

## Literature Briefs

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Literature Briefs were submitted by Drs. T. Caldwell, R. Clark, M. Gold, M. Laver, and S. Schneider. Briefs appearing elsewhere in this issue are part of this column.

### Circulation

#### DIGITALIS AND PULMONARY BLOOD

**VOLUME** Hemodynamic values and pulmonary blood volume (PBV) were measured at the time of cardiac catheterization in 23 patients following intravenous administration of acetylstrophanthidin (total dose: 1.1–1.3 mg). PBV was defined as that volume of blood between the main pulmonary artery (PA) and the left atrium (LA) and estimated as the product of cardiac index and the mean transit time from the main PA to the LA. Left ventricular performance was evaluated by: 1) measurement of the maximum rate of rise of LV systolic pressure (LV dp/dt); 2) calculation of the LV stroke work index (LVSWI); 3) measurement of left ventricular end-diastolic pressure (LVEDP). The pulmonary distending pressure (PDP) was calculated as the arithmetic mean of the sum of PAP and LA mean pressures. According to the data it was possible to classify the patients in two groups. Group I showed decreases in LVED of 5 mm Hg or more and decreases in mean PBV from 317 ml/m<sup>2</sup> to 262 ml/m<sup>2</sup>. Group II patients responded with no change in LA pressure and, consequently, no change in PBV (304 vs. 313 ml/m<sup>2</sup>). The positive inotropic effect of acetylstrophanthidin was evident in both groups, reflected by increased LV dp/dt, slowing of the heart rate, and increased stroke index. PDP changes followed the change in PBV, which implies that the decrease in PBV following acute digitalization is a passive effect secondary to the decrease in LVEDP.

The authors conclude also that their data do not indicate a direct action of acetylstrophanthidin on the pulmonary blood vessels. (Murphy, G. W., Schreiner, B. F., Jr., and Yu, P. N.: *Effects of Acute Digitalization on the Pulmonary Blood Volume in Patients with Heart Disease*, *Circulation* 43: 145, 1971.)

#### ATRIAL PACING; DIAGNOSTIC AND

**THERAPEUTIC USES** Atrial pacing on a temporary or long-term basis is being used increasingly often for both diagnostic and therapeutic purposes. Conventional bipolar pacing electrodes can be positioned at the junction of the superior vena cava and the right atrium under fluoroscopic control or at the bedside under ECC monitoring. Diagnostically, atrial pacing provides a mechanism for easy, safe and reproducible application of a stress to the heart and the functional assessment of patients with coronary artery disease. From a therapeutic standpoint, atrial pacing is of value in the following areas: 1) termination of slow supraventricular tachyarrhythmias; 2) acceleration of heart rate in patients with sinus bradycardia and intact atrioventricular conduction; 3) suppression of ventricular irritability; 4) augmentation of cardiac output. The major problem with both temporary and long-term pervenous wires is erratic pacing. (DeSanctis, R.: *Diagnostic and Therapeutic Uses of Atrial Pacing*, *Circulation* 43: 748, 1971.) **EDITOR'S COMMENT:** The review article is highly recommended to all involved in the intra- and postoperative care of patients with heart disease. Use of pervenous atrial pacing should be considered for every patient with a slow sinus rate whenever ventricular arrhythmias or a low cardiac output are a clinical problem.