



To: ALL HEALTH CARE PROVIDERS including Physicians and Nurses
From: Ron Kirschner, MD
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Subject: Neuroleptic update
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- Neuroleptics (also known as antipsychotics) were historically used to treat schizophrenia.
- Newer “atypical” neuroleptics (clozapine, quetiapine, olanzapine, risperidone, ziprasidone, paliperidone, aripiprazole) are increasingly being prescribed for other psychiatric problems such as depression and bipolar disorder. Overdose with these drugs has become more common.
- The hallmark of neuroleptic toxicity is CNS depression, which can be profound.
 - Patients are typically tachycardic and hypotensive. QTc may be prolonged (except olanzapine). Dystonic reactions (especially with risperidone) and seizures are sometimes seen.
 - Some (clozapine, quetiapine, olanzapine) are anticholinergic and patients may be delirious.
- Treatment is primarily supportive care which may include IV fluids, cardiac monitoring, electrolyte repletion, and intubation if not alert enough to maintain/protect the airway.
 - Treat with benzodiazepines for seizure and benztropine or diphenhydramine for dystonic reaction.
- Neuroleptic malignant syndrome (NMS) is a potentially life threatening complication that is less common with the newer atypicals than with older neuroleptics such as haldol.
 - NMS most often develops gradually (days) after a neuroleptic has been started or its dose increased. NMS is only occasionally seen after acute overdose.
 - Patients with NMS have altered mental status, autonomic instability, “lead pipe” muscle rigidity, and hyperthermia. Most have elevated CK.
 - Treatment of NMS is also mainly supportive: withdrawal of the offending drug, cooling, benzodiazepines, and sometimes mechanical ventilation with paralysis. Because neuroleptics are dopamine antagonists, NMS is sometimes treated with dopamine agonists such as bromocriptine.
 - Dantrolene has been used but benefits over supportive care are unclear

Reference: Minns AB. Toxicology and overdose of atypical antipsychotics. *J Emerg Med* 2012; 43: 906.

Our trained staff of nurse specialists in poison information and physician toxicologists is available 24 hours a day to answer your questions.



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