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Is galectin – 3 accurate than brain natriuretic peptide in diagnosing left ventricular dysfunction? A mini systematic review

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Abstract: Diagnosis of chronic heart failure is difficult in primary care (Ponikowski et al. 2015). The current standard biomarker Brain natriuretic peptide (BNP) has limitations, as it only indicates conditions that cause ventricular overload and does not reveal other important mechanisms in HF. Galectin-3 (Gal-3) is an inflammatory marker and contributes to fibrosis. Gal-3 production is also independent of the loading status (Lok et al. 2013). Therefore this novel biomarker may prove to be useful in CHF diagnosis.

Objectives: To compare the diagnostic test accuracy of Galectin 3 versus BNP for the detection of chronic heart failure.

Search methods: Databases including Embase (1974 to 2016 week 12) and Medline (1946 to March Week 2 2016), Database of Abstracts of Reviews of Effects (DARE; March 2016), the Health Technology Assessment Database (HTA; March 2016) were interogated. Eligible studies evaluated one or more natriuretic peptides and galectin 3 in the diagnosis of chronic heart failure.

Main results: Two studies (n = 564 participants) met our inclusion criteria. Each study compare galectin 3 and BNP. Methodological quality varied considerably among studies, with a substantial amount of biases. The AUC of galectin 3 was 0.891 (95% CI 0.808–0.974) and the AUC of BNP was 0.896 (95% CI 0.809 – 0.984) (BNP) whilst the other study reported the AUC of galectin 3 (0.67) and BNP (0.65) without confidence intervals.

Conclusions: Galectin 3 appears to have a good diagnostic biomaker for the detection of CHF although the included studies had methodological shortcomings (selection and performance bias). However, in future, well conducted cross - sectional studies regarding the diagnostic accuracy of galectin 3 should be undertaken to examine its usefulness in clinical practice.

Biography

Ama has completed her BSc nursing at the age of 27 years from Kwame Nkrumah University of Science and Technology and currently doing a masters in Clinical Nursing at King's College London

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Notes:

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