

EDITORIAL

Medical Management of Stable Angina: Systematic Therapeutic Approach

Stable angina is the commonest manifestation (about 60%) of ischaemic heart disease (IHD). 30% of patients revascularized for stable CAD continue to experience angina symptoms. Several drugs are now available for the treatment of stable angina. Current ACC & ESC guidelines suggest a step by step approach for the medical treatment of stable angina but do not suggest to guiding choice within each step. Kallistratos et al¹ in a recent article suggested a systematic therapeutic approach tailored to patients' cardiovascular profiles taking into account their risk factors and comorbidities. We shall discuss this in this editorial.

First of all, we need to consider heart rate (HR) and systolic blood pressure (SBP).

If the HR is >60 bpm and SBP is >120 the 1st line anti-anginal therapy will be beta-blocker (BB) or Non DHP calcium channel blocker (CCB) such as diltiazem. In the 2nd step DHP or ranolazine or ivabradine can be added if needed to control angina. LA nitrates or nicorandil or trimetazidine can be used in the 3rd step. *In order to initiate non DHP CCB ejection fraction needs to be normal. Ivabradine can only be initiated if HR is > 70bpm.*

If the HR is >60 bpm but SBP is <120, ranolazine or ivabradine is the 1st choice. Trimetazidine can be added in the 2nd step.

If the HR is <60bpm but SBP is >120, DHP such as amlodipine is the 1st choice. Ranolazine can be added in the 2nd step. LA nitrates or nicorandil or trimetazidine can be used in the 3rd step.

If the HR is <60bpm and SBP is <120, Ranolazine is the initial choice. Trimetazidine can be added in the 2nd step.

Having considered HR & SBP we need to consider specific conditions associated with stable angina in the next step in order to refine drug choices.

33% patients with stable CAD suffer from diabetes. Ranolazine has favourable effects in reduction of HbA1c. Vasodilating BBs present a favourable metabolic profile since they improve insulin sensitivity & do not cause

deleterious effects on lipid profile. Trimetazidine has some beneficial effect but majority of the studies had a small sample size. Ivabradine, nicorandil & CCBs have neutral metabolic profile & can be used safely.

70% of heart failure with reduced ejection fraction (HFrEF) is directly lined to CAD. In these patients BB & ivabradine is the preferred choice. Nitrates, nicorandil & DHP CCBs such as amlodipine are safe. The use of hydralazine/ isosorbide dinitrate may elicit angina attack. The safety of ranolazine is uncertain & should be used with caution

In patients with stable angina and atrial fibrillation (Af) BB or non DHP CCBs are preferred. Ranolazine seems to suppress Af and supraventricular arrhythmias in general. Ivabradine is ineffective in Af.

Usually patients with stable angina need more than one drug to suppress angina symptoms. Not all antianginal drugs can be confined. Combining ivabradine, ranolazine & nicorandil is not recommended due to unknown safety profile. The co-administration of ivabradine with non-DHP CCBs is contraindicated (SIGNIFY trial)². Diltiazem & verapamil are moderate CYP3A4 inhibitors which metabolizes ivabradine.

We hope the suggestions by Kallistratos et al published recently will improve our management of patients with stable angina in daily practice taking into account the various conditions & comorbidities in an individual.

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References:

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2. Fox K, Ford I, Steg PG, Tardif JC, Tendera M, Ferrari R; SIGNIFY Investigators. Ivabradine in stable coronary artery disease without clinical heart failure. N Engl J Med. 2014 Sep 18; 371(12):1091-9.