# The Usefulness of Clonazepam as an Augmentative Treatment in a Case of Severe Childhood Onset Obsessive-Compulsive Disorder

Soumeyya HALAYEM[1], Sami OTHMAN[2], Hajer Ben YOUSSEF[3], Ahlem BELHAJ[4], Anissa BOUASKER[5], Rym GHACHEM[6], Karim TABBANE[7], Asma BOUDEN[8]

**SUMMARY**

The goal of this study is to report on the treatment of obsessive-compulsive disorder (OCD), a chronic disabling condition that often presents during childhood and adolescence. Reports on adults using clonazepam for the treatment of OCD are more numerous than on children. Clonazepam as an augmentative treatment in OCD is still controversial. Our aim is to illustrate in a case report the efficacy of clonazepam as an augmentative treatment for severe childhood onset OCD. We report on the case of a young teenage girl with an extremely severe form of obsessive–compulsive disorder (score of 32 on the Children's Yale-Brown Obsessive Compulsive Scale), who, after a mild improvement with a combination of serotonin recapture inhibitors and second generation antipsychotics at high doses, has responded to clonazepam (3mg/day) augmentation of sertraline (200mg/day) and olanzapine (15mg/day). Clonazepam was effective not only in reducing anxiety symptoms, but also in lowering compulsions and obsessions frequency within 6 weeks with a drop in the Children's Yale-Brown Obsessive Compulsive Scale of 16 points. It may be asserted that clonazepam could be useful in the initial stage for severe OCD in young patients.

**Key words:** clonazepam, obsessive-compulsive disorder, child psychiatry, augmentative treatment.

## INTRODUCTION

Since the study by Leonard et al. (1994), few articles have reported the usefulness of clonazepam in the treatment of children suffering from obsessive compulsive disorder (OCD). The use of clonazepam as an augmentative treatment for young patients with obsessive-compulsive disorder is uncommon. We describe a patient with a severe case of OCD who had partially responded to the combination of selective serotonin reuptake inhibitors (SSRIs) and atypical antipsychotic medications, but responded remarkably to a clonazepam augmentative effect. This treatment, suggested only for the use of the adult resistant form of OCD (Bystritsky 2004, American Psychiatric Association 2007, Bandelow et al. 2008), may be useful in childhood onset OCD, which is often characterized by the severity of the symptoms (Rapaport and Inoff-Germain 2000, Walitza et al. 2001).

### Case

A 13-year-old girl had problems from the age of 6 years, which progressively worsened. These problems consisted of an increased amount of time spent on the toilet: 3-4 hours per day, in connection with excessive and compulsive repeated cleaning after the toilet routine. The patient kept repeating movements of anal expulsion. These compulsions were secondary to intrusive obsessions expressing doubt about the cleanliness of this part of her body, especially as she had developed from the age of 9 a full thickness external

**Received:** 09.07.2013 - **Accepted:** 12.02.2014

[1,2,3,8]MD, Department of Child Psychiatry, Razi Hospital, Faculty of Medicine of Tunis, [4]MD, Department of Child Psychiatry, Mongi Slim Hospital, Faculty of Medicine of Tunis, [5,6]MD, Emergency Department, Razi Hospital, Faculty of Medicine of Tunis, Tunisia. [7]MD, Department of Psychiatry, McGill University, Canada.

**e-mail:** *soumeyyadhouib@hotmail.fr*

rectal prolapse. The symptoms were exacerbated during the menstrual period during which the pelvic washing rituals were extended. She saw these intrusive thoughts as a product of her mind.

The impact of the symptoms was major and was confirmed by a score of 32 on the French translation of the Children's Yale-Brown Obsessive Compulsive Scale (Obsession subtotal score: 14, Compulsion subtotal score: 18) (Flament and Delorm 2008) indicating an extreme severity of the disorder. For instance, distress associated with obsessions and compulsions was nearly constant; she spent up to 4 hours per day in the toilet and could not leave it without help; she needed to shower compulsively (up to 2 hours) after leaving the toilet, was unable to stay alone in the bathroom, and displayed verbal and physical aggression against her parents and against herself. Her parents had to force her out of the toilet. She became a school drop-out at age 13 although she was a brilliant student until then.

Other obsessions-compulsions of tidiness were the need for symmetry in her clothing and tidying of her bedding. Sexual impulses were also found but had mild impact on the patient's functioning. The patient secondarily developed depressive symptoms with suicidal thoughts.

The patient had no family history of psychiatric disorder except an uncle with obsessive-compulsive personality traits who did not require psychiatric assistance. No personal history of abnormal movements, manic or hypomanic episodes were found. The clinical exam did not reveal any abnormality except for the rectal prolapse. The diagnosis of obsessive-compulsive disorder was confirmed by the Kiddie-sads (Kaufman et al. 1996) in accordance with DSM-IV criteria. A co-morbid diagnosis of a major depressive episode was retained. This case's management was characterized by multiple changes of therapists in relation to the absence of a rapid reduction of symptoms.

Sertraline was first initiated at 50 mg per day without a positive response and behavioral problems had too large of an impact on family and school to allow the application of cognitive behavioral therapy (CBT). A combination of two drugs was tried involving olanzapine (reaching 15 mg per day within 2 weeks) and sertraline (reaching 150 mg per day within 6 weeks). The response to the treatment, which was associated with involving family and stressing the importance of gradually reducing family involvement in rituals, was partially positive with a moderate decrease in the intensity of aggression when using the toilet and enhanced the patient's control of obsessions. However, the rather moderate effect of the treatment at these doses following 6 weeks led the family to stop the therapy; this was followed within 15 days by an increase in the presence of symptoms. The frequency of the hetero-aggression and auto-aggression during tantrums was so intense that hospitalization was required. The initial polymedication was augmented by clonazepam (2mg/day). Clonazepam was rapidly effective: anxiety decreased, and behavioral problems disappeared when entering the toilets within 5 days. The patient was sedated (sleeping 12 to 14 hours per day) but did not present any biological or neurological side-effects (in particular extrapyramidal side effects). She did not have compulsions when using the toilet during the first weeks even though she had to fight obsessions that were still present. After 10 days of clonazepam at this dose we noticed a tolerance effect to the treatment: sleep duration decreased and time in the toilet again reached 30 to 60 min once a day, though without crying tantrums. Sertraline was increased to 200mg/day. Clonazepam reached 3 mg per day with a stabilization of symptoms and a decision was made to discharge the patient. After 30 days of treatment associating sertraline 200mg/day, olanzapine 15mg/day, and clonazepam 3mg/day, the score on the Children's Yale-Brown Obsessive Compulsive Scale was 16 (Obsession subtotal score: 10, Compulsion subtotal score: 6) indicating a moderate severity of the disorder. CBT could be undertaken. This improvement was stable over time: after 9 months under the same medication and given regular monitoring, we noted a stabilization of symptoms, the restoration of normal social and family activities, as well as the return to school with average results. Depressive symptoms gradually decreased and criteria for depression were not completed within 7 months after her release from the hospital. There were no adverse effects on the biological, hemodynamic or neurological levels apart from sedation with a delayed and difficult morning awakening.

## DISCUSSION

### Top of Form

The case presented is in accordance with literature reports of a late diagnosis of OCD in young people. In fact, authors (Valleni-Basile et al. 1994, Walitza et al. 2001) have reported that OCD may be under-diagnosed among children and adolescents because they often prefer to remain silent for fear of being judged. For this reason, families are slow to see the symptoms, and they become noticeable only when the symptoms become serious. It is common that a diagnosis is made several years after the first symptoms; parents then deal with other difficulties like temper tantrums, learning difficulties, and depression. That was the case of our patient who presented a severe OCD in accordance with the CY-BOCS (Goodman et al. 1993, March et al. 1997).

Sertraline was chosen because of its documented effectiveness in children with OCD (March et al. 1997, March et al. 1998) and because of Marketing Authorization. Based on their superior safety and tolerability, SSRIs are the

preferred option for treatment in most cases (Abramowitz 2005). However, the treatment effect is usually described to be gradual and partial and many patients fail to respond adequately to first-line treatment (Fineberg and Gale 2005). Augmentation by a second generation antipsychotic consisted of a neurotransmitter combination strategy to obtain an antidopaminergic effect, as increased dopaminergic neurotransmission is involved in OCD (Stahl 2004). This option was based on symptoms severity (Bystritsky 2004) requiring a major tranquilization, and the promising results of the use of olanzapine in adults (Weiss et al. 1999, Stahl 2004). However, even though drastically exacerbated by treatment drop out, symptoms were moderately enhanced by this association. One can note that OCD was extremely severe and that most of the children included in double blind controlled studies experienced moderate OCD symptoms (Abramowitz 2005).

The efficiency of clonazepam as an augmentative treatment in adult OCD is still controversial (Hollander et al. 2003, Bystritsky 2004, Bandelow et al. 2008). The benefit in childhood-onset OCD still requires study but case reports do support its utility (Leonard 1994). Clonazepam is a benzodiazepine with anxiolytic properties. It functions primarily by enhancing the activity of GABA, the principal inhibitory neurotransmitter in the central nervous system but it also has serotonergic effects. Clonazepam, like other benzodiazepines, reduces nonspecific anxiety symptoms associated with OCD. It is the only benzodiazepine which has demonstrated specific effectiveness on OCD symptoms. The specific effectiveness of clonazepam in OCD can be explained by the serotonin (5HT) biological hypothesis for this disorder (Stahl 2004). This hypothesis is based on the positive effect of antidepressants (tricyclics as well as SSRIs) with serotoninergic effects on OCD symptoms in both adult and childhood-onset OCD (Kalra and Swedo 2009) in comparison with several non-effective antidepressant medications with less potent inhibitory effects on serotonin reuptake. This serotoninergic mechanism was strengthened by the positive correlations between improvement in OCD symptoms during clomipramine treatment and the decrease in serotonin metabolite 5-hydroxyindoleacetic acid and platelet 5HT concentration in the cerebrospinal fluid of the (Stahl 2004). This effect was attributed to a serotonergic system upregulation mediated by clonazepam providing more specific anti-obsessional effects (Leonard et al. 1994, Bystritsky 2004).

## REFERENCES


American Psychiatric Association (2007) Practice guideline for the treatment of patients with obsessive-compulsive disorder. Arlington, VA: American Psychiatric Publishing, Inc.

Abramowitz JS, Whiteside SP, Deacon BJ (2005) The effectiveness of treatment for pediatric obsessive-compulsive disorder: A meta-analysis. Behavior Therapy, 36: 55-63.

Bandelow B, Zohar J, Hollander E (2008) World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for the pharmacological treatment of anxiety, obsessive-compulsive and post-traumatic stress disorders - first revision. World J Biol Psychiatry, 9: 248-312.

Bystritsky A (2004) Current Pharmacological Treatments for Obsessive-Compulsive Disorder. Essent Psychopharmacol, 5: 251-72.

Crockett BA, Churchill E, Davidson JR (2004) A double-blind combination study of clonazepam and sertraline in OCD. Ann Clin Psychiatry, 16: 127-32.

Fineberg NA, Gale TM (2005) Evidence-based pharmacotherapy of obsessive–compulsive disorder. Int J Neuropsychopharmacol, 8: 107–29.

Flament M, Delorm R (2008) Traduction française de la CY-BOCS. Echelles et questionnaires d'évaluation chez l'enfant et l'adolescent. Bouvard M. Vol 1, Elsevier Masson (Ed), Paris. p. 133-55.

Goodman WK, Rasmussen SA, Riddle MA et al (1993) CY-BOCS, dt. Bearbeitung 3. Rev. Steinausen HC.

Hollander E, Kaplan A, Stahl SM (2003) A double-blind, placebo-controlled trial of clonazepam in obsessive-compulsive disorder. World J Biol Psychiatry, 4: 30-4.

Kaufman J, Birmaher B, Brent DA (1996) Diagnostic Interview Kiddie-SADS-Present and lifetime version (KD-SADS-PL). Version 1.0. Pittsburg: University of Pittsburg Medical Center.

Leonard HL, Topol D, Bukstein O (1994) Clonazepam as an augmenting agent in the treatment of childhood-onset obsessive-compulsive disorder. J Am Acad Child Adolesc Psychiatry, 33: 792-4.

Kalra SK, Swedo SE (2009) Children with obsessive-compulsive disorder: are they just "little adults"? J Clin Invest, 119: 737–46.

March JS, Frances A, Kahn DA (1997) The Expert Consensus Guideline series. Treatment of obsessive-compulsive disorder. J Clin Psychiatry, 58(Suppl): 1–72.

March JS, Biederman J, Wolkow R (1998) Sertraline in children and adolescents with obsessive compulsive disorder: a multicentre randomized controlled trial. JAMA Psychiatry, 28: 1752–6.

Rapaport JL, Inoff-Germain G (2000) Practitioner review: Treatment of Obsessive-Compulsive Disorder in Children and Adolescents. J Child Psychol Psychiat, 41:419-31.

Stahl SM (2004) Essential psychopharmacology. Neuroscientific basis and practical Application. 2nd Ed. Cambridge: Cambridge University Press, p 257.

Valleni-Basile LA, Garrison CZ, Jackson KL (1994) Frequency of obsessive-compulsive disorder in a community sample of young adolescents. J Am Acad Child Adolesc Psychiatry, 33: 782–91.

Walitza S, Melfsen, S Jans T (2001) Obsessive-Compulsive Disorder in Children and Adolescents. DtschÄrzteblInt, 108: 173–9.

Weiss EL, Potenza MN, McDougle CJ et al (1999) Olanzapine addition in obsessive-compulsive disorder refractory to selective serotonin reuptake inhibitors: an open-label case series. J Clin Psychiatry, 60: 524–7.