

Heart Failure

INCREASED LEVELS OF SOLUBLE FMS-LIKE TYROSINE KINASE 1 (sFLT-1) ARE ASSOCIATED WITH WORSE OUTCOMES IN OUTPATIENTS WITH HEART FAILURE

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Monday, March 26, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Biomarkers in Heart Failure: Something Old, Something New
Abstract Category: 14. Heart Failure: Clinical
Presentation Number: 1227-596

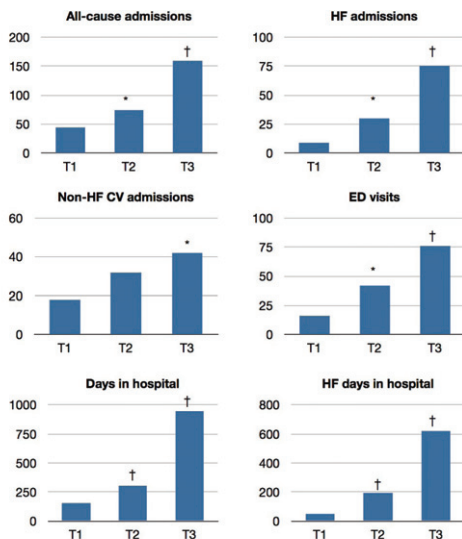
Authors: *Andreas P. Kalogeropoulos, Wai Hong Tang, Vasiliki Georgiopoulou, Anjan Deka, Ali Azeem, Catherine Norton, Vikas Bhalla, Stanley Hazen, Javed Butler, Emory University, Atlanta, GA, USA, Cleveland Clinic Foundation, Cleveland, OH, USA*

Background: Soluble fms-like tyrosine kinase-1 (sFLT-1) antagonizes vascular endothelial growth factor and placental growth factor (PlGF) and regulates apoptosis in vascular smooth muscle cells. sFLT-1 levels predict clinical events in systolic heart failure (HF); however, the association of sFLT-1 with other outcomes in HF has not been reported.

Methods: We examined the association of baseline levels of sFLT-1, PlGF, and sFLT-1 to PlGF ratio with (1) clinical events (death, transplantation, ventricular assist device implantation) and (2) admissions and emergency department [ED] visits in 173 stable HF outpatients (age, 57±12 yrs; 63% men; 58% white; 38% black; ejection fraction [EF] 29±15%) enrolled in a prospective cohort study.

Results: Over 32±8 months (total: 465 person-years), there were 27 (15.6%) clinical events (22 deaths, 4 transplants, 1 ventricular assist device), 413 all-cause admissions (167 [40.4%] for HF), and 199 ED visits. Baseline sFLT-1, PlGF, and sFLT-1/PlGF were 339±83 pg/ml, 19.2±5.1 pg/ml, and 18.9±7.4, respectively. Compared to the lower sFLT-1 tertile, patients in the upper tertile had (1) increased risk for clinical events (HR 4.5; 95% CI 1.2-17.3; P=0.029) and (2) higher healthcare resource utilization rates (Figure) in models adjusted for age, gender, race, systolic blood pressure, creatinine, NYHA class and EF. PlGF and sFLT-1/PlGF were not predictive of outcomes.

Conclusion: Increased sFLT-1 but not PlGF levels are associated with worse outcomes in HF outpatients.



All rates per 100 patient-years; T1-T3: sFLT-1 level tertiles; *P<0.01; †P<0.001 vs T1