Atropine/Pralidoxime Hydrochloride (DuoDote) 2019

Class:
❖ Atropine - Anticholinergic, Parasympatholytic
❖ Pralidoxime - Cholinesterase reactivator

Actions:
❖ Atropine - Competitively block the effects of acetylcholine, including excess acetylcholine due to organophosphate poisoning, at muscarinic cholinergic receptors on smooth muscle, cardiac muscle, and secretory gland cells and in peripheral autonomic ganglia and the central nervous system
❖ Pralidoxime - Reactivates acetylcholinesterase (mainly outside the CNS) inactivated by phosphorylation due to an organophosphate or related compound. Reactivated acetylcholinesterase hydrolyzes excess acetylcholine to help restore impaired cholinergic neural function. It is effective against nicotinic manifestations of anticholinesterase poisoning, primarily reversing paralysis of respiratory and other skeletal muscles

Indications:
❖ Symptomatic organophosphate and cholinergic poisonings
❖ Symptomatic nerve agent exposure

Dosage/Administration:
➢ HMMST
○ Atropine - 2.1mg/2-PAM - 600mg IM
○ For pediatric dosing follow HMMST pediatric drug charts

Side Effects:
❖ Muscle tightness and sometimes mild pain at the injection site
❖ Atropine - Adverse reactions include dry mouth, blurred vision, dry eyes, photophobia, confusion, headache, dizziness, abdominal pain, urinary retention, CNS excitation, tachycardia, and palpitations, flushing
❖ Pralidoxime - Adverse reactions include blurred vision, dizziness, diplopia, headache, nausea/vomiting, slight tachycardia, increased blood pressure, muscle weakness, hyperventilation. Most of these symptoms occurred when given by mistake in the absence of organophosphorus poisoning

Contraindications:
❖ None in the presence of life-threatening poisoning by organophosphate nerve agents

Precautions:
❖ Ideal when given before agining of the inhibited enzyme occurs, as pralidoxime will be ineffective
❖ When atropine and pralidoxime are used together, the signs of atropinization may occur earlier
❖ Monitor blood pressure due to know temporary hypertensive effect of pralidoxime
❖ Atropine induced inhibition of sweating can, in a warm environment or with physical exertion, lead to hyperthermia and heat injury
Protocol Reference:

❖ HMMST - Organophosphates, WMD Nerve Agent, Sarin, VX, Coumaphos