

Therapeutic Aspects of Tic Disorders and OCD

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Tic Disorder

General Principles

- Individuals with mild and even some moderate tics may not need treatment at all.
- Simple, active monitoring may be all that is necessary for some individuals with mild tics.
- Indications for treatment of tics include:
 - significant distress
 - physical pain or discomfort
 - interference with social interactions
 - impairment in any aspect of educational or occupational functioning
- The first step in treatment is psychoeducation and supportive interventions.

- Parents, educators, and physicians must work as partners to advocate for optimal school environment for children with tic disorders.
- First-line treatment for mild to moderate tics is cognitive-behavioral intervention.
- Medications are usually considered only when symptoms are significant, unable to be addressed by psychotherapeutic interventions, and interfere with academic or job performance, peer relationships, social interactions, or activities of daily living.
- Pharmacotherapy for tic disorders is individualized and tailored specifically to needs of patient; the most distressing and/or impairing symptoms are targeted first.
- Goal of treatment is not to eliminate tics, but to relieve tic-related discomfort or embarrassment and to achieve a degree of control of tics that allows patient to function as normally as possible.

- Self-esteem at all times should be supported, given that most patients with tic disorders will have at least some sense of personal and emotional vulnerability.
- Early on in diagnostic process, education as to phenomenology and natural history of the tic disorders is essential.
- Clarification that patient's symptoms are not voluntary in most situations eases psychological burdens for both patients and families.
- This is especially important because families observe that tics, at times, can be suppressed.
- A balanced, healthy diet and exercise regimen may contribute to stress reduction and overall well-being.
- Caffeine and excess amounts of sugar should be minimized.

- Behavioral intervention is cornerstone of effective treatment for tic disorders.
- Containment is another cornerstone of treatment.
- Even with use of effective medications, it is rare for tics to remit completely.
- Efforts to stop the tics completely often risk overmedication.
- Use of a “tic room” or a “time out” area provides an opportunity to contain problematic tics or compulsions and to “de-stimulate.”
- Because emotional conflicts and stress frequently increase symptom intensity and frequency, time-limited withdrawal from stressful situations can be beneficial.

Behavioral Therapies

- Behavioral treatment (CBIT) is a primary intervention for mild to moderate tics when intervention is warranted.
- Habit-reversal therapy is essence of cognitive behavioral treatment.
- Components of CBIT include awareness training, competing response training, relaxation training, contingency management, social support, and relapse prevention.
- Awareness training teaches patients to identify the premonitory urges or sensations that typically precede tics, as well as to recognize the situations in which tics are likely to occur.
- Teaching a competing response to targeted tic, has been developed to prevent emergence of the tic.
- Parents: provide appropriate support and encouragement to child in practicing technique at home.

Medications

- Before initiating pharmacological treatment: PH/EX and neurological and psychiatric evaluation, height, weight, and BMI, an AIMS screening, CBC, diff, U/A, liver and thyroid tests, FBS, cholesterol and TG, ECG.
- Medication should be initiated at the lowest possible dose, and dose titration should be gradual in general.
- Most maximum doses will be low (compared to doses needed for other indications of these same medications) in Tourette disorder.
- Single medication (monotherapy) should be used initially.
- Combined pharmacotherapy when monotherapy has not been effective or has resulted in limiting adverse effects or when target symptoms include more than one disorder.

- Determining an adequate duration for a medication trial for patients with tics can be quite challenging
 - because natural history of Tourette disorder (waxing and waning of symptoms over time).
- A 1-month baseline observation period before treatment is initiated is recommended, if feasible.
- In general, it is best to wait at least several weeks after changing a dose before making any conclusions about therapeutic response.
- Comorbid conditions should be targeted aggressively because.

- **α -Adrenergic Agonists**
- First-line pharmacological treatment for patients with mild to moderate Tourette disorder.
- Clonidine should be started at 0.025 mg daily to BD for prepubertal children and increased by 0.025 mg every 5 to 14 days (generally need dosing three or four times daily).
- Adolescents can be started on 0.05 mg daily and increased by 0.05-mg increments to twice-daily dosing.
- Total daily dose typically is 0.05 mg to 0.45 mg (up to 8.0 μ g/kg).
- Common side effects include sedation, headache, dry mouth, stomachache, mid-sleep awakening, and irritability.
- More concerning is the risk of rebound increases in blood pressure, anxiety, and tics if abrupt discontinuation of clonidine occurs.

- **Neuroleptic Agents**
- Haloperidol and pimozide (Orap): FDA approved
- The decision to use a neuroleptic may be guided by both symptom severity and quality-of-life concerns.
- Side effects limit their use to second or third-line treatments.
- In general, neuroleptic agents are not recommended for mild tics.
- SGAs, are recommended as first-line treatment when a neuroleptic is indicated for moderate to severe tics.
- Risperidone equally effective as pimozide and clonidine for tic reduction.
- Additional atypical options with evidence base for efficacy include ziprasidone, olanzapine and aripiprazole.

- Haloperidol and pimozide initiated with a low dose (0.5 mg of haloperidol or 1 mg of pimozide); increments (0.5 mg of haloperidol or 1 mg of pimozide) may be added at 7- day intervals if tic behaviors remain severe.
- In most instances, 0.5 to 6.0 mg/day of haloperidol or 1.0 to 10.0 mg/day of pimozide administered over a period of 4 to 8 weeks is sufficient to achieve adequate control of tic symptoms.
- Risperidone is typically started at 0.125 to 0.25 mg daily to twice daily and titrated upward over weeks to about 1 to 2 mg daily in prepubertal children; adolescents are typically started on 0.25 mg daily to twice daily.
- Tetrabenazine, a nonneuroleptic dopamine antagonist may be useful for treatment of tics.

- **Selective Serotonin Reuptake Inhibitors**

- All of SSRIs except citalopram and escitalopram: in children with OCD.
- Although there is no evidence to support the use of the SSRIs for the suppression of tics, their use may nonetheless be warranted.
- Many Tourette disorder patients have obsessions or compulsions and neuroleptics and α_2 - agonists do not effectively alter these specific symptoms, SSRIs may be beneficial in some patients.
- Complex motor tics such as repetitive squatting and touching may be very similar to compulsive rituals.
- Efficacy likely is relatively comparable among serotonergic agents and choice typically rests with consideration of side-effect profiles.
- Addition of small doses of a neuroleptic or an atypical neuroleptic, which increases response to SSRIs, may be required.

- **Tricyclic Antidepressants**

- Clomipramine should be started at 10 to 25 mg daily for children and 25 to 50 mg for adolescents when used for the treatment of OCD.
- Some studies of desipramine have suggested potential efficacy for treatment of tics as well as ADHD symptoms in patients with comorbid ADHD.

- **Benzodiazepines**

- Some studies suggest a reduction in tics independent of anxiolytic effects.
- Doses are not established, but are often quite low.

- **Stimulants**

- There was controversy about role of stimulants in Tourette disorder and whether their use causes or exacerbates tics.
- Recent studies have demonstrated that TD patients with significant ADHD symptoms may be candidates for stimulants.
- Doses of 0.1 to 0.5 mg/kg methylphenidate: there is no significant increase in tics in patients with tic disorders; however, individual patients may experience at least a transient increase in tics.
- Combination (clonidine and methylphenidate) was more effective than placebo in reducing both tics and ADHD symptoms.
- Approach to treatment of ADHD in context of a tic disorder is to start with a methylphenidate-based stimulant, in low doses, and gradually increase, monitoring for any exacerbation of tics.

- **Atomoxetine**
- Recent study reported that atomoxetine improved both ADHD symptoms and tics in children and adolescents with comorbid ADHD and Tourette disorder (0.5 mg/kg to 1 to 1.5 mg/kg)
- **Other Alternatives**
- Opioid antagonists (naltrexone) may be an alternative for patients with self-injurious behaviors (naltrexone 25 to 75 mg/day).
- Botulinum toxin produces a temporary, reversible diminution of muscle activity, which may last weeks to months for dystonic tics.
 - There are reports of suppression of ear-wiggling tics and laryngeal tics.
- **Surgical Treatment**

Obsessive-Compulsive Disorder

General Principles

- There are two approaches for pediatric OCD: CBT based on E/RP and pharmacotherapy with SSRIs.
- Combined intervention with both CBT and SSRI might yield benefits beyond use of either of these treatments alone.
- AACAP: consider CBT or CBT + SSRI medication the first-line treatment of pediatric OCD.
- Youth who did not respond to an initial course of CBT with E/RP, extending E/RP was as effective as SSRI augmentation.
- For those who had failed an SSRI, adding CBT was superior to continuing the SSRI.

CBT with Exposure and Response Prevention

- Treatment response rates in extant CBT are high (57 to 90%).
- They consist of:
 - Exposure (placing the patient in situations that elicit anxiety related to their obsessions)
 - Response prevention (detering compulsive or ritualistic behaviors that may serve to reduce or avoid anxiety from occurring)
 - Cognitive therapy (training patient to identify and reframe anxiety-provoking cognitions)
- The first step of treatment is psychoeducation about OCD and E/RP.
- To understand rationale for exposure to fear and restraint from anxiety-reducing compensatory behaviors (child/parents)

- Next, a “fear hierarchy” is developed rank ordering symptoms.
- Following this, patients are systematically exposed to feared situations (least feared first) while being instructed not to engage in their ritualistic behavior.
- Over repeated exposures, associated anxiety dissipates through process of autonomic habituation.
- It is recommended that treatment of child OCD be conducted in vivo and in context of family in order to promote generalization.
- Cognitive strategies are utilized with pediatric patients (Child’s age, cognitive functioning, and insight into nature of his OCD).
- Parental involvement (especially for younger children)

Pharmacotherapy

- FDA approved medications for pediatric OCD: clomipramine, fluoxetine, sertraline, fluvoxamine.
- Citalopram and escitalopram are also used for pediatric OCD, but RCT data is scant.
- SSRIs are first-line medication for pediatric OCD (side effects).
- SSRIs are equally efficacious in children and choice should be based on medical history, concomitant medications, and adverse events.
- Poor response to one SSRI is not predictive of failure with other SSRIs (adequate trials of multiple SSRIs indicated before augmentation).
- Significant response is unlikely within first few weeks of taking SSRI (10-12 weeks at adequate dosage is necessary to evaluate efficacy).

- Clomipramine is a second- or third-line treatment choice and should not be used until sufficient trials of CBT with E/RP, two or more SSRIs, and combination CBT with SSRI therapy have been attempted.
- **Combination treatment**
- Combined treatment proved superior to CBT alone and to medications alone.
- Combined treatment may be the option of choice.

Effect size	Dose	Adolescence	Preadolescence	Drug
1	50-200	25	6.25-25	Clomipramine
2	10-80	10-20	2.5-10	fluoxetine
5	50-200	25-50	12.5-25	sertraline
4	50-300	25-50	12.5-25	fluvoxamine
3	10-60	10	2.5-10	paroxetine
?	10-60	10-20	2.5-10	citalopram

Augmenting strategies for partial responders

- 40-50% of children: only a partial response to initial SSRI treatment
- In pediatric cases that are unresponsive to CBT and trials with 2 OR 3 SSRIs or one SSRI and clomipramine monotherapies, pharmacological augmentation may be considered.
 - Minimum of 10 weeks of SSRI or clomipramine at maximum recommended (or tolerated) doses.
 - CBT non responder : any improvement after 8–10 total sessions
- There is support for SSRI augmentation with atypical antipsychotics for refractory OCD in adult patients (haloperidol, risperidone, aripiprazole may be useful; studies do not show benefits with olanzapine or quetiapine).
- Clonazepam used in combination with SSRIs in several small trials

- NAC: significant benefit using 1200–2400 mg/day, in adult OCD.
- In spite of the major advances in drug treatment, at least 10% of the OCD population remains severely affected.
- In adults, for extreme cases there is an option for neurosurgical procedures (not appropriate for children)
- Transcranial magnetic stimulation, have not proved effective in treatment of adults and children.

Maintenance treatment

- OCD is frequently a chronic disorder and long-term maintenance therapy should be anticipated (6 months following full remission).
- Gradual dose reductions: to avert withdrawal reactions when discontinuing drugs with shorter half-lives (fluvoxamine sertraline).



Thank

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