CLEVIDIPINE IN PHEOCROMOCYTOMA SURGERY

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Background: Pheochromocytoma is a catecholamine producing tumor whose treatment is laparoscopic adrenalectomy. There is a risk of hypertensive crises during pneumoperitoneum insufflation and tumor manipulation, due to the release of catecholamines. Patients usually present arterial hypotension after tumor exeresis, due to relative vasodilatation and the residual effect of the antihypertensive drugs used before. It is important to control hemodynamic parameters with fast, effective and reversible drugs.

Cases report: C1: 36-year-old man, with Neurofibromatosis type 1, diagnosed due to metanephrines determination. Premedication: nifedipine retard. C 2: 55-year-old woman diagnosed due to recurrent hypertensive crises. Premedication: doxazosin, nifedipine and propranolol. C 3: 73-year-old man diagnosed due to epigastric palpitations and tremors. Premedication: nifedipine. On entering the operating room, every patient was hemodynamically stable. Patient 1: Hypertensive peak with blood pressure (BP): 279/122 mmHg during the tumor manipulation (Figure 1). Clevidipine perfusion was started up to 16 ml/h (8mg/h) at that moment, normalizing BP in a few minutes. After the tumor resection, the perfusion was stopped, remaining stable.

Patients 2 (Figure 2) and 3 (Figure 3) received Clevidipine at 2 ml/h from the beginning of the surgery, despite being normotensive. Both presented hypertensive peaks up to 180/85 mmHg during the tumor manipulation, resolved in a few minutes with an increase of the perfusion up to 20 ml/h (10 mg/h). After the tumor excision, Clevidipine was stopped and both of them had temporary episodes of arterial hypotension, that were resolved in a few minutes with fluid therapy by objectives. Any patient required vasopressors

Figure 1

Figure 2

Figure 3

Discussion: Clevidipine is an intravenous calcium antagonist with rapid onset, short half-life, minimal effect on heart rate and myocardial oxygen consumption, dose-dependent and linear effect, metabolized by plasma esterases. It does not require dose adjustment by weight, renal or hepatic function. It has not residual hypotensive effect after tumor resection.

Learning point: Clevidipine could be an antihypertensive drug of choice in pheochromocytoma from the beginning of the surgery.