

Acute Vasodilator Testing

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Vasodilator testing is used to determine how much the pulmonary blood vessels can relax over a brief period of time (minutes to a few hours). Its main purpose is to screen for patients who might respond favorably to calcium channel blockers, but it also has prognostic value. Patients who have significant acute vasodilator responses have a better prognosis than non-responders.

Acute vasodilator testing must be done during a right heart catheterization. Medications used to perform acute vasodilator testing include inhaled nitric oxide, intravenous epoprostenol and intravenous adenosine. Whether it should be done routinely with all right heart catheterizations or just in select cases is controversial. The American College of Chest Physicians Consensus Pulmonary Hypertension Guidelines suggest that it be done routinely, but because patients with connective tissue disease-related pulmonary arterial hypertension (PAH) and some of the other associated pulmonary arterial hypertension conditions are very unlikely to have significant acute vasodilator responses, some argue that it should be reserved for patients with idiopathic PAH. Furthermore, acute vasodilator testing could be deemed unnecessary in patients who are not going to be considered for calcium channel blocker initiation, such as those already taking them or in patients with New York Heart Association/World Health Organization Functional Class IV.

The definition of a significant acute vasodilator response has evolved over the years. The current definition endorsed by the American College of Chest Physician Guidelines consists of a drop in mean pulmonary artery pressure of at least 10 mm Hg (or 20%) to below 40 mm Hg. This definition is based on evidence from a large French registry of patients indicating that PAH patients meeting these guidelines have roughly a 50% chance of experiencing a long-term favorable response to calcium channel blockers. Even so, the overall likelihood of a long-term favorable response to calcium channel blockers among all idiopathic PAH patients is only 5 to 6%.

DISCLAIMER:

This information is for general information only. These guidelines may not apply to your individual situation. You should rely on the information and instructions given specifically to you by your PH specialist and/or the nurses at your PH Center. This information is general in nature and may not apply to your specific situation. It is not intended as legal, medical or other professional advice, and should not be relied upon as a substitute for consultations with qualified professionals who are familiar with your individual needs.