peripheral arterial disease. Various studies have shown antithrombotic protection in coronary, cerebral or peripheral artery disease, due to atherosclerosis of the arteries which feed the heart. A stroke results when the blood supply to the brain is suddenly cut off due to block or burst of blood vessel in the brain or neck. The main cause of angina is improper contractivity of the heart muscle and coronary artery disease, due to atherosclerosis of the arteries which feed the heart. A stroke results when the blood supply to the brain is suddenly cut off due to block or burst of blood vessel in the brain or neck.

The standard therapy considered for patients undergoing percutaneous coronary intervention of ACS is dual antiplatelet therapy with aspirin and clopidogrel. Both interfere with platelet activation in complementary via distinct pathways. Both possess potent protective effect against adverse vascular events and as a combination they exhibit even stronger antiplatelet activity translating into superior anti thrombotic protection in coronary, cerebral or peripheral arterial disease. Various studies have shown that concomitant administration of aspirin with statins has synergistic action in the secondary prevention of atherosclerosis. Moreover, the scientific community and the public at large are increasingly recognizing the importance of statins and aspirin. The combination of aspirin and statins is one of the most important preventive strategies of cardiovascular disease.

After oral administration, aspirin is rapidly absorbed and is 100% bioavailable. It reaches peak plasma concentration within 45 minutes. Aspirin's half-life in blood is low and is up to 2 hours in peripheral tissue. Approximately 50% of aspirin is excreted in urine and 46% in feces. Aspirin's metabolism is complex, involving both oxidative and hydrolytic pathways.

In clinical practice, aspirin is administered in doses ranging from 75 to 325 mg/day. The choice of dose depends on the clinical scenario and the patient's risk profile. Needy patients, such as those with acute coronary syndromes, may require higher doses of aspirin to achieve a therapeutic effect.

In contrast, clopidogrel is a thienopyridine that inhibits the P2Y12 receptor on the platelet surface, thus interfering with platelet activation, degranulation and aggregation.

**PHARMACOKINETICS**

Rosuvastatin is a reversible competitive inhibitor of HMG-CoA reductase that converts 3-hydroxy-3-methylglutaryl CoA to mevalonate which is a precursor for cholesterol. Putative mechanism of action involves the downregulation of mevalonate pathway. The pharmacokinetics of rosuvastatin and aspirin after oral administration are unalike. Rosuvastatin is a slow-release formulation, while aspirin is an immediate-release formulation. The clinical relevance of these pharmacokinetic differences is unclear, and more research is needed to understand their implications.

**CLINICAL EFFICACY**

MU and co-workers evaluated clinical outcomes accompanying combined use of clopidogrel and statins vs. clopidogrel alone in the presence of aspirin in a range of ACS patients. Total 15,693 patients across 14 countries were admitted with non-ST-segment elevation MI or unstable angina were divided into 4 groups based on discharge medications: 1st group: aspirin alone; 2nd group: aspirin + clopidogrel; 3rd group: aspirin + statin; 4th group: aspirin + clopidogrel + statin. The study confirmed that when clopidogrel and statin is used along with aspirin, no significant drug interaction was encountered. The study suggested that the combination of clopidogrel with a statin has synergistic effects on the clinical outcomes of patients with non-ST-segment elevation MI.

MÖK CC and co-workers studied the effect of rosuvastatin on vascular biomarkers and carotid intima-media thickness (CIMT) in patients with systemic lupus erythematosus (SLE). Seventy-two (average age 50.8 years) SLE patients with inactive disease and no cardiovascular disease were randomized in a double-blinded manner into 4 groups: Rosuvastatin 10 mg + aspirin 80 mg, rosuvastatin 10 mg + placebo aspirin 1 tab, placebo rosuvastatin 1 tab + aspirin 80 mg and placebo rosuvastatin 1 tab + placebo aspirin 1 tab per day for 12 months. The treatment was unblinded after 12 months and patients treated with rosuvastatin and aspirin were continued on the same medications for another 12 months. Baseline clinical characteristics and medications were similar among the groups. At 12th month, the mean low-density lipoprotein cholesterol and median hsCRP levels decreased significantly in the rosuvastatin group. No significant change in homocysteine was noticed and the use of aspirin did not influence the levels of the biomarkers studied. The study concluded that in stable SLE patients, low-dose rosuvastatin leads to a significant reduction in hsCRP and carotid intima-media thickness which may possibly help to reduce cardiovascular risk.

**INDICATIONS**

Acute coronary syndrome, myocardial infarction, stroke and angina

**CONTRAINDICATIONS**

Hypersensitivity to aspirin, NSAIDs or clopidogrel, active peptic ulceration, child <12 year, patients with haemorrhagic disorders, severe renal/hepatic impairment, lactation

**DRUG INTERACTIONS**

Rosuvastatin in increased dose when administered with gemfibrozil increases the risk of severe myopathy. Astatid decreases bioavailability of rosuvastatin. Clopidogrel administered with PPI’s inhibits antiplatelet activity. Corticosteroids, phenytoin and oxygenenbutazone may increase risk of GI ulceration. Coumarins, anagrelide, aspirin, bivalirudin, dasatinib, lepirudin and tenecteplase may increase risk of bleeding.

**ADVERSE REACTIONS**

Headache, dizziness, nausea, vertigo, chest pain, GI disturbances, gastritis, abdominal pain, appendicitis, pancreatitis, rhinitis, rash, angioedema, urticaria

**DOSAGE AND ADMINISTRATION**

Each strip of 10 capsules contains rosuvastatin 10 mg + clopidogrel 75 mg + aspirin 75 mg

**REFERENCES**