Should routine echocardiography be performed in all patients with stroke?

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BACKGROUND: Cardiogenic embolism accounts for 15% to 30% of ischemic strokes. Echocardiography is frequently being used as a screening test for sources of cardiac embolism in patients with stroke. However, the value of routine use of echocardiography for this task remains controversial. We evaluated the diagnostic yield of echocardiography in unselected patients with acute ischemic stroke. METHODS: Consecutive patients with ischemic stroke or a transient ischemic attack were included in the study. Transthoracic echocardiography was performed in all patients, complemented by transesophageal echocardiography in selected patients. RESULTS: In all, 807 echocardiographic examinations (743 transthoracic and 64 transesophageal) were performed in 775 consecutive patients. A potential cardiac source of embolism (CSE) was found in 144 (18%) of the patients. The most frequent potential causes of cardiac embolism included atrial fibrillation (7%) and patent foramen ovale (6%). Results were more likely to have impact on therapeutic decisions in younger patients. Numbers needed to test for detection of CSE increased 10-fold from 6 in patients younger than 50 years to 62 in patients aged 70 years and older. CONCLUSION: Echocardiography may provide important information on the cause of ischemic stroke. However, echocardiographic screening for a CSE is not warranted in all patients. In patients with younger than 50 years with stroke, echocardiography has a higher diagnostic yield and should routinely be performed. In older patients routine echocardiography results in a high rate of unspecific findings, and should be applied selectively, targeted at specific clinical questions.