

TITLE: CLINICAL USE OF THE PA WATCH CATHETER

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INTRODUCTION: Pulmonary artery catheterization may be complicated by distal catheter migration and perforation (1). A recent modification of the catheter (PA Watch Catheter, Baxter Edwards, Santa Ana, CA), which has a lumen located 10 cm from the tip, permits on-line assessment of catheter tip location (2). Transducing a right ventricular (RV) waveform prior to balloon inflation ensures location of the catheter tip within 10 cm of the pulmonary valve. We prospectively evaluated the clinical utility of the PA Watch catheter in cardiac surgery patients.

METHODS: In 23 patients (mean age 61.4±2.3 yrs), a PA Watch catheter was positioned to transduce RV pressure through the middle lumen and to permit wedging with 1.5 ml air (Fig. 1). Pulmonary artery (distal lumen), RV (middle lumen), and central venous (proximal lumen) pressures were recorded hourly in the Intensive Care Unit. Unsuspected distal catheter migration occurred when pulmonary artery pressure was recorded by the middle lumen instead of RV pressure. Under these circumstances, the catheter was pulled back as necessary to record RV pressure.

RESULTS: Satisfactory catheter placement was obtain-

ed in 22 of 23 patients (96%). "Inability to wedge" occurred in one patient with severe pulmonary hypertension. Patients were monitored postoperatively with the PA Watch catheter for 28.4±1.9 hrs. Unsuspected distal catheter migration occurred in 12 of the 23 patients (52%). In these 12 patients, 20 episodes of distal catheter migration were found requiring catheter withdrawal of 1-6 cm.

DISCUSSION: The PA Watch catheter proved to be a useful indicator in the postoperative period of unsuspected distal catheter migration, which occurred in the majority of patients and tended to recur. The PA Watch catheter may allow more precise placement of the catheter tip in the proximal pulmonary artery and decrease catheter-induced complications.

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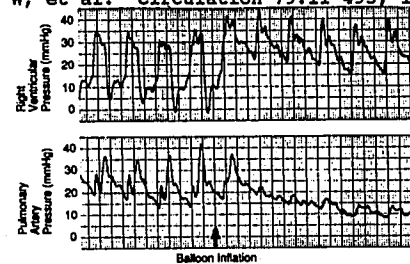


Fig. 1: Simultaneous tracings of the distal (pulmonary artery) and middle (RV) lumens during catheter balloon inflation.

A86

TITLE: DIPYRIDAMOLE THALLIUM SCAN IS NOT ACURATE IN DETECTING CORONARY STENOSES IN PATIENTS UNDERGOING ABDOMINAL AORTIC SURGERY

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Studies establishing the relationship between thallium redistribution and postoperative major ischemic events have led several authors to propose dipyridamole thallium scan (DTS) as part of the preoperative work up in patients undergoing aortic surgery. However, diagnostic utility of DTS in detecting coronary stenoses was documented only in patients with chest pain syndromes referred for coronary angiography (1). The high sensitivity that has been reported in these patients may not be found when DTS is performed in least symptomatic patients. Therefore, we evaluated the accuracy of DTS in detecting coronary stenoses in patients undergoing aortic surgery. The study was conducted in patients who were less than 61 years old, because CABG may improve the long term survival mainly in patients who are not advanced in age.

METHODS: From January 1989 to March 1990, all the 71 patients < 61 years old, admitted in our institution for aortic surgery were included in the study, except 5 patients who had a previous CABG. The approval of our ethic committee was obtained. Coronary angiogra-

phy and DTS were performed within 5 days of each other in ALL patients. After 4 minutes IV dipyridamole, 0.14 mg/kg/min, serial thallium scans were obtained using a gamma-tomographic camera. Cardiac catheterization was performed using the Sones technique and interpreted independently by two experienced observers without knowledge of DTS findings. CAD was considered significant if at least a 50% narrowing in a major coronary arterial branch was observed in 2 projections.

RESULTS: 71 patients were included in the study. Of the 28 patients with CAD, 18 patients had one-vessel disease, 7 had two-vessels disease and 3 had three-vessels disease.

CAD was clinically suspected in 13/28 patients with and in 2/43 patients without coronary stenosis. A redistribution was noted in only 12 (42%) of the 28 patients with at least a significant coronary stenosis and in 10 (23%) of the 43 patients without coronary stenosis.

Among the 49 patients who had NO redistribution at the DTS, 10 had one-vessel disease, 5 had two-vessels disease and 3 had three-vessel disease.

DISCUSSION: Our prospective study revealed that in patients scheduled for aortic surgery specificity of DTS to detect coronary stenosis is moderate and that sensitivity may be as low as 42%. This poor sensitivity must be taken into account when using DTS to discriminate those patients scheduled for aortic surgery who require further cardiac evaluation.

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