



Innovation in the treatment of cardiovascular diseases, acute heart failure / acute cardiac insufficiency: sGC activator (Cinaciguat)

Demand:

Heart failure means the heart is unable to effectively circulate blood through the vascular system. Symptoms of heart failure include an increasingly diminished physical capacity and breathlessness, particularly when lying down. Often, heart failure is the result of long lasting hypertension (high blood pressure) and coronary heart diseases, which cause a narrowing of the coronary blood vessels. Chronic heart failure leads to the insufficient supply of oxygen to organs of the body. If left untreated, it can rapidly deteriorate and, in advanced stages, lead to incapacitating weakness, organ function failure, and even death of the patient. In advanced stages, even under optimal treatment, the life expectancy is significantly diminished. Therefore, it is important to treat the causes of heart failure as early as possible. Acute heart failure is the most common cause of hospitalization for patients aged 65 years and older. There is an urgent need for improved therapy options to reduce these high mortality rates.

Solution:

Current drug treatments, called diuretic agents, support cardiac function, fight arrhythmia and remove excess fluid from the body. Bayer Schering Pharma is in the process of developing a promising new agent for the treatment of acute decompensated heart failure (ADHF) called cinaciguat. With cinaciguat, a sGC-activator, a substance has been identified that activates the guanylate cyclase enzyme even when its function is impaired. This is important as the majority of patients with cardiovascular diseases suffer from a dysfunction of the nitrogen oxide (NO)-pathway.

Implementation:

Cinaciguat is currently being investigated for the treatment of ADHF. With this sGC-activator, Bayer Schering Pharma hopes to offer an improved treatment option for these patients. In initial clinical studies, the sGC-activator demonstrated promising evidence of

efficacy and safety. Currently, cinaciguat is in Phase II studies and is expected to move to Phase III in 2010.

Contact:

Janine Tychsen, Phone: +49 30/468-193183

E-mail: janine.tychsen@bayerhealthcare.com

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