INVITED COMMENTARY

Psoas Muscle Area and Sarcopenia - Bridging the Gap

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In this issue, Antoniou et al. report on the prognostic role of low psoas muscle area (PMA) in overall survival of patients with asymptomatic abdominal aortic aneurysms (AAAs) undergoing open and endovascular aneurysm repair.[1] Their meta-analysis of seven cohort studies concluded that patients with low PMA had a significantly higher odds of mortality compared with patients with more PMA. Therefore, the authors postulate that PMA may be used as a prognostic tool in the pre-operative risk management and stratification of patients, even considering some of the methodological challenges identified in this review. These challenges include a lack of universal thresholds for defining low PMA and substantial differences in the measurements of PMA across the included studies.

The authors are to be congratulated on presenting a timely manuscript given the growing evidence of the use of skeletal muscle mass as a prognostic tool in vascular surgery patients. However, it is difficult to foresee whether integrating the measurement of PMA alone is sufficient to improve the peri-operative management and quality of care of patients with an asymptomatic AAA eligible for elective repair. As outlined by the European Working Group on Sarcopenia in Older People (EWGSOP), loss of muscle mass is only a confirmatory component of sarcopenia, while muscle strength remains its primary component.[2] Furthermore, the EWGSOP recommends an algorithm in determining, diagnosing, and quantifying the severity of sarcopenia. This algorithm includes the screening of patients through a self administered five item questionnaire (SARC-F questionnaire), followed by the assessment of muscle strength (grip strength, chair stand test), and, finally, muscle quantity or quality (dual energy Xray absorptiometry, bioelectrical impedance analysis, computed tomography).[2] Additionally, there is no consensus on whether the psoas muscle is a sufficient surrogate of overall sarcopenia.[2] An assessment of overall muscle mass could measure appendicular muscle mass, for which the EGWSOP has now defined sex specific cut off points.[2] Given this, there is ample opportunity to further refine objective measurements of sarcopenia in patients being considered for elective AAA repair. Further prospective studies may integrate the algorithm in order to identify those patients with sarcopenia. The subsequent clinical impact of integrating sarcopenia in risk stratification may be threefold. First, sarcopenia should not be equated with non-operability, but rather integrated alongside clinical and anatomical factors to tailor the procedural approach and peri-procedural management of patients undergoing AAA repair. Second, with the development of endovascular aortic aneurysm repair, minimally invasive options have become available to treat patients considered to be high risk and clinicians can better assess who should be offered these therapies. Third, patients with sarcopenia may benefit from interventions in the peri-operative period. Interventions may be divided into those that (i) monitor these high risk patients more closely to promptly detect and avert adverse events; (ii) planned discharge to assisted living facility; and (iii) treat these high risk patients with therapies to improve post-operative outcomes. A multidimensional program may include interventions that address nutritional optimisation and physical rehabilitation.[3,4] Such a program may even be implemented pre-operatively in high risk patients whose surgical interventions can be delayed.

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