

The efficacy of Trimetazidine MR in left ventricular function improvement and reduction of major cardiovascular events, inflammatory syndromes and oxidative stress in coronary heart disease

*Elena Bobescu MD,¹, Prof. Mariana Radoi MD, PhD¹,
Georgeta Datcu MD,³, Antoniu Burducea MD,²*

¹Transylvania University-Faculty of Medicine,

*²Clinic County Emergency Hospital- Clinic of Cardiology,
Brasov,*

³Gr.T.Popa University of Medicine and Pharmacy Iasi

Aims: To evaluate the efficacy of treatment with trimetazidine modified release (TMZ MR) in addition to optimal standard medical therapy (OSMT) in patients (pts) with coronary heart disease (CHD) - stable angina (SA), unstable angina (UA) and non ST elevation myocardial infarction (NSTEMI) in reduction of primary endpoint composite of cardiovascular death, acute myocardial infarction and stroke, improvement of left ventricular function, reduction of inflammatory syndrome and oxidative stress.

Methods and results: 252 pts with high risk CAD were included in a prospective study for a period of 24 months and divided in six groups in relation with type of CHD and addition of TMZ MR treatment to optimal standard medical therapy (OSMT). Patients were evaluated clinical and paraclinical (biochemical analyses, electrocardiography, echocardiography) at 1, 6, 12 and 24 months. Markers of inflammatory syndrome used were C-reactive protein serum level and fibrinogen plasma level. Anti ox-LDL antibody titers and total antioxidant

status (TAS) serum level were used for oxidative stress evaluation. Treatment with TMZ MR in addition to OSMT was followed at 24 months of follow up by a significant improvement of left ventricular function in pts with NSTEMI ($p<0.05$) and UA($p<0.025$) in comparison with OSMT pts. Primary endpoint was significantly reduced in all TMZ MR treatment added to OSMT pts at 24 months of follow up respectively: NSTEMI -20%, $p<0.001$, relative risk (RR) 0.35), UA-13.6%, $p<0.001$, RR 0.29 and SA-7.7%, $p<0.001$, RR 0.19). In NSTEMI and UA groups treated with TMZ MR in addition to OSMT was significantly reduced at 6 months of follow-up the incidence of high level of serum CRP ($p<0.025$), plasma fibrinogen ($p<0.01$), anti ox-LDL antibody titers ($p<0.05$), low value of serum TAS ($p<0.05$), in comparison with NSTEMI and AI groups with OSMT.

Conclusions: In patients with stable angina, unstable angina and non ST elevation myocardial infarction, treatment with trimetazidine MR in addition to optimal standard medical therapy was followed by a significant reduction in primary endpoint composite of cardiovascular death, acute myocardial infarction and stroke and by a significant improvement in left ventricular function at 24 months of follow up. A significant reduction in inflammatory syndrome and oxidative stress at 6 months of follow up was observed in patients with unstable angina and non ST elevation myocardial infarction with above mentioned therapy.
