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Short Communication Open Access

Ziprasidone Monotherapy for Tourette Syndrome with Comorbid ADHD

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Abbreviations: TS: de la Tourette Syndrome; OCD: Obsessive-Compulsive Disorder; PANDAS: Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infection; ADHD: Attention-Deficit/Hyperactivity Disorder; AAP: Atypical Antipsychotics; ECG: Electrocardiogram; OPD: Outpatient Department; HRT: Habit Reversal Therapy; Y-GTSS: Yale-Global Tic Severity Scale; IQ: Intelligence Quotient; DSST: Digital Symbol Substitution Test; CPT: Continuous Performance Test.

Short Communication

De la Tourette syndrome (TS), the most common childhood movement disorder, is defined by the presence of multiple motor and one or more phonic tics, with a rostral-caudal distribution, onset before age of 18, for more than 1 year with no 3-months tic-free interludes, waxing and waning course, male predominance (ratio of 3:1) and polygenetic transmission with variable penetrance [1] (SLITRK1 gene mutations were identified in some cases) [2]. It was called "maladie de tics" by Charcot [3]. Some authorities include TS in the impulsion-compulsion spectrum [4]. Some cases are related to the controversial PANDAS [5]. OCD is comorbid in 50% of cases and ADHD in 60-80% (Table 1). The infamous Coprolalia is present in only 10% and is not mandatory for diagnosis [6]. Tics are brief, stereotyped, temporarily suppressible, suggestible, semi-voluntary, and, usually preceded by a premonitory urge [7]. Tics could be classified according to semiology (Table 2). Secondary "tourettism" should be ruled out beforehand [8] (Table 3). Stimulants, the mainstay of treatment of ADHD, are notorious to exacerbate tics in TS, although this has been refuted recently and it is no longer a contraindication [9,10]. Nonetheless, great caution should be exercised when using stimulants, notably in high doses, for TS.

• ADHD
• OCD
• Low impulse control
• Affective disorders
• Sleep problems

Table 1: Comorbidities in TS.

• Simple-complex
• Motor-vocal
• Tonic-clonic-dystonic
• Motor-sensory

Table 2: Tics typology.

• Head trauma
• Von Economo's post-encephalitis lethargica
• Drugs: stimulants, levodopa, antipsychotics (tardive tics)
• ASD
• Huntington's disease
• Wilson's disease
• Neuroacanthocytosis
• Schizophrenia

Table 3: Secondary tourettism.

There is no hard and fast rule, but antipsychotics, especially atypical (AAPs), by and large, produce the most robust results controlling tics when socially-embarrassing or functionally impairing. Nonetheless, clinicians 'enthusiasm is commonly tempered by the ominous metabolic and/or neurologic syndromes subsequent to antipsychotic use. Pharmacologic options for TS are legion [11] (Table 4).

Here, we are reporting a case of adolescent TS with comorbid severe ADHD where stimulants were deleterious for tics, atomoxetine (Strattera®) was ineffective addressing ADHD, and clonidine (Catapres®) was too soporific to be tolerated. Risperidone (Risperidal®) trial was prematurely aborted due to hyperprolactinaemia and weight gain. Shift to Ziprasidone (Zeldox®) brought about significant control over tics, disruptive behaviours, but above all, meaningful improvement for the core symptoms of associated ADHD without an inherent risk for metabolic syndrome; a top priority in this population.

We assume the pharmacologic portfolio of Ziprasidone (Table 5), as D2 5HT 2A blocker with a unique SNRI activity might explain its impressive response in ADHD, akin to use of formal SNRIs, like Venlaxine (Effexor®) for ADHD [12,13]. This coupled with a benign metabolic profile might open new venues of treatment for complicated cases of TS with comorbid ADHD. Moreover, it could augment SSRIs response for concomitant OCD, if any. Large trials are definitely needed to gauge its proper placement in clinical practice. It is currently FDA-approved for10-17 years of age. QTc prolongation and torsadogenic effects were unduly exaggerated in the past [14,15]. However, we suggest a baseline ECG and subsequent monitoring with dose escalations.

A 13-year-old Kuwaiti male youngster presented to our OPD clinic for assessment of bothersome composite motor (blinking, shoulder shrugging) and vocal tics (snorting), low impulse control and ostensible scholastic underachievement. He was diagnosed as a case of TS in a private setting. He had a trial on Methylphenidate for comorbid ADHD that caused marked exacerbation of tics. Atomoxetine was tried, in lieu, but response was very sluggish over 12 weeks despite adequate dosing (1.2 mg/d) and ascertained compliance. Clonidine was then introduced, but 150 µg/d (divided on 3 doses) was too sedating and counterintuitive. When felt socially ostracised, Risperidone was instituted and up titrated to 2 mg/d. S. Prolactin soon was X3. The youngster put on more than 7% from baseline body weight. HRT was time-consuming to pursue. Neurologic consult was summoned to rule out other dyskinesias and secondary

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• Antipsychotics (haloperidol, pimozide, risperidone, ziprasidone, amisulpride…)
• DA depleters (tetrabenazine)
• α 2 agonists(clonidine, guanfacine)
• BDZ (clonazepam)
• Anticonvulsants (topiramate)
• Dopaminomimetics (ropinirole)

Table 4: Pharmacologic options in TS.

• D2 blockads
• 5HT2A,2C,1B/1D blockade
• H1 blockade
• Alfa-1 blocade
• SNRI
• 5HT1A agonism

Table 5: Pharmacologic portfolio of Ziprasidone.

causation. Y-GTSS, Vanderbilt, full-scale IQ and DSST& CPT were all administered to objectify clinical findings. We suggested a trial of Ziprasidone for tic control. ECG was done beforehand. At 80 mg/d (on 2 divided doses with meals), tics almost totally abated over 2 weeks, with dropped Y-GTSS scores. Impulsivity, as reported by both parents and teachers markedly diminished. Strikingly, scholastic performance began to improve cogently. Readminstered DSST and CPT confirmed the obvious improvement in cognitive domains. The response was well-sustained at W-4, W-8, and W-12. Efficacy of Ziprasidone in TS is well-documented in the literature [16]. Case reports of utility in ASD with ADHD-like symptoms were also reported [17,18]. With metabolic syndrome borne in mind, established efficacy for tics that could extend to ADHD, disruptive behavioural repertoire and OCD, as this case portrays, clinicians should be vigilant to use Ziprasidone in such clinical scenarios as a viable option to simultaneously address a multitude of pharmacologic targets.

References

1. Hallett M (2015) Tourette Syndrome: Update. Brain Dev PMID: 25604739.
2. Paschou P (2013) The genetic basis of Gilles de la Tourette Syndrome. Neurosci Biobehav Rev 37: 1026-39.
3. Camacho Aguilera JF (2012) Charcot and his legacy to Medicine. Gac Med Mex 148: 321-6.
4. Doumy O, Aouizerate B (2014) The OCD spectrum disorder revisited: towards a bipolar impulsion-compulsion configuration. Presse Med 43: 118-23.
5. Doshi S, Maniar R, Bonwari G (2015) Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections (PANDAS). Indian J Pediatr 82: 480-1.
6. Kobierska M, Sitek M, Gocyla K (2014) Coprolalia and copropraxia in patients with Gilles de la Tourette syndrome. Neurol Neurochir Pol 48: 1-7.
7. Kruer MC (2015) Pediatric movement disorders. Pediatr Rev 36: 104-15.
8. Mejia NI, Jankovic J (2005) Secondary tics and tourettism. Rev Bras Psiquiatr 27: 11-7.
9. Rizzo R, Gulisano M, Cali PV (2013) Tourette syndrome and comorbid ADHD: current pharmacologic treatment options. Eur J Paediatr Neurol 17: 421-8.
10. Budman CL (2014) The role of atypical antipsychotics for the treatment of Tourette's syndrome: an overview. Drugs 74: 1177-93.
11. Batterson JR, Sullivant S, Le Pichon JB (2104) A refresher on Tourette syndrome. Mo Med 111: 202-6.
12. Baca E, Azanza JR, Giner J (2005) Ziprasidone from pharmacology to clinical practice. One year of experience. Actas Esp Psiquiatr 33: 311-24.
13. Park P, Caballero J, Omidian H (2005) Use of serotonin norepinephrine reuptake inhibitors in the treatment of attention-deficit hyperactivity disorder in pediatrics. Ann Pharmacotherx 48: 86-92.
14. Zhang Y, Dai G (2012) Efficacy and metabolic influence of paliperidone ER, aripiprazole and ziprasidone to patients with first-episode schizophrenia through 52 weeks follow-up in China. Hum Psychopharmacol 27: 605-14.
15. Hasnain M, Vieweg WV (2014) QTc interval prolongation and torsade de pointes associated with second-generation antipsychotics and antidepressants: a comprehensive review. CNS drugs 28: 887-920.
16. Sallee FR, Kurlan R, Goetz CG (2000) Ziprasidone treatment of children and adolescents with Tourette's syndrome: a pilot study. J Am Acad Child Adolesc Psychiatry 39: 3292-9.
17. Duggal HS (2007) Ziprasidone for maladaptive behavior and attention-deficit/hyperactivity disorder symptoms in autistic disorder. J Child Adolesc Psychopharmacol 17: 261-3.
18. Goforth HW, Rao MS (2003) Improvement in behaviour and attention in an autistic patient treated with ziprasidone. Aust NZ J Psychiatry 37: 775-6.