

Guidance on the use of glycoprotein IIb/IIIa inhibitors in the treatment of acute coronary syndromes

Date September 2002

Note This guidance replaces Technology Appraisal
Guidance No 12 issued in September 2000

Further Information

Further information on NICE, and the full guidance issued to the NHS is available on the NICE web site (www.nice.org.uk). The full guidance can also be requested from 0870 1555 455, quoting reference N0131.

This leaflet is also available in Welsh, (Ref no. N0134).

Mae'r daflen hon hefyd ar gael yn Gymraeg (rhif cyfeirnod N0134).

National Institute for Clinical Excellence

11 Strand
London
WC2N 5HR

Web: www.nice.org.uk

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What is NICE Guidance?

The National Institute for Clinical Excellence (NICE) is part of the NHS. It produces guidance on the use of medicines, medical equipment and clinical procedures for people working in the NHS in England and Wales, and for patients and their carers.

To produce this guidance, NICE looks at how well the medicine, equipment or procedure works and also how well it works in relation to how much it costs. This process is called an appraisal. The appraisal process involves the manufacturer of the medicine or equipment for which guidance is being produced, and the organisations that represent the healthcare professionals, patients and carers who will be affected by the guidance. Each appraisal takes about 12 months to complete.

NICE was asked to look at the available evidence on a group of medicines called glycoprotein IIb/IIIa (GP IIb/IIIa) inhibitors and provide guidance that would help the NHS decide when they should be used in the treatment of acute coronary syndromes.

What are acute coronary syndromes (ACSs)?

About 1.2 million people in England and Wales currently suffer from coronary heart disease (CHD) and it is the most common cause of death in the UK. In CHD, the large blood vessels that carry oxygen-rich

blood to the heart (known as the coronary arteries) become narrowed. This means that the heart doesn't always get as much oxygen as it needs because the blood flow to the heart is reduced. For example, when you exercise, your heart is working hard and needs more oxygen – if, during exercise or other form of exertion, a person's blood vessels can't deliver enough oxygen-rich blood to meet the heart's needs, he or she may feel a temporary heaviness, tightness or pain in the chest. This is called stable angina – the chest pain it causes is often the first sign that a person has CHD. (Not all chest pain is caused by angina – the cause has to be diagnosed by a doctor.)

An acute coronary syndrome (sometimes shortened to ACS) may also occur in people with CHD. 'Acute coronary syndrome' is a general term that covers the following conditions.

- **Unstable angina**, which is when the angina occurs more often, and is more severe than normal or lasts for longer than normal.
- **A mild heart attack**, which happens when a part of the heart doesn't receive as much oxygen as it needs and some limited damage to the heart occurs as a result. The

medical term for this condition is a non-ST-segment-elevation myocardial infarction (NSTEMI).

- **A major heart attack**, which is where a part of the heart is so seriously starved of oxygen that it doesn't recover (that is, the damage is permanent). This is known as an acute myocardial infarction with ST-segment-elevations (or STEMI).

Some people diagnosed with an acute coronary syndrome will be recommended to have an operation to widen the narrowed blood vessel to the heart; this type of operation is referred to as a percutaneous coronary intervention (PCI for short). Often this involves inserting a tube (catheter) with a deflated balloon attached to it into a blood vessel in the body, and then 'threading' the balloon through the blood vessels up to the narrowed coronary artery. Once in the narrowed artery, the balloon is inflated so the artery is widened. This PCI is known as a balloon angioplasty.

Glycoprotein IIb/IIIa inhibitors (GP IIb/IIIa inhibitors) are a type of medicine given in hospital. They are used to help stop blood from clotting.

What are
glycoprotein
IIb/IIIa
inhibitors?

At present, three different GP IIb/IIIa inhibitors are available: eptifibatide, tirofiban and abciximab. The first two, eptifibatide and tirofiban, are known as the small-molecule GP IIb/IIIa inhibitors.

The GP IIb/IIIa inhibitors are licensed in the UK for intravenous use – a patient has an injection of one of the GP IIb/IIIa inhibitors into a vein (blood vessel) and then the same medicine is continuously injected over 12–108 hours, depending on the medicine used and the patient's circumstances.

NICE has made the following recommendations on the use of GP IIb/IIIa inhibitors.

- A person who has unstable angina or who has had a mild heart attack should be given a small-molecule GP IIb/IIIa inhibitor as well as aspirin and unfractionated heparin (which helps to stop the blood from clotting) if he or she is thought to be at high risk of having a major heart attack or dying. This should happen early on in the patient's treatment, and should happen whether or not the patient is soon going to have a PCI.

What has NICE recommended about the use of glycoprotein IIb/IIIa inhibitors in the treatment of acute coronary syndromes?

- When a doctor is deciding whether a person is at high risk of having a major heart attack or dying, he or she should consider different factors, including:
 - the person's age and medical history (for example, whether there have been previous heart attacks or heart surgery)
 - the person's current state (for example, is he or she still in pain)
 - the results of clinical tests such as an ECG (which shows if the heart is working abnormally) and blood tests.
- NICE has recommended that patients should be given a small-molecule GP IIb/IIIa inhibitor as soon as it appears that they are at high risk. The doctor shouldn't wait until the results of a particular blood test called the cardiac troponin test are known if he or she thinks that, based on other factors, the patient is at high risk.

- If a patient is scheduled to have a PCI soon after being admitted to hospital with unstable angina or a mild heart attack, but the operation is delayed, the patient should have a GP IIb/IIIa inhibitor at the time that she or he has the PCI.
- Doctors should consider giving GP IIb/IIIa inhibitors to patients with diabetes who are having an elective PCI (which means that the operation is not being carried out in emergency circumstances). Doctors should also consider GP IIb/IIIa inhibitors for people who are having complex PCIs. GP IIb/IIIa inhibitors aren't recommended for people who are having a planned, straightforward PCI unless there are immediate complications.

What should I do?

GP IIb/IIIa inhibitors are usually prescribed by hospital doctors. If you are unsure about whether this guidance applies to you, then you should discuss it with your doctor/specialist at your next appointment.

Will NICE review its Guidance?

Yes. The guidance will be reviewed in July 2005.