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Interaction Between Sugammadex and Hormonal Contraceptives

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Dear Sir,

The approval of sugammadex in Europe in 2008 led to a paradigm shift in the reversal of aminosteroid-induced neuromuscular blockade. When compared to neostigmine, sugammadex has the ability to reverse any depth of rocuronium-induced blockade and carries a far more favorable side effect profile. Today, these characteristics have made sugammadex a commonly used muscle relaxant reversal agent.

Sugammadex has a novel mechanism of action. It acts by directly encapsulating aminosteroid neuromuscular blockers, thereby reducing free drug levels in the plasma. This creates a concentration gradient leading to drug release from the neuromuscular junction into the plasma where it is encapsulated. The end result is a reduction in the amount of drug at the neuromuscular junction.

In addition to binding aminosteroid neuromuscular blockers, sugammadex also binds endogenous compounds with a similar steroid structure, such as hormones and hormonal contraceptives.

The administration of a bolus dose of sugammadex is considered to be equivalent to missing a dose of an oral or non-oral contraceptive containing an oestrogen or progesterone (this includes oral contraceptives and any implantable devices).

To negate the potential for unwanted pregnancy and taking into account poor verbal recall post-operatively we have introduced an information leaflet for women taking oral and non-oral contraceptives. The leaflet explains that if the patient has taken a combined (pill) or progesterone only (mini pill) oral hormonal contraceptive, and has received sugammadex following surgery, it should be considered equivalent to a missed dose of contraceptive, thus it is advised to use a barrier method of contraception for 7 days. Patients using implantable hormonal contraceptives (mirena, coil, vaginal ring, injection implant etc) should use a barrier method of contraception for 7 days following administration of sugammadex post anaesthesia. In addition, we ran educational sessions for staff to highlight the potential safety risk of this interaction.

These simple interventions should address the patient safety risks posed by this interaction and lead to greater patient satisfaction.

References:

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