

Trimetazidine in Cardiovascular Medicine

Marzilli M, Vineareanu D, Lopaschuk G, Chen Y, Dalal JJ, Danchin N, Etriby E, Ferrari R, Gowdak LH, Lopatin Y, Milicic D, Parkhomenko A, *Pinto F*, Ponikowski P, Seferovic P, Rosano GMC.

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Abstract

Abnormalities of myocardial energy metabolism appear as a common background of the two major cardiac disorders: ischemic heart disease (IHD) and heart failure (HF). Myocardial ischemia has been recently conceived as a multifaceted syndrome that can be precipitated by a number of mechanisms including metabolic abnormalities. HF is a progressive disorder characterised by a complex interaction of haemodynamic, neurohormonal and metabolic disturbances. HF may further promote metabolic changes, generating a vicious cycle. Thus, targeting cardiac metabolism in IHD patients may prevent the deterioration of left ventricular function, stopping the progression to HF. For these reasons, several studies have explored the potential benefits of trimetazidine (TMZ), an inhibitor of free fatty acids oxidation that shifts cardiac and muscle metabolism to glucose utilization. Because of its mechanism of action, TMZ has been found to provide a cardioprotective effect in patients with angina, diabetes mellitus, and left ventricular (LV) dysfunction, and those undergoing revascularization procedures, without relevant side effects. In addition, the lack of interference with heart rate, arterial pressure, and most of frequent comorbidities, makes TMZ an attractive option for patients and clinicians as well. The impact of TMZ on long term mortality and morbidity in ischemic syndromes and in heart failure need to be conclusively confirmed in properly designed RCT.

Keywords: Angina; Heart failure; Myocardial ischemia; Trimetazidine.

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