

Levodimendan as a treatment Option for Cardiac Amyloidosis

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Patients with cardiac amyloidosis and advanced heart failure have limited treatment options. Levosimendan, a novel calcium sensitizer and potassium channel opener is known to have positive lusitropic as well as positive inotropic effects. We evaluated the utility of this drug on consecutive patients with cardiac amyloidosis, acute decompensated heart failure and restrictive filling pattern of mitral valve inflow in echo-doppler.

The patients, 2 females and 2 males, average age of 77.1 ± 5.1 years, were all hospitalized in the intensive care unit due to acute decompensated heart failure. Two of them suffered of acute deterioration of renal function and needed hemofiltration. Echo-Doppler study revealed persevered LV function ($EF=48 \pm 5\%$), with mitral valve inflow deceleration time (DT) of 127 ± 39 msec. Endocardial biopsy revealed amyloid deposits in three of the patients and the forth was diagnosed by characteristic echo findings.

The patients were treated with Levosimendan (beginning with 0.05 microgram/kg/min and up to 0.2 microgram/kg/min over 24 hours). In all patients dramatic clinical improvement was noticed. The signs and symptoms of right and left heart failure diminished. Post Levosimendan renal function improved and hemofiltration was not needed. The average DT were improved to 158 ± 25 msec ($p=0.04$). One of the patients presented also with systolic dysfunction (despite patent coronaries) improved post Levosimendan (EF increased from 33% to 50%). All patients remained stable and did not need re-hospitalization in a follow up of 7 ± 6.3 months.

Conclusion: Levosimendan is an important treatment option for advanced heart failure related to cardiac amyloidosis.