Lesson of the Week

Nifedipine and beta-blockade as a cause of cardiac failure

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Nifedipine does not usually provoke cardiac failure in man[1] despite having a negative inotropic effect on isolated heart muscle. On the other hand, nifedipine treatment may help patients with heart failure because it reduces after-load.[2 3] Nifedipine, however, brought on heart failure in a patient with fixed outflow tract obstruction[4] in whom after-load could not be reduced. We report on a patient who developed pulmonary oedema after nifedipine treatment in the absence of a fixed outflow tract obstruction.

The combination of nifedipine and a beta-blocker may cause cardiac failure in patients with angina

Case report

A 60-year-old man was admitted to hospital with angina decubitus. He gave a two-year history of angina pectoris and had had an anterior subendocardial infarct one year before. He was being treated with metoprolol and isosorbide dinitrate. Chest *x*-ray examinations had been normal. We prescribed atenolol, isosorbide dinitrate, and nifedipine, but two weeks later he developed an inferolateral subendocardial infarct. He was breathless on moderate exertion, and a chest *x*-ray examination showed mild pulmonary congestion, with a cardiothoracic ratio of 16/30. After starting treatment with diuretics he was no longer breathless and was discharged a week later on treatment with atenolol 100 mg, frusemide 40 mg, and spironolactone 100 mg daily, isosorbide dinitrate 20 mg eight hourly, and nifedipine 20 mg three times a day. Five days later he developed frank congestive heart failure, with no evidence of a further infarct, and pulmonary and peripheral oedema, which required treatment with intravenous frusemide. Treatment with nifedipine was stopped, and there was no further heart failure over the next four months, even though spironolactone was reduced to 50 mg daily and he continued taking the other drugs as before. Subsequent chest *x*-ray examinations showed clear lung fields, with a cardiothoracic ratio of 15/31. Coronary angiography performed before coronary artery surgery confirmed severe three-vessel disease and impaired left ventricular function. After angiography treatment with nifedipine 20 mg three times a day was restarted but was stopped after three days because of worsening angina and dyspnoea, which subsequently improved.

Comment

Cardiac failure completely resolved in this patient after treatment with nifedipine was stopped, even though the diuretics were reduced, suggesting that nifedipine may have contributed to the cardiac failure. Increased cardiac sympathetic activity compensates for the negative inotropic effect of nifedipine, but this is prevented by beta-blockade.[5] Nifedipine and beta-blockade have also been implicated in causing severe hypotension.[6] These reports show the potential hazards of this combination of drugs in patients with left ventricular dysfunction.

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References

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What is the best treatment for psoriasis of the scalp?

The natural history and management of psoriasis of the scalp are as varied as of psoriasis elsewhere, compounded by the obvious but sometimes forgotten fact that many ointments and pastes are not tolerated at this site and that some compounds may stain hair, especially white or fair hair. The main topical remedies are corticosteroids, dithranol, and tar. Corticosteroids have a place, are clean and easy to use, cause less obvious atrophy on the scalp than elsewhere, but in the very long run tend to be disappointing. Dithranol can be useful especially in one of the newer bases like Dithrocream (0·1, 0·25, and 0·5%) or Psoradrate. Tar is also valuable in the form of such traditional remedies as ung cocois co (formula: solution of coal tar 12%, precipitated sulphur 4%, salicylic acid 2%, coconut oil 60%, yellow soft paraffin 9%, and emulsifying ointment 13%) or oil of cade ointment (formula: oil of cade 6%, precipitated sulphur 3%, salicylic acid 2%, and emulsifying ointment to 100%). There are more elegant commercial preparations, such as allantoin (Alphosyl) or salicylic acid (Pragmatar). Probably any simple shampoo may be combined with the above but tar (Polytar) is popular. Ultraviolet light and PUVA therapy are disappointing for the scalp. It is seldom that psoriasis of the scalp alone warrants systemic therapy.—R CHAMPION, consultant dermatologist, Cambridge.