

Individualized Biomonitoring in Heart Failure - "Keep an eye on heart failure - especially at night"

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Abstract

Heart failure is a chronic disease with the highest mortality rate for elderly people, with a prevalence of 5-10% for persons aged 65 and older. As a primary single causal and curative therapy is rarely possible, the treatment often simply aims for the prevention of complications (palliation).

Therefore, the diagnosis and treatment of concomitant diseases (comorbidities) are of an outstanding importance. Besides that, an early detection of an exacerbation of the clinical pattern is central.

The care and the backing of affected patients, especially in rural areas, become increasingly complicated as the density of family doctors decreases. Against this backdrop, researchers from Aachen, Germany, aim for the development of an individualized nightly tele-monitoring for an ambulant therapy in heart failure.

External sensors are used to improve the early detection of concomitant diseases and the timely diagnosis of an exacerbation of the heart failure. For this purpose, the sleeping period of the patients which amount to 30% of a day, is used to monitor the vital parameters more intensively and more comfortable at home. This sleeping period enables an optimized signal quality of the sensors, due to the more stable and relatively motionless measurement period.

The remote supervision of the patients has a huge potential for cost savings, resulting from reductions of emergencies and relief of medical personnel.

This talk will give an overview about the in.nrw BioMon-HF project and its patient customized engineering perspective.