Botox® (onabotulinumtoxinA) – Expanded indication

- On June 21, 2019, Allergan announced the FDA approval of Botox (onabotulinumtoxinA), for the treatment of upper limb spasticity in pediatric patients 2 to 17 years of age.
    - Botox was previously only approved in adults with upper limb spasticity.
    - Botox is not intended to substitute for usual standard of care rehabilitation regimens.
- Botox is also approved for bladder dysfunction, chronic migraine, adult lower limb spasticity, cervical dystonia, primary axillary hyperhidrosis, and blepharospasm and strabismus.
- Upper limb spasticity can interfere with movement at the joints of the upper limb and its severity can range from mild to severe muscle stiffness. Common causes of spasticity in children include cerebral palsy, traumatic brain injury, multiple sclerosis, spinal cord injury, and stroke.
- The approval of Botox for the expanded indication was based on a double-blind study in 234 pediatric patients 2 to 17 years of age with upper limb spasticity. Patients were randomized to receive Botox 3 units/kg (maximum 100 units), Botox 6 units/kg (maximum 200 units), or placebo. The co-primary endpoints were the average of the change from baseline in modified Ashworth Scale (MAS) principal muscle group score (elbow or wrist) at week 4 and week 6, and the average of the Clinical Global Impression of Overall Change by Physician (CGI) at week 4 and week 6.
    - The week 4 and 6 average mean change from baseline in the principal muscle group on the MAS was -1.92 and -1.87 for Botox 3 units/kg and Botox 6 units/kg, respectively, vs. -1.21 with placebo ($p < 0.05$ for both).
    - Although CGI scores numerically favored Botox over placebo, the difference was not statistically significant.
- Botox carries a boxed warning for distant spread of toxin effect.
- The most common adverse reaction (≥ 5% and > placebo) with Botox use for pediatric upper limb spasticity was upper respiratory tract infection.
- The recommended dose of Botox for treating pediatric upper limb spasticity is 3 units/kg to 6 units/kg divided among the affected muscles. The total dose of Botox administered per treatment session in the upper limb should not exceed 6 units/kg or 200 units, whichever is lower.
    - In pediatric patients, the total dose should not exceed the lower of 8 units/kg body weight or 300 units, in a 3-month interval.
    - Refer to the Botox drug label for dosing for all its other indications and additional administration recommendations.