European Society of Cardiology Congress
Munich, Germany, 25–29 August

Copeptin predicts prognosis in patients with heart failure

Copeptin predicts prognosis in patients with heart failure, according to research presented by Professor Stefan Störk from Würzburg, Germany.

Professor Stefan Störk, Consultant, Division of Cardiology, Medical Department, University Hospital of Würzburg, Würzburg, Germany

Direct measurement of vasopressin is not possible in clinical routine, but its prohormone copeptin (the C-terminal fragment of the vasopressin precursor peptide) is very stable and reliable to measure.

The association of copeptin with clinical characteristics, laboratory parameters, comorbidities and outcome was investigated in 926 patients of the Interdisciplinary Network Heart Failure Study.

Subjects with reduced cardiac pump function (left ventricular ejection fraction below 40%) were enrolled into the study before discharge after a hospitalization for cardiac decompensation. All patients underwent a very detailed clinical assessment and diagnostic work-up. Patients were seen for a series of follow-up visits at 6-month intervals at the outpatient clinic or were monitored via a structured telephone call.

The mean age of subjects was 68 years, and 71% were male. About half of the patients suffered from advanced heart failure (44% were in New York Heart Association functional class III or IV). Important comorbidities such as diabetes, poor kidney function and anaemia were frequent.

Higher copeptin levels were linked with higher patient age and more advanced heart failure (New York Heart Association functional class III/IV). Patients in all quartiles had similar blood sodium levels and rates of heart failure caused by ischaemia.

Professor Störk said: 'The current study found that elevated levels of copeptin are associated with the typical comorbidities of heart failure, severity of heart failure, and the risk of all-cause death. When the copeptin measurement was repeated in survivors after 6 months, the prognostic ability of copeptin was retained.'

Non-invasive device improves outcomes in heart failure

A novel non-invasive device which separates healthy and damaged heart muscle and restores ventricle function improves 3-year outcomes in patients with ischaemic heart failure, according to research presented by Dr Marco Costa, University Hospitals Case Medical Center, Cleveland, USA.

The Parachute ventricular partitioning device is the first minimally invasive treatment for patients with heart failure caused by damage to the heart muscle following a heart attack. The Parachute device is implanted in the left ventricle through a small catheter inserted in the femoral artery and creates a barrier between the non-functioning, damaged segment of heart muscle and the healthy, functional segment of heart muscle. This decreases the overall volume of the left ventricle chamber and restores its optimal geometry and function.

The current study included 31 patients treated in the US and Europe with the Parachute system. The New York Heart Association (NYHA) functional classification of 1 (mildest) to 4 (most severe) was used to define the severity of heart failure.

The average NYHA class at baseline was 2.6. This improved to 1.6 (P<0.001) at 1 year, 1.9 (P<0.01) at 2 years and 1.8 (P<0.0001) at 3 years post treatment. Dr Costa said: 'This shows that the severity of heart failure maintained its improvement over time after treatment with the Parachute device.'

TAVI being restricted to very old or very sick patients

The first results of the Transcatheter Valve Treatment Sentinel Pilot Registry were presented by registry chairman Professor Carlo di Mario, National Heart & Lung Institute, Imperial College London, London. The registry included 4571 patients from 137 centres in Israel and nine countries in Europe who underwent transcatheter aortic valve implantation (TAVI) using the Sapien XT or the CoreValve between January 2011 and May 2012.

Patients' average age was 81.4±7.1 years, with equal numbers of men and women. All patients had a high prevalence of comorbidities, but those 80 years old or younger had a greater incidence of diabetes, chronic obstructive pulmonary disease, extracardiac arteriopathy (carotid, peripheral), permanent renal dialysis, previous myocardial infarction, previous cardiac surgery or percutaneous coronary intervention, or previous aortic valve replacement (valve-in-valve procedure).

Overall in-hospital mortality was 7.4%. There were no significant differences in in-hospital mortality based on valve type but there were significant differences based on the approach site (transfemoral 5.9%, transapical 12.8%, trans-subclavian and other approaches 9.7%, P<0.01).

Professor di Mario said: 'This shows that the use of TAVI in younger patients has been restricted to those with more comorbidities, who therefore have high surgical risks.'