

Cardiovascular disease

NT-proBNP is a powerful prognostic factor in all patients with heart failure

NT-proBNP can be used to stratify risk in patients with heart failure regardless of the ejection fraction, a study in *Heart* has shown.

The Korean Heart Failure registry is a prospective multicentre cohort study of consecutive patients hospitalised for acute heart failure.

Patients with borderline ejection fraction (41-49%) were excluded from the analysis leaving 528 with an ejection fraction $\geq 50\%$, categorised as heart failure with preserved ejection fraction (HFpEF), and 1,142 with an ejection fraction $\leq 40\%$ categorised as heart failure with reduced ejection fraction (HFrEF). The median age of patients was 70 and just under half were men.

Patients with HFpEF had a significantly lower median NT-proBNP level than those with HFrEF: 2,723 vs 5,644 ng/L, $P < 0.001$.

Event rates did not differ between the HFpEF and HFrEF groups either in terms of death from any cause 11.6% vs 13.1%; HR 0.90 (95% CI: 0.67-1.21; $P = 0.471$) or the composite of death or HF readmission at one year 26.2% vs 29.4%; HR 0.89 (95% CI: 0.73-1.08; $P = 0.225$).

High levels of NT-proBNP were significantly associated with poor outcomes but interestingly the relationship was the same in both groups. A 10-fold increase in NT-proBNP was associated with a three times higher risk for mortality

in both HFpEF and HFrEF.

NT-proBNP is commonly used as a tool to ascertain whether a patient's symptoms may be caused by cardiac failure and therefore require further investigation with echocardiography. NT-proBNP is also a reliable prognostic factor in patients with heart failure. However, it has not been clear if there is a difference between this prognostic predictive power in HFpEF compared with HFrEF. Although patients with both types of heart failure show similar survival patterns those with a preserved ejection fraction typically have lower natriuretic peptide values than patients with a reduced ejection fraction.

The authors concluded that NT-proBNP is a powerful prognostic factor in both HFpEF and HFrEF. Although patients with HFpEF have lower NT-proBNP levels, the prognosis of a patient with HFpEF expected from a given NT-proBNP level is similar to those with HFrEF.

This study further supports the use of the biomarker NT-proBNP as a tool to stratify risk in patients with heart failure regardless of the ejection fraction.

DR PETER SAVILL

Kang S-H, Park JJ, Choi D-J et al. Prognostic value of NT-proBNP in heart failure with preserved versus reduced EF. *Heart* 2015;101:1881-1888

Urology

Can NSAIDs reduce the need for antibiotics in UTI in women?

Although initial treatment of urinary tract infection (UTI) with ibuprofen reduced the use of antibiotics, women had a greater symptom burden and a higher risk of pyelonephritis than those treated with antibiotics from the outset, a primary care study from Germany has found.

A total of 494 women aged 18-65 years, presenting with typical symptoms of UTI were studied. Of these 246 were randomised to a single dose of fosfomycin 3 g and 248 to ibuprofen (400 mg tds) for three days. Additional antibiotics were subsequently prescribed to patients in both groups for persistent, worsening or recurrent symptoms.

The primary endpoints were the number of antibiotic courses in the first month, and the burden of symptoms in the first week.

The total number of antibiotic courses prescribed in the fosfomycin group was 283 (243 as part of the study; 34 further courses for UTI and six courses for other indications). The respective number in the ibuprofen group was 94 (81 for UTI and 13 for other reasons). While significantly more women in the ibuprofen group received antibiotics in the follow-up period (21.2%), the total number of antibiotic courses was 64% lower ($P < 0.001$).

In the ibuprofen group, total symptom burden was higher on days 0-4, and on days 0-7 for all individual symptoms. Symptoms also lasted a day longer, with a mean »