

عنوان مقاله:

(Right ventricular (RV) echocardiographic parameters in patients with pulmonary thromboembolism (PTE

محل انتشار:

مجله آریا آترواسکلروز, دوره 14, شماره 2 (سال: 1397)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

BACKGROUND: Acute pulmonary thromboembolism (PTE) is a common disease with a high mortality rate, and a variable and nonspecific clinical presentation. To detect the nonspecific signs and symptoms associated with this condition, several right ventricular (RV) echocardiographic parameters have been proposed as practical marker. **METHODS:** This cross-sectional study was performed on 93 patients with PTE diagnosed by computed tomography (CT) angiography, and 57 patients with negative PTE based on CT angiography. During the experiment, all patients underwent both transthoracic echocardiography (TTE) and multi-slice CT pulmonary angiography. Transthoracic echocardiography measurements were obtained as patients went through both experimental procedures. These measurements were later compared between the patients with and without PTE. **RESULTS:** Tricuspid annulus plain systolic excursion (TAPSE) (1.65 ± 0.09 vs. 2.00 ± 0.08 cm, $P < 0.001$) and left ventricular (LV) end-diastolic diameter (4.54 ± 0.26 vs. 5.40 ± 0.24 cm, $P < 0.001$) were significantly lower in patients with PTE as compared to patients without it. Whereas, RV end-diastolic and end-systolic diameters at the papillary muscle levels (3.41 ± 0.09 vs. 3.02 ± 0.12 cm, and 2.48 ± 0.08 vs. 2.16 ± 0.06 cm, respectively, $P < 0.001$ for both), and tricuspid valve (TV) annulus tissue Doppler imaging (TDI) measurements (6.02 ± 0.10 vs. 5.78 ± 0.14 , $P < 0.001$) were significantly greater in patients with PTE. On the other hand, no significant difference was found between the two groups of patients regarding pulmonary artery pressure (PAP) ($P = 0.416$), and RV fractional shortening ($P = 0.157$). Moreover, our results indicated that RV/LV (cut-off point: 0.6898) had high sensitivity (93.5%), specificity (100%), positive predicting value (PPV) (100%), and negative predicting value (NPV) (90.4%) in diagnosing PTE. **CONCLUSION:** TTE may be valuable as a substitute diagnostic method for patients with PTE. This technique may also assist in detecting the severity of the illness, by evaluating RV/LV in cut-off point of 0.6898.

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