

## **CLINICAL CRITERIA AND THE APPROPRIATE USE OF TRANSTHORACIC ECHOCARDIOGRAPHY FOR INFECTIVE ENDOCARDITIS SURVEILLANCE**

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**BACKGROUND:** Clinical guidelines recommend transthoracic echocardiography (TTE) for all patients suspected with infective endocarditis (IE). Yet TTE is not a recommended diagnostic procedure in patients with low or high probability of IE. However, TTE is usually requested for IE screening in patients with fever. Besides, endocarditis is often missed when it is not taken into consideration. We would like to find out if clinical criteria may help physicians decide whether to use TTE in endocarditis screening.

**METHODS:** Between July 2005 and June 2006, we studied 114 patients who had been referred for TTE because of suspected endocarditis in the National Cheng Kung University Hospital. By the means of direct interview and medical records review, we recorded several parameters which may suggest IE. These were as follows: embolic events, central venous access, intravenous drug abuser, presence of a prosthetic heart valve, organisms on blood culture, the existence of valvular heart disease, and immunologic phenomena. We also recorded whether there was a definite infection focus.

**RESULTS:** Evidence of endocarditis was detected by TTE in 24 of 114 patients (21.1%). In 23 patients (20.2%), both vegetation and certain specific clinical criteria were absent. The useful criteria were as follows: embolic events, intravenous drug abuser, a presence of a prosthetic valve, positive blood cultures and immunologic phenomena. The collective absence of these criteria indicated a zero probability of TTE showing evidence of IE.

**CONCLUSIONS:** When IE is suspected, a simple criteria may help physicians decide on whether to use a TTE. This will help physicians avoid unnecessary TTE examination for ruling out endocarditis. Furthermore, it may remind physicians of TTE examination for IE surveillance if several clinical criteria are met.

**Keywords:** Infective endocarditis, Transthoracic echocardiography