Left Heart Catheterization

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Direct puncture of the left atrium with a needle, through which a catheter can be passed, allows pressure measurements in atrium, left ventricle and aorta. This procedure is considered to be more helpful than right heart catheterization in evaluation of patients with mitral and aortic valvular lesions.

In patients with mitral valvular disease, right heart catheterization is often performed in evaluating whether or not an operation is indicated. Measurements of pulmonary arterial pressure are made during rest and exercise. The "pulmonary capillary" pressure, which is approximately the same as the pressure in the left atrium, is also measured. In many instances the form of the "pulmonary capillary" pressure curve is identical with the left atrial pressure curve. In some cases, however, the two curves show a different form. As the obstruction to blood flow is between the aorta, the left ventricle and the left atrium, more direct and significant data are then obtained for evaluation of mitral and aortic valvular disease.

**Method**

The technic has been described for the introduction of a needle paravertebrally above the posterior end of the right ninth rib and then into the left atrium. A fine plastic catheter (0.5 mm. inner diameter) is introduced through the needle, into the ventricle, and out into the aorta. This soft plastic catheter will then easily follow the blood current out into the aorta. Pressure measurements are made while the catheter is slowly withdrawn from the aorta to the left atrium. It has always been possible to introduce the catheter into the left ventricle. In one case, we could not pass the catheter into the aorta, so simultaneous pressure measurements in the brachial artery and the left ventricle were made. A Warburg-Hansen capacitance manometer was used.

**Comment**

Left heart catheterization is considered to yield more valuable information in patients with mitral and aortic valvular disease than

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The left atrium has been punctured in 50 patients. On 16 occasions, a plastic catheter was introduced and, in every case, it was possible to pass it into the left ventricle. Typical examples of the records obtained are illustrated in figures 1 and 2.

**Summary**

Left heart catheterization allows measurement of pressure in the aorta, the left ventricle and the left atrium; it is considered to be the investigation of choice in patients with mitral and aortic valvular disease.

**REFERENCES**

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