Methylene Blue & SSRI’s: A Risky Life-Threatening Drug Interaction

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Background

Methylene Blue, like many drugs, is used in time-sensitive environments like the Operating Room, Critical Care Unit, and Emergency Department without involvement of a Pharmacist and without screening for potential drug interactions. We surveyed hospitals in Washington with Cardiothoracic Surgery programs to:

- Examine knowledge about this drug interaction,
- Search for screening methods to prevent the interaction, &
- Increase knowledge about the interaction

WA State Study
None of the 16 hospitals we contacted were aware of the interaction between Methylene Blue and serotonergic agents. None used screening methods to identify the use of serotonergic agents prior to administration of Methylene Blue.

Recommendations
Pharmacists, Emergency Physicians, Cardiologists, Surgeons, Anesthesiologists, & nurses should incorporate screening for serotonergic drugs in patients before administering Methylene Blue.

Serotonin Syndrome / Serotonin Toxicity

Addition / increased dose of serotonergic agent with:
- Neuromuscular dysfunction - Myoclonus, tremors, chills, rigidity, hyper-reflexia, ataxia, akathisia
- Mental status changes - Agitation, hypomania, anxiety, confusion, obtundation, coma
- Autonomic dysfunction - Hyperthermia, tachycardia, diaphoresis, flushing, mydriasis
- Symptoms not due to a psychiatric disorder, infectious, toxic-metabolic, endocrine or neuroleptic cause.

Multiple scoring systems & continuum of severity from mild to moderate to severe toxicity.

Severe serotonin syndrome or serotonin toxicity may require multiple agents acting at multiple sites.

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References
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