How rapidly can the dose be increased?

The dose can be doubled every 2–4 weeks providing the patient is stable. If the heart failure has deteriorated, the doses of diuretic, ACE inhibitor or digoxin should be adjusted first before any further increase in beta blocker. The dose of beta blocker may need to be reduced, particularly if there is undue bradycardia or worsening cardiac conduction.

What is the target dose?

For carvedilol, the target dose is 25 mg twice a day. For metoprolol it is 100 mg twice a day. Many patients will not reach these doses. Substantial benefits are almost certainly achieved with doses which are lower than these targets.

What about patients who are already taking a beta blocker?

Some patients who have been taking beta blockers long term for other indications such as angina or hypertension will develop heart failure. The clinician must first determine why the patient has developed heart failure (for example, new atrial fibrillation, silent myocardial infarction). Both the underlying cause and the heart failure must be treated appropriately. In many patients the degree of heart failure may not be too severe, and the beta blocker will be able to be continued. In other patients it may be necessary to either reduce the dose or even withdraw the beta blocker completely until the heart failure is under control. Once this has been achieved, the beta blocker should be cautiously reintroduced.

Who should manage the patient?

These patients are extremely fragile and difficult to treat. Occasional patients will deteriorate markedly after starting a beta blocker and may even require intensive or coronary care with intravenous beta agonist support. In Australia carvedilol can only be started in hospital patients. General practitioners should always consider involving a physician or cardiologist before starting or changing beta blocker therapy.

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FURTHER READING

Writing Group for Therapeutic Guidelines: Cardiovascular. Therapeutic Guidelines: Cardiovascular. 3rd ed. Melbourne: Therapeutic Guidelines Ltd.; 1999. p. 111-25.

Self-test questions

The following statements are either true or false (answers on page 139)

3. Patients with heart failure should be treated with an ACE inhibitor and a diuretic before starting a beta blocker.
4. Beta blockers reduce total mortality in heart failure, but do not reduce sudden deaths.

Medicinal mishaps

Allergy to an antihistamine

Prepared by Christian Hamilton-Craig and J. McNeece, Royal Adelaide Hospital, Adelaide

An 18-year-old woman took a dose of a friend's nizatidine for an upset stomach. About one hour after taking 150 mg of nizatidine she experienced shortness of breath, tachypnoea, wheezing and a mild visible swelling of the neck. On presentation to the Emergency Department she was visibly distressed. Her lung expansion was poor with diffuse coarse polyphonic inspiratory and expiratory wheezes. There was no rash. After treatment with adrenaline, promethazine and prednisolone, she improved rapidly.

We can only find two other reports of allergic reactions to nizatidine[1,2], (although cases of allergy to other H_2 histamine receptor antagonists have been published). The first report described a leukocytoclastic vasculitis associated with nizatidine. The second described a situation which was very similar to our case. In the report the patient was rechallenged with nizatidine and other H_2 antagonists. Results of the oral challenge were negative for cimetidine, ranitidine and famotidine. However, within 15 minutes of nizatadine administration the patient again experienced laryngeal oppression, dysphonia, dysphagia, dry mouth, moderate flushing and generalised pruritis.

The ability of H_2 histamine antagonists to increase serum histamine by displacing it from its receptors is well known, particularly after a rapid intravenous infusion. A similar effect would account for the appearance of anaphylactoid symptoms on some occasions. However, the second study[2] suggested an anaphylactic, rather than anaphylactoid, mechanism caused the symptoms as there was no reaction to the other H_2 antagonists.

Our case also shows the dangers of using other people's medicines.

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