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152

CLINICAL UTILITY AND PROGNOSTIC VALUE OF APPROPRIATENESS CRITERIA IN STRESS ECHOCARDIOGRAPHY FOR EVALUATION OF VALVULAR HEART DISEASE

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doi:10.1136/heartjnl-2013-304019.152

Background Appropriateness criteria for patients undergoing stress echocardiography (SE) have recently been published. We sought to

identify the clinical and prognostic value of these criteria for evaluation of valvular heart disease (VHD).

Methods 80 consecutive patients undergoing SE for evaluation of VHD were identified. A positive SE was defined according to VHD guidelines. Patients were classified into appropriate, uncertain and inappropriate categories also according to appropriateness criteria guidelines. The endpoint was the composite of valve intervention or death.

Results Of the 80 pts undergoing SE, 39 (48.8%), 33 (41.2%) and 8 (10%) were classified as appropriate, uncertain and inappropriate, respectively. A positive SE was identified in 27 (34%) pts, of which a significantly greater proportion of positive SE occurred in patients classified as appropriate 15 (56%) or uncertain 12 (44%) compared to patients classified as inappropriate 0(0%), $p<0.0001$. Over a median follow-up period of 12 m, 35 events (22 valve intervention and 13 deaths) occurred. All patients with positive SE had an event compared to 9.4% of patients with a negative SE, $p<0.0001$. Of the the prognostically important clinical and resting echocardiographic parameters the only independent predictor of events was a positive SE (HR 22.4, $p<0.0001$). There were a significantly greater number of valve interventions in patients classified with appropriate 10 (45.5%) or uncertain 12 (56%) compared to patients classified as inappropriate 0(0%), $p<0.0001$. 12 month event free survival was significantly reduced in patients with appropriate (64.1%) or uncertain studies (51.5%) studies compared to patients with inappropriate studies (100%), ($p<0.0001$).

Conclusions SE for VHD has prognostic value when incorporated into clinical practice. The Appropriateness criteria for evaluation of VHD provide the ability to differentiate between patients at high (appropriate group) and low risk (inappropriate group) of subsequent cardiac events. Re-classification of the uncertain group may improve the differential value of these criteria and improve their applicability to current clinical practice.

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