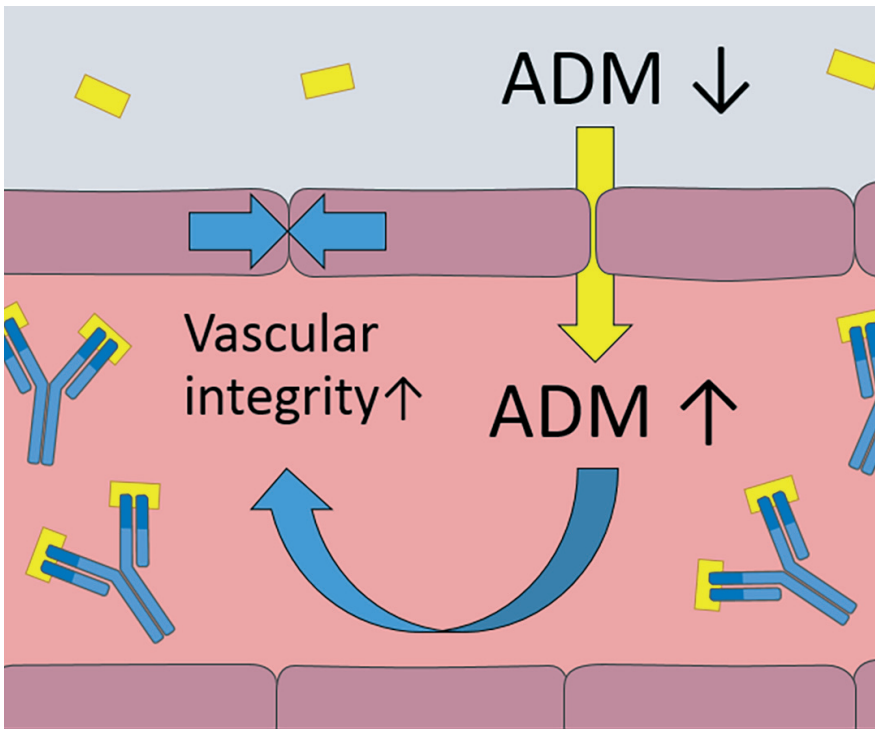
Preventing congestion in acute heart failure patients

ADRENOMED German Adrenomed AG has decided to start clinical Phase II tests of the very first personalised treatment for the six million patients with acute congestive heart failure. Large trials suggest that the company can stratify patients resistant to diuretics standard therapy by a proprietary companion diagnostics blood test. Adrenomed will assess whether its first-in-class antibody adrecizumab can reverse the congestion that that manifests as pulmonary edema.

In February, Adrenomed announced excellent results proving the safety and tolerability of its adrenomedullin-specific antibody adrecizumab, and said this year it will launch Phase II trials in two medical fields of unmet need: septic shock and treatment of therapy-refractory patients with congestive heart failure.

According to Adrenomed, preclinical and Phase I data suggest a unique mode of action of adrecizumab. The antibody leads to redistribution of the peptide hormone adrenomedullin (ADM) from tissue into blood vessels without affecting its activity. There, it closes the gaps in the endothelial layer of blood vessels, which contribute to congestion. Up to now, the leakage of fluid from the blood into lungs has been treated with diuretics. However, most of the annual treatment cost of US-$39bn for congestive heart failure is due to patients refractive to diurectics who develop pulmonary edema and currently can't be identified before hospital admission. Adrenomed is set to solve the problem.



Postulated MoA for adrecizumab, Adrenomed's white hope to treat septic shock and acute congestive heart failure. The antibody, which can't pass the endothelium, leads to redistribution of adrenomedullin (ADM) from the interstitium – where it is produced – to the blood vessel lumen without affecting ADM activity. Relocation of adrenomedullin to the lumen prevents its vasodilatory effects in tissue but promotes its endothelium-stabilising effect. Phase II trials will be designed to show whether the first-in-class antibody diminishes congestion without affecting blood pressure.

Stratification first

Brand-new studies by three top European cardiologists in 5,500 patients clearly demonstrate that treatment-refractory patients can be recognised by elevated blood levels of the active form of the peptide hormone adrenomedullin. The company has a validated companion diagnostics test to identify them. "The data clearly show that we can identify this patient group," says Adrenomed founder Dr Andreas Bergmann. At a meeting in December, the cardiologists urged the company to initiate Phase II tests with adrecizumab. They believe that the antibody, which can't cross the endothelial barrier, acts like a adrenomedullin hoover that draws the 6 kDa molecule into the blood where it evidently decreases fluid leakage.

In sepsis patients, the hoover effect leads to lowering of their extremely high adrenomedullin tissue levels, which prevents the drop in blood pressure preceding septic shock. Phase II trials in sepsis and congestive heart failure are expected to be kicked off in H1/2017. Big pharma companies have already contacted the company for more information. ■

Picture: Adrenomed AG