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Atenolol/Chlorthalidone

National Cancer Institute

Source

National Cancer Institute. *Atenolol/Chlorthalidone*. NCI Thesaurus. Code C117274.

A combination preparation composed of the adrenergic beta-1 receptor antagonist atenolol and thiazide-like diuretic chlorthalidone, with anti-hypertensive activity. Atenolol selectively binds to beta-1 adrenergic receptors in the heart and vascular smooth muscle, thereby inhibiting sympathetic stimulation. This results in a decrease in cardiac rate and muscle contractility, thereby reducing cardiac output. As a diuretic, chlorthalidone directly inhibits sodium and chloride reabsorption on the luminal membrane of the early segment in the distal convoluted tubule (DCT) in the kidney. This leads to an increase in sodium, chloride, bicarbonate, and potassium secretion and results in the excretion of water. Together, these agents lead to a reduction in blood pressure.