心跳速率調控在心衰竭治療的角色

The role of heart rate modulation in the treatment of heart failure

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Heart rate (HR) is not only a physical sign but also a biomarker. High HR in several cardiac disorders is associated with increased mortality. In heart failure (HF), HR represents an important therapeutic target, both in the acute and chronic phase. Beta-blockers are a milestone of recommended treatments in HF patients with reduced ejection fraction. However, hemodynamic profile or intolerance may limit the use or the optimization of beta-blocker treatment, both during hospitalization and outpatient follow-up. More recently, ivabradine has become available, a drug that lowers HR by blocking the I(f) current in the pacemaker cells at the sinoatrial node level. In the SHIFT trial, ivabradine was shown to improve the outcome of patients with chronic HF, in sinus rhythm, with HR >70 b/min while on beta-blockers. Preliminary data have shown that this drug has a good safety profile and lowers effectively HR even during hospitalization due to worsening HF. However, further studies are warranted to understand if an earlier administration of ivabradine can lead to a better prognosis beyond symptom control and improved hemodynamics. In patients with atrial fibrillation and HF, the target is the restoration of sinus rhythm, alternatively rate control should be pursued with beta-blockers, amiodarone or digitalis, even if there is no clear evidence of an association between ventricular rate response in patients with atrial fibrillation at discharge after an HF hospitalization and major cardiovascular events. In this session, the studies that point to a role of HR both as a biomarker and a therapeutic target in patients with acute and chronic HF will be described.