

## 6. DRUGS OF CHOICE IN HYPERTENSIVE EMERGENCY ASSOCIATED WITH ACUTE AORTIC DISSECTION



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**Introduction.** Acute aortic dissection is a hypertensive emergency that requires an immediate reduction of blood pressure (BP) by administering intravenous drug therapy. Diligent control of BP is the most crucial in order to stop the progression of dissection and prevent target organ damage.

**Aim of study.** Aim of study was to select the antihypertensive drugs recommended by international guidelines for the management of this major emergency.

**Methods and materials.** The scientific papers in the PubMed database from the last 5 years with reference to the management of hypertensive emergencies, including acute aortic dissections, were selected and analyzed.

**Results.** Studies have shown that for the management of acute aortic dissection, it is recommended to use adequate analgesia, which includes morphine as it decreases sympathetic output as well. In the absence of aortic regurgitation, the most favored agent is a beta-blocker, such as esmolol, labetalol or metoprolol, targeting a heart rate of 60-80 beats/ min and a systolic blood pressure of 100-120 mm/Hg, because the effect of beta-blockers in lowering the heart rate and blood pressure, helps to reduce the aortic wall tension and limit the extent of dissection. In patients with contraindications to beta-blockers, diltiazem and verapamil- non dihydropyridine calcium channel blockers, angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin receptor blocker (ARB), should be considered. If the systolic blood pressure remains elevated, a combination of a vasodilator such as nitroprusside or nitroglycerine and  $\beta$ -blocker is preferred.

**Conclusion.** The drug of first choice has to be a short-acting i/v beta-blocker agent, (esmolol, labetalol, metoprolol) as it is able to reduce the force of left ventricular ejection, or combined with a vasodilator in severe hypertension. The use of  $\beta$ -blockers, ACEIs, or ARBs was associated with benefits in the long- term treatment of aortic dissection.