Chronic Impulsive Aggression in Child and Adolescent Psychiatric Disorders Age 6-17 Years

Level 0

1. Conduct a thorough initial evaluation and diagnostic work-up for aggression and any potentially underlying disorder before initiating treatment.
2. Assess treatment effects and outcomes with standardized measures, such as the Modified Overt Aggression Scale (MOAS) is highly encouraged.
3. When acute aggression is present, conduct a risk assessment and, if necessary, consider referral to a psychiatrist or an emergency department for evaluation.
4. Continuously track and re-assess aggression problems and triggers.
5. Obtain additional collateral information as needed.
6. Provide psychoeducation for patients and families.
7. Develop an appropriate treatment plan with the patient/family and obtain buy-in.
8. Help the family establish community supports.

Level 1

- Initial medication treatment should target the underlying disorder(s) (when available, follow evidence-based guidelines for the primary disorder).
- Always treat ADHD fully first before addressing aggression with other pharmacologic agents.
- Engage the child and family in taking an active role in implementing psychosocial strategies and help them to maintain consistency with psychosocial, psychoeducational and other evidence based treatments interventions.

Level 2

- Re-evaluate if Level 1 interventions are not successful.
- Consider adding an antipsychotic medication to ongoing psychosocial treatments, taking into account the latest available evidence on efficacy and safety of individual agents, if severe aggression persists following an adequate trial of treatments for the underlying disorder (including psychosocial treatments).
- Risperidone or aripiprazole are recommended at low doses.
- Use recommended titration schedules and deliver medication trial at adequate dose and duration before changing or adding medication. Before changing, make sure that medications have been administered for an appropriate dose and duration and that adequate psychosocial interventions addressing adherence have been implemented. Monitor and manage adverse effects and non-response.

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Level 3

- If failure to respond to Level 2, or insufficient response, try a different antipsychotic (either risperidone or aripiprazole).
- Consider other antipsychotic for which less evidence exists.

Level 4

- Avoid using more than 2 psychotropic medications for aggression simultaneously, unless all possible alternatives have been exhausted, especially the combination or intensification of psychosocial interventions in conjunction with a single medication for aggression (manage comorbidities appropriately).
  - For a partial response to an initial first-line antipsychotic, consider augmentation with a mood stabilizer (most evidence exists for lithium).
  - When patient responds only partially to a first-line antipsychotic medication, first reassess the diagnosis, adequacy of behavioral interventions, pharmacotherapy for any identified primary or comorbid disorder, and dose/duration of the medication trial. Then, it may be appropriate to consider adding a mood stabilizer.
  - Combination of a mood stabilizer with atypical antipsychotic, but not of two antipsychotics (unless during cross-titration or plateau switch).

General Procedures:

- Conduct side effect and metabolic assessments and laboratory tests that are clinically relevant, comprehensive, and based on established guidelines.
- Provide accessible information to parents and families about identifying and managing side effects.

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Assessment	Baseline	Each Visit	During Titration at Target Dose	At 3 Months	3 Monthly	6 Monthly	Annually
Personal and family medical history (a)	✔	—	—	—	—	—	✔
Lifestyle behaviors (b)	✔	✔	—	—	—	—	—
Sedation/somnolence	✔	✔	—	—	—	—	—
Height, weight (calculate BMI percentile, BMI z score)	✔	✔	—	—	—	—	—
Sexual/reproductive dysfunction	✔	—	✔	✔	✔	—	—
Parkinsonism (SAS or ESRS), Akathisia (AIMS or ESRS)	✔	—	✔	✔	—	—	✔
Fasting blood glucose, HbA1C and lipids (c)	✔	—	—	—	—	✔	—
Tardive dyskinesia	✔	—	—	—	—	—	✔
Blood pressure and pulse	✔	—	✔ (during titration with CLO and QUE)	✔	—	—	✔
Liver function tests	✔	—	—	—	—	—	✔
Electrolytes, full blood count, renal function	✔	—	—	—	—	—	✔ (more frequent blood counts if on clozapine)
Prolactin	Only if symptomatic (d)	—	Only if symptomatic (d)	Only if symptomatic (d)	Only if symptomatic (d)	Only if symptomatic (d)	Only if symptomatic (d)
EKG	Only if symptomatic (e)	—	Only if symptomatic (e)	Only if symptomatic (e)	Only if symptomatic (e)	Only if symptomatic (e)	Only if symptomatic (e)

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AIMS: Abnormal Involuntary Movement Scale; ESRS: Extrapyramidal Symptom Rating Scale; SAS: Simpson Angus rating Scale.

[a] Including components of the metabolic syndrome (obesity, arterial hypertension, diabetes, dyslipidemia), past medical history for coronary heart disease or coronary heart disease equivalent disorders (i.e., diabetes mellitus, peripheral arterial disease, abdominal aortic aneurysm, and symptomatic carotid artery disease); history of premature coronary heart disease or in first degree relatives (males <55 years, females <65 years), history of premature sudden cardiac death in first degree relatives (males <50 years, females <55 years), personal history of heart murmur, irregular heartbeat, tachycardia at rest, or dizziness or syncope upon exertion, and past efficacy and adverse effect experiences in patients and/or family members.

[b] Lifestyle behaviors: diet, exercise, smoking, substance use, sleep hygiene.

[c] More frequent assessment may be necessary in high-risk patients (e.g., family history of diabetes, non-Caucasian ethnicity, BMI >95th percentile, weight gain >7% over 3 months or less, or weight gain ≥0.5 BMI z-score at any time point); HbA1C identifies different patients with pre-diabetes than fasting glucose.

[d] In case of symptoms or signs of sexual dysfunction (amenorrhea, oligomenorrhea, gynaecomastia, galactorrhea, hirsutism, erectile dysfunction); draw fasting in the morning and approximately 12 hours after the last antipsychotic dose. Some authors recommend assessment at baseline and after titration due to the unclear effects of asymptomatic long term hyperprolactinemia in children and adolescents (Ho et al. J Can Acad Child Adolesc Psychiatry 2011).

[e] In case of family history of sudden cardiac death in first degree relatives (males <50 years, females <55 years) or prolonged QT syndrome, or personal history of heart murmur, irregular heartbeat, tachycardia at rest, or dizziness or syncope upon exertion; or in case of co-treatment with another QTc prolonging medication (**http://www.azcert.org/medical-pros/drug-lists/bycategory.cfm#**).

Not Recommended:

- Use of medication without concurrent psychosocial treatments.
- Not recommended: Olanzapine(Zyprexa) and Olanzapine/fluoxetine (Symbiax) as first or second-line agent, or in patients who are overweight/obese (>/=85th percentile) and/or dyslipidemia or hyperglycemia.