Author Names: Donna Fitzsimons, Loreena Hill, Matthew A. Carson, Lana Dixon, Patrick Donnelly, Susan E. Piper, Gareth Thompson, Theresa A. McDonagh, and Joanne Reid

Cardiac Cachexia: Diagnosis is more Complicated than Focusing on Weight Loss

Background: Cardiac cachexia is a wasting syndrome that may present in patients with advanced heart failure (HF), with clinical identification being challenging in this patient population because of fluid retention. This can 'mask' symptoms, preventing effective detection and management of cardiac cachexia by healthcare professionals in practice. This study aimed to report the practical challenges of applying the recommended diagnostic criteria for cardiac cachexia within an advanced HF population.

Methods: A cross-sectional study was conducted in 200 patients with NYHA III-IV HF. Patients were assessed for cachexia based on the Evans et al. (2008) diagnostic criteria: 5% weight loss in ≤ 12 months or BMI < 20 kg/m^2 plus 3 of: 1) Decreased muscle strength, 2) Fatigue, 3) Anorexia, 4) Low fat-free mass index, and 5) Abnormal biochemistry (elevated inflammatory markers (CRP & IL-6), anaemia (Hb <12 g/dL), and serum albumin (<3.2 g/dL)).

Findings: 30 out of 200 participants (15%) were identified with cachexia. The cachectic group had significantly (p < 0.05) lower BMI, fat-free mass index, muscle strength, red blood cell count, and albumin; and significantly higher C-reactive protein, fatigue, and anorexia issues. Oedema was present in 61% of the sample and 85% of patients possessed an average BMI of 29.9 kg/m^2 (borderline of obese classification). 11% of participants met the BMI cut-off of < 20 kg/m^2 from the cachexia diagnostic criteria.

Interpretation: The recommended diagnostic criteria identified a 15% prevalence of cachexia in patients with advanced HF. However, weight loss, a primary indicator of cachexia, was difficult to detect as 61% of the sample possessed oedema. Moreover, a higher BMI cut-off value for the diagnostic criteria may be required. Future research should explore HF-specific refinement of the Evans cachexia criteria to improve identification of the syndrome in clinical practice (*e.g.,* biomarker discovery).