incidence of 1 in 7·5 compared with 1 in 160 men by age 25 as reported by Williamson.[2] Further evidence that these patients form a high risk group for torsion is provided by other authors who have noted a history of recurrent testicular pain before torsion in 29-50% of their patients.[3,4] Recognition of this diagnosis, its relation to acute torsion and urgent elective orchidopexy may improve testicular salvage rates.

The occurrence of one case of torsion despite previous fixation with absorbable sutures suggests that fixation should be achieved with three non-absorbable sutures in addition to plication of the tunica vaginalis.

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Convulsions associated with prophylactic antimalarial drugs: implications for people with epilepsy

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With the increase in foreign travel it is not uncommon for patients with epilepsy to seek advice about malaria prophylaxis, but no special guidelines are available. We describe four patients who presented with tonic-clonic seizures when taking antimalarial drugs prophylactically.

Case reports

Case 1—A 40 year old previously healthy woman had two tonic-clonic convulsions within three hours, 33 days after beginning prophylactic treatment with chloroquine sulphate 400 mg and dapsone 100 mg with pyrimethamine 12·5 mg (Maloprim) once a week. Her subsequent electroencephalogram showed brief generalised spike and wave activity of 3 Hz. She began carbamazepine and remained seizure free for four months.

Case 2—A 26 year old woman had her first tonic-clonic seizure 23 days after beginning chloroquine two tablets and dapsone 100 mg with pyrimethamine 12·5 mg (Maloprim) once a week. She had taken these drugs during previous foreign visits without adverse effects. For the past nine years she had suffered infrequent attacks in which she would be inaccessible for a few seconds, sometimes associated with myoclonic jerks. Physical examination showed nothing abnormal. Her subsequent electroencephalogram showed episodes of generalised spike and wave discharges of 3 Hz. She began sodium valproate and remained seizure free for five months.

Case 3—A 49 year old woman presented with a prolonged tonic-clonic convulsion one day after taking chloroquine sulphate 400 mg. She had a long history of complex partial seizures, which were well controlled with carbamazepine. Previous electroencephalograms had shown focal sharp waves in the right temporal region. Her only previous generalised convulsion had occurred when she was 32.

Case 4—A 26 year old previously healthy woman presented after two tonic-clonic seizures within one week. She had begun prophylactic treatment with sulfadoxine 500 mg and pyrimethamine 25 mg (Fansidar) once a week the previous month, but chloroquine two tablets a week had been added because of her itinerary. Her subsequent electroencephalogram was normal and over the next 14 months she remained seizure free without antiepileptic treatment.

The table summarises these four cases.

Comment

The association between malaria prophylaxis and tonic-clonic seizures is unlikely to have been due to chance. Three of the patients (cases 1, 2, and 4) had never had tonic-clonic seizures before, even though two of them (cases 1 and 2) had evidence of a low seizure threshold. In case 3 the patient had had only one other tonic-clonic seizure many years previously. No patient had a further tonic-clonic seizure after stopping antimalarial drugs, but the seizures had serious consequences in each case and none of the patients was rechallenged.

All the patients were women. Convulsions have been reported in four women with amoebiasis receiving much higher therapeutic doses of chloroquine phosphate (500-1125 mg/day) in combination with diiodohydroxyquinoline or paromomycin and all showed signs of toxicity before the convulsions.[1] Very high doses of chloroquine[2] and pyrimethamine[3] have been reported to cause convulsions. We, however, have been unable to find any report of convulsions attributed to prophylactic doses of these drugs, and our search included contact with appropriate pharmaceutical companies and the Committee on the Safety of Medicines.

The mechanism of seizures induced by antimalarial drugs is uncertain. Chloroquine inhibits glutamate dehydrogenase activity,[1] so could reduce concentrations of the inhibitory neurotransmitter γ-aminobutyric acid.

We recommend that specific inquiry should be made for a history of epilepsy when considering malaria prophylaxis and that people with epilepsy should be

Characteristics of four patients who had tonic-clonic seizures while taking prophylactic antimalarial drugs

Case No	Sex	Age (years)	Drug	Dose/week	No of doses before tonic-clonic seizure	Previous history of seizures: Tonic-clonic	Previous history of seizures: Other	Electroencephalogram	Subsequent follow up (months)
1	F	40	Chloroquine Dapsone-pyrimethamine	2 Tablets* 1 Tablet	5 5	0	0	3 Hz spike/wave	4
2	F	26	Chloroquine Dapsone-pyrimethamine	2 Tablets* 1 Tablet	4 4	0	Absence seizures	3 Hz spike/wave	5
3	F	49	Chloroquine	2 Tablets*	1	1	Complex partial seizures	Right temporal sharp waves	1
4	F	26	Chloroquine Sulfadoxine-pyrimethamine	2 Tablets* 1 Tablet	2 5	0	0	Normal	14

*Chloroquine: One tablet = 150 mg base.

advised about the risk of antimalarial drugs provoking seizures. In view of the risk and the serious consequences if tonic-clonic seizures are provoked, some people with epilepsy may prefer to plan their itinerary so that they avoid the need to take antimalarial drugs.

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Mediastinal haemorrhage: a complication of thrombolytic treatment

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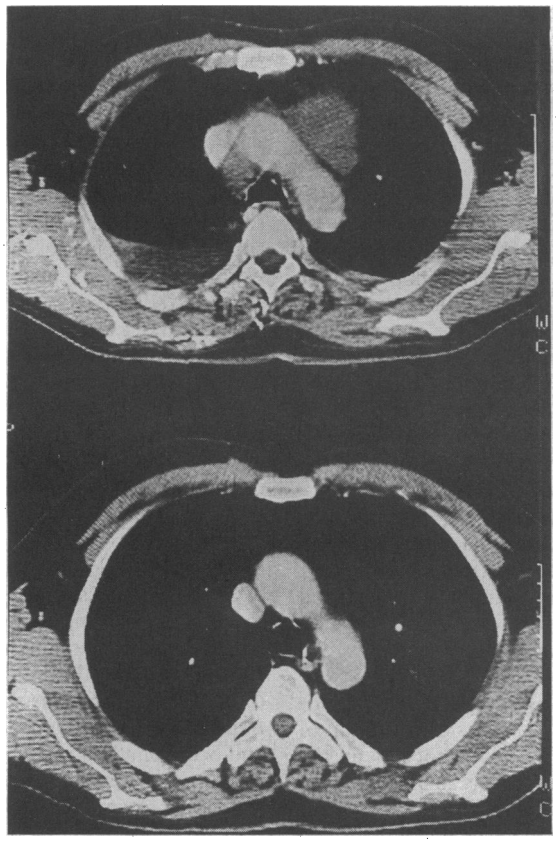
Thrombolytic treatment is a major advance in acute myocardial infarction.[1] The most serious side effect is haemorrhage, and we report a case of mediastinal and pericardial bleeding after the administration of tissue plasminogen activator.

Case report

A 48 year old man presented with severe retrosternal chest pain of two hours' duration. Examination did not show any abnormality. An electrocardiogram showed poor R wave progression and ST segments raised 1·5 mm in the chest leads. A chest radiograph was normal. Myocardial infarction was thought the most likely diagnosis and he was entered into a trial of thrombolytic treatment. He was given a bolus of 5000 IU heparin and then the trial drug (later shown to be tissue plasminogen activator) over two hours, followed by heparin infusion for 24 hours. Nine hours after admission he developed typical pericardial pain and was given 50 mg indomethacin orally. Two hours later he became ill with severe chest pain, a heart rate of 140 beats/minute, and a profound fall in systemic blood pressure. The jugular venous pressure was raised 4 cm above the sternal angle and there was 15 mm Hg of paradox. The heart sounds were normal, the electrocardiogram was unchanged, and two dimensional echocardiography showed a small pericardial effusion. The kaolin cephalin clotting time was normal.

We thought that he had pericardial tamponade, but pericardial aspiration produced only 5 ml of heavily bloodstained fluid. His condition improved over the next few hours; further electrocardiograms showed non-specific ST-T change, and serial measurements of cardiac enzyme activity were normal. The next morning a chest radiograph showed appreciable widening of the superior mediastinum. Computed tomography showed a low density mass in the anterior mediastinum, a small pericardial effusion, and a small pleural effusion (figure). As there was a risk of dissecting aortic aneurysm he was transferred to the regional centre for urgent aortography and coronary angiography, which both yielded normal results. Haematological variables, plasma viscosity, viral titres, and autoantibody titres were normal.

At follow up at three months the patient was well and a chest radiograph and computed tomogram were normal.



Computed tomograms showing soft tissue mass in anterior mediastinum beside aorta (top) and its resolution three months later (bottom)

Comment

The most serious complication of thrombolytic treatment is bleeding: treatment has to be stopped or a transfusion given in 1-2% of patients.[2] This man's primary illness was acute pericarditis, but the main adverse events were iatrogenic mediastinal haemorrhage and pericardial haemorrhage. Mediastinal haemorrhage is rare and is usually the result of trauma or ruptured aortic aneurysm; it rarely occurs in bleeding disorders. Probable mediastinal haemorrhage after intracoronary administration of streptokinase and heparin has been described,[3] but the patient had been investigated by cardiac catheterisation, itself a cause of mediastinal haemorrhage, and the diagnosis was not proved. In addition, the hazards of thrombolytic treatment in patients with acute pericarditis have been described, with the delayed development of pericardial tamponade.[4] If thrombolytic treatment becomes more widely used its potential danger in conditions mimicking myocardial infarction must be realised and the complication of mediastinal haemorrhage recognised.

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