

TITLE: INFLUENCE OF H2 BLOCKERS ON DURATION OF VECURONIUM NEUROMUSCULAR BLOCKADE IN POSTPARTUM PATIENTS VERSUS NON-PREGNANT CONTROLS

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Introduction. Vecuronium bromide is an intermediate-acting muscle relaxant which is largely excreted unchanged by the hepatobiliary system. Its short duration of action should make it useful for procedures such as postpartum tubal ligation.¹ These patients often receive H2 blockers for premedication to reduce gastric acid secretion, and these drugs have been reported to increase the duration of some medications dependent on hepatic elimination.² We examined the duration of vecuronium after premedication with H2 blockers in postpartum patients versus nonpregnant controls.

Methods. We studied the clinical duration of vecuronium in four groups of ten patients each. Group 1 was a nonpregnant female control group undergoing gynecologic survey who received no premedication. Groups 2-4 were postpartum patients receiving as premedication either no H2 receptor blocker (group 2), 150 mg. ranitidine PO the morning of surgery (group 3), or 300 mg cimetidine PO the morning of surgery (group 4). All patients received preoperative metaclopramide and Bicitra, a N₂O/narcotic anesthetic technique, and 0.1 mg/kg vecuronium for relaxation. Neuromuscular blockade was monitored by peripheral nerve stimulator using time to return of fourth twitch as clinical duration.³ Clinical duration was compared between the four groups using analysis of variance.

Results. There was no significant difference in duration of vecuronium neuromuscular blockade in postpartum patients receiving either ranitidine, cimetidine, or no H2 blocker. However there was a significantly prolonged block in all three groups of postpartum patients when compared to the nonpregnant control group (p<.001).

	Non-preg	Postpartum no premed	Postpartum, ranitidine	Postpartum, cimetidine
Duration (min)	35.3 ±8.4	57.2* ±9.9	54.0* ±12.9	63.0* ±17.6

Discussion. The clinical duration of vecuronium in postpartum patients was unaffected by the use of either H2 blocking agent, but was over 50% longer than non-pregnant controls. It has recently been reported that in pregnant rabbits the ED50 of vecuronium is decreased by one-half as compared to nonpregnant rabbits, with recovery time being significantly prolonged.⁴ The longer duration of neuromuscular blockade in postpartum versus non-pregnant patients will be clinically important in short surgical procedures, and suggests the level of neuromuscular blockade should be closely monitored with a nerve stimulator.

References.

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