Serotonin Syndrome Associated with Metaxalone and Venlafaxine

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Abstract

Introduction: Metaxalone is commonly prescribed muscle relaxant. However, due to its proposed mechanism of action involving serotonergic activity, it can interact with drugs having similar pharmacological activity instigating a potentially deadly set of symptoms identified as serotonin syndrome. Methods and Results: This is a case report of a 65-year-old male with a history of cryptogenic cirrhosis who was prescribed metaxalone while on the antidepressant venlafaxine, a serotonin and norepinephrine reuptake inhibitor, which resulted in serotonin syndrome. The patient was intubated to protect his airways and his symptoms were managed with supportive care resulting in stabilization of his condition. Case Presentation: This case report highlights how unexpected drug-drug interactions can result in life-threatening situations. Therefore, stressing the importance of a thorough medical history, including the types of drugs in use. In this case, the patient’s history was noted secondary to metaxalone and venlafaxine combination. Prescribers and patients taking serotonergic drugs should be aware of potential drug interactions that may result in serotonin syndrome when started on metaxalone. Discussion: Serotonin Syndrome (SS) is a life-threatening pharmacological reaction that is caused by increased serotonergic activity in the nervous systems via multiple mechanisms such as increased serotonin synthesis, decreased serotonin metabolism, or inhibition of serotonin reuptake. SS is characterized by 1. Severe symptoms include hypertension, tachycardia with possible shock, agitation with delirium, muscular hypertonia with body temperature over 38°C and either ocular clonus or inducible clonus 2. Moderate symptoms include tachycardia, hypertension, hyperthermia with core temperature as high as 40°C, tremor and hyperreflexia 3. Mild symptoms include tachycardia, shivering, diaphoresis, and mydriasis. SS is often underdiagnosed and underreported. Here we report the case of a 65-year-old male with a history of cryptogenic cirrhosis who presented to the emergency room for SS after taking metaxalone and venlafaxine. The patient presented with inducible clonus, agitation and diaphoresis; fulfilling the criteria for SS. The patient was treated via supportive care and gradually recovered to neurologic baseline and was discharged to rehabilitation in stable condition. SS is a serious and potentially life-threatening condition. It is important to identify early signs of SS to initiate treatment rapidly. SS occurs when there is an increased awareness about these adverse drug reactions, there would be increased caution and prescribers and patients should be educated about the risks of SS. Conclusions: This is a case report of a 65-year-old male who presented with serotonin syndrome secondary to metaxalone and venlafaxine drug interactions. SS results from the weak activity of metaxalone, combined with the SSRIs. The patient was treated via supportive care and gradually recovered to neurologic baseline and was discharged to rehabilitation in stable condition. The purpose of this case report is to raise awareness when treating patients with history of chronic pain syndrome and depression and in management of pain, especially in the elderly population. By increasing awareness, prescribers should be more cautious of ordering metaxalone for pain relief in patients with history of depression and on SSRIs or SNRIs to avoid harmful drug reactions such as SS. It is also important to identify early signs of SS to initiate treatment rapidly. At all the same time patients should also be aware when taking muscle relaxants and anti depressants together as the combinations of the two drugs can be life threatening.

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