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The Prognostic Value of Cardiopulmonary Exercise Testing in Vascular Surgery Patients

We read with considerable interest the article by Young et al. published recently in this journal.[1] The article described a systematic review of the literature relating to the use of preoperative cardiopulmonary exercise testing (CPET) in patients undergoing vascular surgery. The eight authors of this systematic review reported results from six studies (although this was stated as seven in the abstract). Of those six studies, the largest three[2–4] all reported that CPET was a useful predictor of outcome in patients undergoing abdominal aortic aneurysm repair. We note that one of these, by McEnroe and Wilson,[3] was actually a retrospective audit of 119 patients, presented in abstract form at a scientific meeting, thus fulfilling the authors' criteria for 'grey literature'. The other three peer-reviewed studies mentioned in the review were all of 30 or fewer patients and were therefore likely to lack the power to detect the influence of CPET results on patient outcome. One of the studies, Kothmann et al.,[5] did not even report outcome data and was designed as a test of inter-individual (test–retest) variability; it is difficult to understand why such a study was included in a systematic review of this nature. All of the 'grey literature' articles listed in the article (eight studies) supported the use of CPET in the setting of AAA repair. Another recent publication, not included in this review article, further advocates the role of CPET in the setting of aortic aneurysm repair, reporting that in the 185 patients in whom there was outcome data, anaerobic threshold (AT) was the only predictor of survival at 30 days, 90 days and 1 year.[6]

We found the authors' conclusion that "*CPET should not be used to guide routine practice in the absence of evidence*" in conflict with the presented results. We believe that the evidence to date suggests CPET is valuable prognostic assessment in abdominal aortic aneurysm surgery and as such merits consideration as a pre-operative investigation. Other popular perioperative practices such as the use of clinical risk scores, biomarkers and preassessment are supported by considerably less evidence.

References

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