

Thromboembolic findings in patients with heart failure at autopsy

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Background. The risk of thromboembolic events is increased in patients with heart failure (HF); however, few studies have reported thromboembolic findings in HF patients who have undergone autopsy.

Methods and Results. We reviewed 1457 autopsies (January 2000/July 2006) and selected 595 patients with HF. We studied the occurrence of thromboembolic events in patients' autopsy reports. Mean age was 61.8 ± 15.9 years; 376 (63.2%) were men and 219 (36.8%) women; left ventricular ejection fraction was $42.1 \pm 18.7\%$. HF etiologies were coronary artery disease in 235 (39.5%) patients, valvular disease in 121 (20.3%), and Chagas' disease in 81 (13.6%). The main cause of death was progressive HF in 253 (42.5%) patients, infections in 112 (18.8%), myocardial infarction in 86 (14.5%), and pulmonary embolism in 81 (13.6%). Altogether, 233 patients (39.2%) suffered 374 thromboembolic events. A thromboembolic event was considered the direct cause of death in 93 (24.9%) patients and related to death in 158 (42.2%). The most frequent thromboembolism was pulmonary embolism in 135 (36.1%) patients; in 81 events (60%), it was considered the cause of death. When we compared clinical characteristics of patients, sex (OR=1.511, CI 95% 1.066-2.143, $P=0.021$) and Chagas disease (OR=2.362, CI 95% 1.424-3.918, $P=0.001$) were independently associated with the occurrence of thromboembolisms.

Conclusions. Thromboembolic events are frequent in patients with heart failure revealed at autopsy, and are frequently associated with the death process. Our findings warrant a high degree of suspicion for these occurrences, especially during the care of more susceptible populations, such as women and Chagas patients.

Keywords: Heart failure; Thromboembolism; Autopsy; Cardiomyopath.