

“Clinical Management Of Angina Pectoris: An Updated Perspective”

Akanksha Pradip Poghe¹, Arti Ghodke², Pallavi Sambarkar³

1. Student SDMVM'S Diploma in Pharmacy Institute, Gevrai tanda, Chh. Sambhajinagar.

2. Student SDMVM'S Diploma in Pharmacy Institute, Gevrai tanda, Chh. Sambhajinagar.

3. Lecturer SDMVM'S Diploma in Pharmacy Institute, Gevrai tanda, Chh. Sambhajinagar.

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ABSTRACT

Randomised controlled trials show that antianginal medicines are inversely effective and none of them reduced mortality or the threat of MI, yet guidelines prefer the use of beta-blockers and calcium channel blockers as a first-line treatment. The National Institute for Health and Care Excellence (NICE) guidelines for the operation of angina give guidelines grounded on cost and effectiveness using the terms first-line and alternate line remedy. The annual mortality rate for patients with angina is around 1.4%. However, the risk of death is higher for women with coronary artery disease (CAD), and for those with systolic hypertension or type 2 diabetes. Angina affects around 1% of adults, and its prevalence increases with age.

Keywords – Angina pectoris, Stable Angina, Unstable Angina, Variant Angina, Microvascular Angina, Atypical Angina.

I. INTRODUCTION

Angina, or chest pain, is the most common symptom of ischemic heart complaint, a major cause of morbidity and mortality worldwide. chest pain can be due to non-cardiac and cardiac causes, and thorough history and physical is critical in discerning these causes and relating cases passing acute coronary pattern. Angina is one of the signs of acute coronary pattern (ACS) and can further subdivide into and angina. angina defines as the circumstance of symptoms with exertion only. Refractory angina pectoris is defined as Canadian Cardiovascular Society(CCS) class III or IV angina, where there's pronounced limitation of ordinary physical exertion or incapability to perform ordinary physical exertion without discomfort, with an objective substantiation of myocardial ischemia and continuity of symptoms despite optimal medical remedy, life style revision treatments, and revascularization curatives. The epidemiology of refractory angina pectoris is not

easily defined, but estimation depicts that > 100,000 cases may be diagnosed each time(2)

Classification of Angina pectoris

1. Stable Angina:

- Characteristics: Predictable and occurs with exertion or stress. The pain usually lasts a few minutes and is relieved by rest or nitroglycerin.

2. Unstable Angina:

- Characteristics: Less predictable and can occur at rest or with minimal exertion. The pain may be more severe, last longer, and not be fully relieved by rest or medication.

3. Variant Angina (Prinzmetal's Angina):

- Characteristics: Caused by spasm of the coronary arteries, leading to temporary reductions in blood flow. It typically occurs at rest and often during the night or early morning.

4. Microvascular Angina:

- Characteristics: Caused by abnormalities in the small blood vessels of the heart (microvasculature) rather than the larger coronary arteries. Symptoms can be similar to those of stable angina but may occur with less predictable patterns.

5. Atypical Angina:

- Characteristics: Symptoms may not fit the classic presentation of angina and can vary widely, including atypical pain locations (such as the back or jaw) or other nonspecific symptoms.

Etiology of Angina Pectoris

The exact aetiology of angina is not well defined; still it is allowed to be secondary to a mismatch between myocardial force and demand. The maturity of cases with angina have

significant narrowing of one or more The exact aetiology of angina is not well defined; however, it is thought to be secondary to a mismatch between myocardial supply and demand. The maturity of cases with angina have significant narrowing of one or further epicardial coronary highways. It's also recognised that numerous cases with angina have non-obstructive or indeed normal coronary highways. Angina pectoris occurs when. Cardiac workload and attendant myocardial oxygen demand exceed the capability of coronary highways to supply an acceptable quantum of oxygenated blood similar imbalance between force and demand can do when the highways are narrowed. Narrowing generally results from. Coronary roadway atherosclerosis Narrowing of the coronary highways can also affect from Coronary roadway spasm(3) Angina is frequently an unmistakable pain described as a sense of strangling or choking, or miserliness, heaviness, contraction or condensation of the chest, occasionally radiating to the left arm or jaw but relieved by rest. The most common pouring causes of angina pain are physical exertion(particularly in cold rainfall); emotion(especially wrathfulness or anxiety); and stress caused by fear or pain, leading to adrenal release of catecholamines(adrenaline(epinephrine) and noradrenaline(norepinephrine)) and consequent tachycardia, vasoconstriction and raised BP. Accordingly, an increased cardiac workload is accompanied by a paradoxical drop in blood inflow and myocardial ischaemia occurs, performing in angina.(4)

Clinical Manifestation of Angina pectoris

Angina is the main symptom of ischemic heart disease; mirroring a mismatch between oxygen supply and demand. Epicardial coronary stenoses are only responsible for nearly half of the patients presenting with angina; whereas in several cases; symptoms may underlie coronary vasomotor disorders; such as microvascular dysfunction or epicardial spasm.(5)

Angina pectoris is a common and important symptom affecting many patients with coronary artery disease. There are over 6 million people with angina pectoris in the United States and additional 350,000 new cases each year. Refractory angina pectoris is defined as Canadian Cardiovascular Society (CCS) class III or IV angina, where there is marked limitation of ordinary physical activity or inability to perform ordinary physical activity without discomfort, with an objective evidence of myocardial ischemia and

persistence of symptoms despite optimal medical therapy, life style modification treatments, and revascularization therapies.(6)

Prognosis for Patients with Angina pectoris

The prognosis for patients with angina varies, but there is an annual mortality rate of up to 3.2%. Long-term prognosis is influenced by left ventricular systolic function, extent of coronary artery disease (CAD), exercise duration or effort tolerance, and comorbid conditions. The published data does not account for medical interventions, such as statins and aspirin, which reduce mortality and morbidity in coronary artery disease, and it is likely that the prognosis of angina without medical therapy may be very different.

Pharmacological drug Therapy

Nitrates, Beta-blockers and Calcium Channel Blockers Nitrates are available in different phrasings and both short- and long- acting organic nitrates have been shown to be effective in treating angina when used meetly to avoid nitrate forbearance. Nitrates are as effective as beta-blockers(BB) and calcium channel blockers(CCB). Sublingual nitroglycerin tablets and oral nitroglycerin spray are freely absorbed and when taken prophylactically can ameliorate exercise forbearance and reduce the prevalence of MI. One of the major side- goods of nitrate use is headaches that may be severe enough to bear termination of the remedy. Tachyphylaxis, or forbearance to nonstop use of nitrates is another limiting factor, but can be avoided by allowing prolonged nitrate-free intervals for nitrate situations to decline before the coming cure. Long- acting nitrates have been downgraded to alternate- line remedy in guidelines because of their side- goods and the prevalence of tachyphylaxis. Nicorandil, Ranolazine, Trimetazidine, Ivabradine and Allopurinol Nicorandil, which is a nitrate- half nicotinamide ester and adenosine-sensitive potassium channel nature, increases coronary blood inflow and prevents coronary roadway spasm. It has been approved for clinical use in Japan and numerous European countries on the base of small trials in cases with angina. This drug is n't used in the US because placebo- controlled studies from Australia and the US failed to confirm antianginal efficacy of nicorandil compared with placebo. In Europe, it has been used rather of nitrates or in combination with other antianginals. Side- goods of gastrointestinal ulcerations and headache limit the long- term use of nicorandil in cases with angina,

The exact mechanism of its antianginal action is unknown, but basic studies have shown that it inhibits late sodium inward current during phases of ischaemia, reducing intracellular calcium load. Ranolazine is an effective antianginal and anti-ischaemic agent compared with placebo and is as inversely effective as atenolol. Extended-release ranolazine compared with placebo, as monotherapy or in combination with other antianginals, has been shown to significantly increase total exercise time by 116 seconds and 23.7 seconds, independently. It also increased routine walking time for people with angina and delayed the onset of exercise-induced MI. Ranolazine has been shown to be ineffective in the treatment of women with microvascular angina compared with placebo. Trimetazidine is available in Europe and several countries in Asia as an adjunct therapy for angina, but it is not used in the US. In patients who remain symptomatic despite treatment with first-line therapy drugs, trimetazidine decreases angina frequency without exerting any effects on heart rate or blood pressure, as shown in the TRI Metazidine in POL and (TRIMPOL) trials I and II.

Combination Antianginal Therapy

Monotherapy in optimal boluses, is frequently as effective as combination therapy using two or further agents. There's a lack of well-designed studies showing that treatment with further than one class of medicine is superior to combination treatment with a different class of antianginal medicines. Adding either a long-acting nitrate or a CCB to BB therapy is frequently useful and reduces angina frequency, improves exercise tolerance and reduces MI. A combination of BB and ivabradine has been shown to be effective in cases with a heart rate less than 60 BPM, but safety concerns have been raised. As compared before, extended release ranolazine monotherapy, or in combination with BB or CCB, is effective. Trimetazidine as an add-on to aged antianginal medicines has also been shown to be effective.

Antiplatelet Therapy

Both guidelines recommend diurnal use of low-dose aspirin because it has been shown to reduce the prevalence of acute MI and unforeseen death in cases with known CAD. This has only been shown to be effective for cases with angina in a small study. The use of aspirin in cases with angina in the absence of CAD is uncertain. In cases who are intolerant to aspirin, clopidogrel may be used rather according to ESC guidelines, but is not

substantiated; although routine combination of aspirin and a P2Y₁₂ inhibitor is not recommended due to an inordinate threat. Class of medicines reduce each-cause mortality, acute coronary events, and the need for revascularisation in cases with CAD and in those at high threat of CAD. ESC guidelines recommend the use of statins to achieve the ideal low-viscosity lipoprotein things (<1.8 mmol/l), while NICE guidelines recommend the use of high-dose statins, such as 80 mg atorvastatin.

Treatment of Patients with Angina and Normal Coronary Arteries or Microvascular Angina NICE does not make any specific pharmacotherapy recommendations for cases with angina and normal coronary arteries or microvascular angina, while ESC guidelines recommend a trial of antianginal medicines. There are no efficacy trials regarding hard issues in cases with angina who have normal coronary arteries. Current substantiation does not support the routine use of aspirin or statins in cases with microvascular angina who have normal coronary arteries.

Co-morbidities and Angina Pectoris

Both guidelines recommend use of specific antianginal medicines, taking into consideration the presence or absence of comorbidities similar as COPD, hypertension, supplemental vascular complaint and diabetes, despite the lack of randomised controlled trials to support this.

II. CONCLUSION

Current guidelines are largely grounded on expert opinion and agreement rather than high-quality randomised controlled trials. The two documents bandied in this composition make different recommendations for first-line treatment, as well as add-on treatment with two or three antianginal medicines, without objective data. The operation of cases with microvascular complaint or normal coronary arteries and angina remains uncertain especially in the absence of randomised controlled trials. The guideline recommendations calculate substantially on hypotheticals and extrapolations and expert opinion grounded on the available data regarding cases with obstructive CAD.

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