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Dual effect of phenylephrine to improve coronary perfusion during anaphylaxis management

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Adrenaline, the drug of choice in anaphylaxis may produce side effects like tachycardia resulting in impaired coronary perfusion in the setting of severe hypotension. In this situation, Phenylephrine was used to improve coronary perfusion by increasing coronary flow time from reflex bradycardia and an increase in coronary perfusion pressure resulting from an overall increase in systemic blood pressure. We describe a situation where at the end of an elective high anterior resection for colovesical fistula, immediately after administering reversal agents (neostigmine and glycopyrrolate); there was severe hypotension with systolic blood pressure of 40 mmHg unresponsive to ephedrine and metaraminol. Adrenaline boluses resulted in tachycardia with marked ST segment elevation and slight increase in blood pressure. Intravenous Phenylephrine 100 mcg bolus was given, repeated twice over a period of 15 minutes which reduced the heart rate from 130 to 100 beats per minute as well as increased the blood pressure with ST segment returning to baseline. ANZAAG guidelines were followed to maximize management and team efficiency during and after the crisis and resulted in an uneventful recovery. A 10-fold increase in serum tryptase confirmed anaphylaxis. Anaphylaxis to reversal agents (neostigmine and glycopyrrolate) is rare and in this situation, it was complicated by ECG evidence of tachycardia induced ST segment elevation after administration of 2 doses of 100 mcg increments of adrenaline with only small increase in blood pressure. Phenylephrine improved the myocardial perfusion and blood pressure. We recommend that Phenylephrine should be considered in the presence of adrenaline induced tachycardia to improve myocardial perfusion during anaphylaxis management.

Biography

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