder. *Biol Psychiatry* 1999, 46 (6), 810-4.

Mataix-Cols D, Frans E, Pérez-Vigil A, Kuja-Halkola R, Gromark C, Isomura K, Fernández de la Cruz L, Serlachius E, Leckman JF, Crowley JJ, Rück C, Almqvist C, Lichtenstein P, Larsson H. A total-population multigenerational family clustering study of autoimmune diseases in obsessive-compulsive disorder and Tourette's/chronic tic disorders. Molecular Psychiatry (2017) 00, 1–7.

Miguel, E. C.; Stein, M. C.; Rauch, S. L.; O'Sullivan, R. L.; Stern, T. A.; Jenike, M. A., Obsessive-compulsive disorder in patients with multiple sclerosis. *J Neuropsychiatry Clin Neurosci* 1995, 7 (4), 507-10.

Mischoulon D, Freeman MP. Omega-3 fatty acids in psychiatry. Psychiatr Clin North Am. 2013 Mar;36(1):15-23. doi: 10.1016/j.psc.2012.12.002.

Murphy, T. K.; Sajid, M. W.; Goodman, W. K., Immunology of obsessive-compulsive disorder. *Psychiatr Clin North Am* 2006, 29 (2), 445-69.

Orlovska S, Hostrup Vestergaard C, Hammer Bech B, Nordentoft M, Benros ME. Association of Streptococcal Throat Infection With Mental DisordersTesting Key Aspects of the PANDAS Hypothesis in a Nationwide Study. JAMA Psychiatry. 2017;74(7):740-746.

Sayyah, M.; Boostani, H.; Pakseresht, S.; Malayeri, A., A preliminary randomized double-blind clinical trial on the efficacy of celecoxib as an adjunct in the treatment of obses- sive-compulsive disorder. *Psychiatry Res* 2011, *189* (3), 403-6.