

**Morphological Diagnosis for Left Ventricular and Left Atrial
Contour by Means of RI Angiocardiography**

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The angiographic contour for left atrium and ventricle has been found to be informative to diagnose a variety of cardiac disorders, including myocardial infarction, idiopathic hypertrophic subaortic stenosis (IHSS), mitral insufficiency with various etiology, and intracardiac tumor. The scintigrams were obtained by using Anger scintillation camera whose output was recorded on the VTR with frequency modulated signals of R-wave of ECG. On the replay enddiastolic and endsystolic left ventricular images are displayed on the persistence scope and photographed on polaroid film. The detection of asynergy was made possible by superimposing enddiastolic and endsystolic images, using a grid scale of oscilloscope screen as a reference. The site of Q in ECG was well correlated with that of asynergy in left ventricular images. In forty out of 43 (93%) cases with

abnormal Q in ECG the presence of asynergy was demonstrated by RI angiographic study. In five cases with IHSS was found either thickened interventricular septum or ballerina shoes pattern in midsystolic or enddiastolic left ventricular images. Left atrial size was also measured. Normal left atrial diameter did not exceed 4.5 cm on right anterior oblique position. All patients with mitral valve disease showed enlarged left atrium. RI angiogram left atrial size was in excellent correlation with the UCG determined diameter ($r=0.87$, $p<0.01$). Furthermore intracardiac tumor was detected in patients with right ventricular and left atrial myxoma. The ECG gated RI angiocardiographic study was found to be a very useful noninvasive method for quantitating left atrial and ventricular sizes.