

The effect of fenoldopam on the blood pressure of the rat

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1. Fenoldopam mesylate, a benzazepine derivative, is a D1 receptor agonist that lowers blood pressure through vasodilation of renal, mesenteric, coronary and cerebral vascular beds. 2. Experiments were performed in rats, and mean carotid blood pressure and heart rate were registered. Two series of experiments were performed: (1) fenoldopam as control group and (2) fenoldopam after pretreatment with one of the following drugs: the D1 antagonist SCH 23390, the D2 antagonist sulpiride, the selective α 1-adrenergic antagonist atenolol, the selective α 2-adrenergic antagonist ICI 118.551, the nonselective α -adrenergic antagonist propranolol and the neurotoxin that destroys catecholaminergic nerve terminals 6-hydroxydopamine (6-OH-DA). 3. Fenoldopam produced a dose-dependent hypotensive effect that was not modified by pretreatment of the rat with atenolol or propranolol; however, ICI 118.551 produced a significant reduction of the hypotensive response induced by fenoldopam. 4. Pretreatment of