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SHORT REPORTS

Intravenous amiodarone in atrial fibrillation complicating myocardial infarction

Oral amiodarone has been used as an effective treatment for atrial fibrillation. Intravenous amiodarone has recently become available in the United Kingdom on a named-patient basis, but its use in rapid control of atrial fibrillation has not been established. We report three cases of rapid, resistant atrial fibrillation associated with acute myocardial infarction in which intravenous amiodarone successfully controlled the heart rate.

Case reports

Case 1—A 63-year-old man with maturity-onset diabetes mellitus was admitted with an anterior myocardial infarction, complicated by left ventricular failure. Initially he responded to diuretic treatment but the next day developed atrial fibrillation with an apical rate of 160/min. Digoxin 0.75 mg was given intravenously but an hour later the pulse rate had not

changed and he had become anuric. Amiodarone 350 mg was given intravenously over 10 minutes, and over the next 12 minutes the atrial fibrillation came under control, the apex rate being reduced to 75/min. Amiodarone was infused at a rate of 600 mg per 24 hours over the next 48 hours, and digoxin was continued by mouth. Subsequently the atrial fibrillation remained controlled with oral digoxin alone. Eleven days after admission he had a further infarction and died as a result of cardiogenic shock.

Case 2—A 57-year-old man was admitted with an anterior myocardial infarction. He had atrial fibrillation with a rate of 110/min and was hypertensive (blood pressure 190/120 mm Hg). After a nitroprusside infusion to control his blood pressure his pulse reverted to sinus rhythm and after 24 hours his blood pressure was controlled with oral prazosin. The next day he again developed atrial fibrillation with an apex rate of 170/min and his blood pressure dropped to 70/50 mm Hg. Cardioversion (200 joules) restored sinus rhythm, but reversion to rapid atrial fibrillation occurred within 10 minutes. Intravenous amiodarone was given (300 mg over 10 minutes), followed by infusion (600 mg over 24 hours) and then oral treatment (600 mg a day for the first week). He reverted to sinus rhythm within 10 minutes of the bolus dose. Over the next week he had further short runs of controlled atrial fibrillation but remained well and was discharged two weeks after admission.

Case 3—A 67-year-old hypertensive diabetic man was admitted with a right-sided hemiplegia. The next day he had a myocardial infarction and developed atrial fibrillation with an apex rate of 170/min. DC cardioversion (100 joules) resulted in temporary resumption of sinus rhythm, but within

30 minutes atrial fibrillation recurred, and ouabain 0.5 mg intravenously failed to reduce the rate. Amiodarone (300 mg intravenously over 10 minutes) reduced the apex rate to 90/min, after which an intravenous infusion was established (600 mg per 24 hours for 48 hours); over the same period he was given digitalis. The next day he reverted to sinus rhythm and remained well.

Comment

Amiodarone is a benzofuran derivative with a class III action, prolonging the duration of the action potential in conducting fibres and increasing their refractory period.¹ It has a broad range of action, having a similar effect on atrial, nodal, and ventricular tissues. Coronary blood flow is increased and there is no negative inotropic effect—both valuable assets in treating arrhythmias with an ischaemic aetiology.

Cardioversion and cardiac glycosides should be regarded as first-line treatment in the control of fast atrial fibrillation occurring after myocardial infarction. In resistant cases, however, and especially when prompt control of the arrhythmia is mandatory to maintain a cardiac output, we suggest that intravenous amiodarone has a valuable place in the management.

We thank Dr A C Burden and Dr J E F Pohl for permission to report these cases.

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Thrombocytopenia and haemolytic anaemia due to feprazone

Feprazone is a non-steroidal anti-inflammatory agent. Rashes and dyspepsia are common adverse effects.¹ Serious blood dyscrasias are a well-recognised side effect of the structurally related drug phenylbutazone. This relation has prompted warnings about similar effects with feprazone,² but no cases seem to have been reported. We report a case of haemolytic anaemia and severe thrombocytopenia due to feprazone.

Case report

A 21-year-old student went to his general practitioner complaining of cramps in his legs while playing football. He was given feprazone 400 mg daily. Five days later he had the first of several episodes of epistaxis. Six days after the onset of epistaxis he developed a rash and was admitted to hospital. There was no past or family history of bleeding problems. He had been treated with phenobarbitone over several years for epilepsy but had stopped this two years previously without recurrence of fits. Six years previously he had developed a rash while taking ampicillin. He was not receiving any other current drug treatment.

On examination he had a widespread erythematous rash with purpura. There was moderate cervical and axillary lymphadenopathy but no enlargement of the liver or spleen. Initial investigations showed haemoglobin concentration 11.8 g/dl, white cell count $5.5 \times 10^9/l$, and platelets $11 \times 10^9/l$. The following day investigations showed haemoglobin concentration 9.3 g/dl with 3.5% reticulocytes, white cell count $4.8 \times 10^9/l$ with normal differential count, and platelets $11 \times 10^9/l$. Haptoglobin concentration was less than 0.12 g/dl (normal 0.30-5.0 g/dl). A direct Coombs test was positive, showing only C3d specificity. An autoagglutinin was present in the serum. Bone-marrow examination showed erythroid and megakaryocytic hyperplasia.

These findings were thought to be related to feprazone and the drug was stopped. Lymphadenopathy, however, is not typical of drug-induced haemolysis or thrombocytopenia, and a lymph-node biopsy was performed. This showed reactive hyperplasia. Paul-Bunnell, antinuclear factor, and toxoplasma dye tests were negative.

Five days after admission the platelet count was still below $10 \times 10^9/l$ and there was recurrent epistaxis. Prednisone 60 mg daily was started and within three days the haemoglobin concentration had risen to 11.7 g/dl and platelet count to $197 \times 10^9/l$. He was discharged and the prednisone stopped within six weeks. The haemoglobin concentration and platelet count subsequently remained normal.

Comment

The haematological findings indicate immune platelet destruction and red-cell haemolysis. The close temporal relation with the use of feprazone in an otherwise fit individual suggests a causal relation. A rapid rise in the platelet count after the drug was stopped might have been expected, but with little rise after five days we decided that steroids could not be withheld because of the continuing bleeding problems encountered.

The positive result of the direct Coombs test with anti-C3d specificity is in keeping with a drug-induced immune-complex-mediated haemolysis, and a similar mechanism is often present in drug-induced thrombocytopenia.³ An immune mechanism has been described in thrombocytopenia due to phenylbutazone.⁴ A similar mechanism may be implicated in this case.

Six reports documenting thrombocytopenia associated with the use of feprazone have been forwarded to the Committee on Safety of Medicines. As our findings do not seem to be an isolated occurrence, this report should serve to emphasise the potential hazards inherent in the use of "second-generation" anti-inflammatory drugs.

We acknowledge the help of the Committee on Safety of Medicines. We thank Dr J R Hayes and Dr J H Robertson for their help and advice, and Mrs L Thompson for typing the manuscript.

Requests for reprints should be addressed to Dr Caroline A Humphrey, The Laboratories, Belfast City Hospital, Belfast.

¹ Harris PG. A monitored-release study of methazone in general practice. *J Int Med Res* 1980;**8**:276-82.

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Failure with the new triphasic oral contraceptive Logynon

A new type of oral contraceptive has been introduced recently. A case of probable drug failure, an uncommon occurrence with the combined oral contraceptive preparations, is reported here.

Case report

A 24-year-old nulliparous woman had been using oral contraceptives for six years without problems. Her prescription was changed from a monophasic preparation (Eugynon 30) to the new triphasic preparation Logynon by her general practitioner because of headaches. She started the first treatment cycle five days after finishing the monophasic preparation and, as recommended, used a contraceptive sheath for the first 14 days. She had a normal menstrual period at the end of the first treatment cycle and so started the second course, as prescribed. At the end of that cycle she did not have a menstrual period, and soon afterwards a pregnancy test gave a positive result.

The patient had no gastrointestinal disturbances during these months and did not take any antibiotics or other drugs. She was seen at the hospital antenatal clinic 19 weeks after her last menstrual period. Clinical examination and ultrasound scan confirmed the gestational age of the fetus. Antenatal progress was uneventful, and 10 days after term she went into labour spontaneously and delivered a normal 3800-g girl, who showed signs of postmaturity.

Comment

Logynon was introduced into Britain in May 1980 after initial pilot studies.^{1,2} The preparation contains three different combinations of ethinyloestradiol and levonorgestrel: 30 and 50 µg respectively for six days; 40 and 75 µg for five days; and 30 and 125 µg for 10 days.

Lachnit-Fixon³ cited 8028 treatment cycles with no pregnancies