Drug Therapy - Angina

Angina develops when the oxygen supply to the heart is not adequate enough to meet the demands placed upon it. With physical activity the heart beats harder and faster and needs more oxygen, but if a coronary artery has become narrowed, the blood and oxygen supply to the heart muscle is inadequate, creating chest discomfort in the form of a tightness and pressure in the chest, and sometimes breathlessness, symptoms which disappear as the activity ceases and the heart’s requirements for blood and oxygen diminish.

There are a number of drugs available to treat angina, either to alleviate symptoms and improve exercise capability, or to reduce the future risk of a heart attack. Medications for symptomatic relief include the nitrates, beta blockers, calcium antagonists, and newer agents such as ivabradine and ranolazine with novel mechanisms of action. All patients should be offered a nitrate (GTN) spray, which can be used when angina develops but also to prevent angina occurring, by taking it just before walking up a hill, for example. It acts within seconds by opening up blood vessels and improving blood flow through the affected arteries, and many patients derive significant benefit from this. A side-effect of this medication can be headache, but fortunately this is usually brief. Beta blockers and calcium antagonists, when taken on a daily basis, help to reduce the frequency of angina and improve exercise capacity; beta blockers also exert a protective effect after a heart attack.

All patients experiencing angina will be advised to take a statin to lower cholesterol, and aspirin to reduce the likelihood of a clot forming in a blood vessel. Statins are usually taken at night, and aspirin in the morning, either with or immediately after food, to minimise the risk of indigestion or bleeding. Some patients cannot take aspirin and are prescribed clopidogrel as an alternative, and some newer drugs such as prasugrel and ticagrelor are also currently under evaluation. Patients with impaired heart muscle function or who have had a prior heart attack will also be prescribed an ACE inhibitor or angiotensin receptor blocker (ARB), which help the heart to pump more effectively and improve long-term prognosis.

Patients who are limited by their symptoms despite medication should be considered for angioplasty and stenting (also known as percutaneous coronary intervention) or surgery in the form of coronary artery bypass grafting (CABG). However, even if a patient is rendered symptom-free after PCI or CABG they should still expect to take daily medication to reduce their future risk, and patients who have received a stent will be on a course of “dual antiplatelets”, commonly aspirin and clopidogrel together, for a period of time, ranging from one month to a year and, in some cases, for life, to minimise the risk of clot formation within the stent.