DO APPROPRIATENESS CRITERIA ADEQUATELY ASSESS THE USEFULNESS OF REPEAT ECHOCARDIOGRAMS

Background: Previous studies have reported that most transthoracic echocardiograms (TTEs) meet current ACC/ASE appropriateness criteria (AC) but applicability of AC for repeat TTEs has not been investigated. We sought to prospectively determine whether current AC accurately assess the need for repeat TTEs in a large cohort of inpatients in a tertiary care teaching hospital.

Methods: TTE indications were determined using AC for 570 consecutive TTEs, over 30 days. Ordering clinician specialty and level of training were recorded. For repeat TTE, change in clinical status (CCS) between 1st and 2nd TTE, and any change in management were documented.

Results: Out of 570 TTEs analyzed, 107 repeat (18.7%) TTEs were performed in 79 patients. Level of appropriateness for all TTEs was estimated at 84.3% and for repeat TTEs at 74.6%. Of those repeat TTEs, 44 patients (59%) experienced no detectable CCS between the previous TTE and the repeat TTE. There was no difference in the frequency of requests for repeat TTE with no CCS by ordering physician subspecialty or level of training ($\chi^2=0.57, p=0.75$). As outlined in the chart below, repeat TTE findings did not significantly alter change in management plans.

Conclusion: The overall level of appropriateness in our study mirrors the results of prior published studies. Though repeat TTE meet current AC their role in guiding changes in management is unclear. Our data suggest that current AC might benefit from a more organized conceptual framework with particular regard to repeat TTE.

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