Autism, Asperger syndrom and Attention Deficit Hyperactivity Disorder.

dr n. med. Urszula Grata-Borkowska
Wroclaw Medical University,
Department of Family Medicine
Autism spectrum disorders (ASD):

- Autism spectrum disorder is a biologically based neurodevelopmental disorder characterized by impairments in two major domains:
  1) deficits in social communication and social interaction and
  2) restricted repetitive patterns of behaviour, interests and activities.

(Carolyn)
social-interaction difficulties,
communication challenges,
a tendency to engage in repetitive behaviors.
Every child on the autism spectrum has problems, at least to some degree, in the following three areas:

- Communicating verbally and non-verbally
- Relating to others and the world around them
- Thinking and behaving flexibly
Autism spectrum disorders:

- Taken together, they may result in relatively mild challenges for someone on the high functioning end of the autism spectrum.
- For others, symptoms may be more severe, as when repetitive behaviors and lack of spoken language interfere with everyday life.
Autism spectrum disorder:

- The signs and symptoms of autism vary widely, as do its effects.
- Some children with autism have only mild impairments, while others have more obstacles to overcome.
Autism spectrum disorders:

- The basic symptoms of autism are often accompanied by other medical conditions and challenges (for example epilepsy and mental impairment).
Prevalence ASD:

ASD is approximately four times more common in males than females. (Marilyn Augustyn)
Associated conditions:

- A number of medical, genetic and neurodevelopmental conditions are associated with ASD.
- Intellectual disability is present in approximately 40-50 percent of cases.
The most common associated genetic disorder include:

- Tuberous sclerosis complex
- Fragile X
- 15q chromosome duplications/triplications
- 15q deletions (ie, Angelman syndrome)
- Rett syndrome
- Smith-Lemli-Opitz syndrome
The most common associated genetic disorder include:

- Various metabolic conditions including (e.g., mitochondrial abnormalities, cerebral folate deficiency, disorders of creatine transport or metabolism, sulfation defects, among others)

- Others: Other chromosomal "hot spots" include chromosome 1, 2, 3q, 5p, 7q, 11q, 12q, 13q, 16p, 17, 18q, 21p, 22q, and X. (Marilyn Augustyn)
The pathogenesis of ASD is incompletely understood. The general consensus is that ASD has genetic etiology which alters brain development and leading to restricted interests and repetitive behaviour.
Diagnosis:

- The diagnosis of ASD is made clinically, based upon the history, examination, and observations of behaviour.
Diagnosis:

- It should be suspected in children with abnormalities in:
  - social interaction,
  - social communication
  - restricted, repetitive patterns of behaviour, interests and activities.
Diagnostic tools:

- **M-CHAT** (Modified Checklist for Autism in Toddlers).
- The Gilliam Autism Rating Scale
- The GARS-3
- The Autism Diagnostic Interview-Revised (ADI-R)
Diagnostic tools:

- The Childhood Autism Rating Scale
- The Autism Diagnostic Observation Schedule
- The Autism Diagnostic Observation Schedule - Toddler Module.
Differential diagnosis:
- Global developmental delay/intellectual disability
- Social (pragmatic) communication disorder
- Developmental language disorder
- Language-based learning disability
- Hearing impairment
Differential diagnosis:

- Landau-Kleffner syndrome
- Rett disorder
- Severe early deprivation/reactive attachment disorder
- Anxiety disorder
- Obsessive - compulsive disorder.
Differential diagnosis:

- A comprehensive history is the best tool, although sometimes ancillary tests are necessary. (Marylin Augustyn)
Role of primary care provider:

- The most important thing the primary care clinician can do is to listen to the parents and take their concerns seriously.
Role of primary care provider:

- Primary care clinicians usually seek the help of ASD specialists in making the definitive diagnosis.
ASD pharmacologic interventions:

- Psychopharmacologic intervention may be a useful adjunct to behavioral/environmental interventions in children with ASD after behavioural and educational supports have been maximized including supports to improve the child’s comprehension and ability to communicate. (Weissman)
ASD pharmacologic interventions:

- Psychopharmacologic agents do not treat autism itself and should be initiated only after educational and behavioural interventions are in place, comorbid psychiatric or medical illnesses ruled out and psychosocial/environmental stressors considered.
ASD pharmacologic interventions:

- The potential benefits and risks of pharmacologic therapy for children with ASD must be weighed on a case-by-case basis.
ASD pharmacologic interventions:

- Medications should be used to target specific symptoms that are clearly defined, and the symptoms should be measured over time (preferably using rating scales) to monitor treatment efficacy.

- It is important to periodically re-evaluate the need for continued treatment. (Weissman)
ASD pharmacologic interventions:

- Children with ASD are more sensitive to psychopharmacotherapy and more likely to have adverse effects than children without ASD.
Asperger Syndrom:

- Asperger syndrome shares some similarities with autism however a child with Asperger syndrome typically does not experience the same language and cognitive delays or other learning disabilities normally associated with autism.
Children with Asperger syndrome may:

- Have trouble detecting social cues and body language
- Appear to lack empathy for other people and their feelings. Some people can appear to be introverted and almost aloof
- **Dislike changes and in routine.**
Children with Asperger syndrome may:

- Employ a formal style of speaking using complex words or phrases despite not fully understanding their meaning.
- Be unable to recognise subtle differences in speech tone, pitch and accent that alter the meaning of others’ speech.
Children with Asperger syndrome may:

- Have difficulty when playing games which require the use of imagination
- Have limited range of interests which he or she may be very knowledgeable about
- Have poor handwriting and late development in motor skills such as catching a ball or using a knife and fork
Children with Asperger syndrome may:

- Have heightened sensitivity and become oversstimulated by loud noises, lights or strong tastes or textures.
Diagnosis of Asperger Syndrom:

- Diagnosis of Asperger syndrome can be difficult and requires a combination of the above symptoms and significant trouble with social situations.
Attention deficit hyperactivity (ADHD):

- ADHD is a disorder that manifests in childhood with symptoms of hyperactivity, impulsivity and/or inattention.
- The symptoms affect cognitive, academic, behavioral, emotional and social functioning.  
  (Kevin R. Krull)
ADHD treatment:

- It is suggested to combined medications with behavioral/psychological interventions for most school-aged children (> or =6) and adolescents who meet diagnostic criteria for ADHD.

- The goal of therapy is to reduce difficulty and improve quality of life.
ADHD treatment:

- It is suggested that medications be used as an adjunct to behavioral interventions for preschool children (four through five years) who meet diagnostic criteria for ADHD and fail to respond to behavioral interventions alone. (Kevin R. Krull)
ADHD treatment:

- However, the values and preferences of the patient and family are critical factors in deciding whether or not to initiate medication.
- The decision of families who choose to decline medication must be respected.
ADHD treatment:

- Certain criteria should be met before pharmacotherapy is initiated.
ADHD treatment:

- A comprehensive, cardiovascular-focused patient history, family history and physical examination should be completed.
- The child's baseline height, weight, blood pressure and heart rate should be measured.
ADHD treatment:

- A pretreatment baseline should be established for common side effects associated with pharmacotherapy for ADHD (e.g., appetite, sleep pattern, headaches, abdominal pain).
- Baseline sleep problems do not appear to predict stimulant-related sleep problems and may actually improve with stimulant therapy.
ADHD treatment:

- Adolescent patients should be assessed for substance use or abuse.
- Those with signs and symptoms of substance abuse should undergo evaluation and treatment for addiction before treatment for ADHD (if possible).

(Kevin R. Krull)
Choice of agent:

- In a school-aged child or adolescent, it is suggested a stimulant as the first-line agent (methylfenidat)

- However, the preferences of the patient and family must be taken into consideration.  (Kevin R Krull)
Choice of agent:

- Atomoxetine (a selective norepinephrine reuptake inhibitor) is an alternative.
- Other medications (e.g., alpha-2-adrenergic agonists) usually are used when children respond poorly to a trial of stimulants or atomoxetine, have unacceptable effects, or have significant coexisting conditions. (Kevin R Krull)
General consideration:

- The choice of the initial medication depends upon a number of factors:
  1. The duration of desired coverage (completion of homework or driving may require coverage into the evening)
  2. The ability of the child to swallow pills or capsules
  3. The time of day when the target symptoms occur
General consideration:

- The desire to avoid administration at school
- Coexisting tic disorder (use of alpha-2
  adrenergic may be warranted)
- Coexisting emotional or behavioral condition (an alpha-2-adrenergic
  agonist may be useful for patients who are over-aroused, easily frustrated, highly active, or aggressive)
General consideration:

- Potential adverse effects
- History of substance abuse in patient or household member: avoid stimulants or use stimulants with less potential for abuse (e.g., *lisdexamfetamine*, *osmotic-release preparation*, *methylphenidate patch*)
- Preference of the child/adolescent and his/her parent/guardian
General consideration:

- Expense (in general, short acting stimulants are least expensive; among long-acting stimulants, pulse formulations are less expensive than bead preparations, osmotic-release preparations, and the methylphenidate patch).
Some websites:
https://www.autismspeaks.org/science/dissemination

http://www.nationalautismcenter.org/national-standards-project/history/significant-findings/dissemination/


Thank You for Your attention!