

## **Predictors and Outcomes of Infection-Related Hospital Admissions of Heart Failure Patients**

**Gideon Stein**<sup>1,2</sup>, Danny Alon<sup>1,2</sup>, Roman Kornfeld<sup>1,2</sup>, Shmuel Fuchs<sup>1,2</sup>

<sup>1</sup>*Internal Medicine "B", Rabin Medical Center, Israel*

<sup>2</sup>*Sackler Medical School, Tel Aviv University, Israel*

### **Background:**

Infection is one of the most common causes for hospitalization among patients with heart failure (HF). Yet, little is known regarding the prevalence of and predictors of different types of acute infections as well as their impact on outcome among this growing population.

### **Methods and Results:**

We identified all patients aged 50 or older with a major diagnosis of HF and at least one echocardiography examination who had been hospitalized over a 10-year period (January 2000 and December 2009). Infection-associated admissions were identified according to discharge diagnoses. Among 9,335 HF patients, 3530 (38%) were hospitalized at least once for infectious causes, of which respiratory infection (52.6%) and sepsis/bacteremia (23.6%) were the most frequent diagnosis, followed by urinary (15.7%) and skin and soft tissue infections (7.8%). Hospitalizations for infections compared to other indications were associated with increased mortality (13% vs. 8%,  $p < 0.0001$ ), which was due to higher mortality rates among those who experienced respiratory infections (OR 1.28 [95% CI 1.09, 1.5]) and sepsis\bacteremia (OR 3.13 [95% CI 2.6, 3.7]). Notable predictors for these serious infections included female gender, chronic obstructive pulmonary disease and past myocardial infarction, and echocardiography defined significant right but not left ventricular dysfunction

### **Conclusions:**

Infections-related hospitalization is frequent among patients with HF and associated with increased short and intermediate-term mortality. The rate of such infections is higher among elderly female patients with multiple comorbidities and it is more closely associated with the severity of right ventricular rather than left ventricular dysfunction.