lead to water losses, such as diabetes. The patient’s low level of
consciousness was thought at first to be due to hypoprenochrome, while
the other signs were attributed to septicemia.

Fluorouracil was infused on two occasions. Amiodarone 200 mg/dose was added to bring
the plasma sodium concentration down to the normal range, taking care
not to produce water intoxication. Cerebral oedema may follow over-
rapid dilution of plasma at a time when the brain cells have a high
sodium concentration. These patients usually have a pronounced diuresis
with a large sodium output due to the hyperosmolality of plasma, and
diuretics are not needed.3 Because of massive diuresis they also lose
potassium, which will need replacement.

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Pulmonary infiltration and bone marrow depression complicating
treatment with amiodarone

Amiodarone is valuable in recurrent cardiac arrhythmias. Recognised
side effects include corneal deposits, photosensitisation, skin discoloration,1 and disorders of thyroid function.2 We report a case in
which treatment with amiodarone resulted in pulmonary infiltration
and bone marrow depression.

Case report

A 71-year-old man had mild hypertension, ischaemic heart disease, and
chronic airways obstruction. In 1972 he developed recurrent supraventricular
atrial tachycardia. Poorly controlled by established drugs, and required
cardioversion on two occasions. Amiodarone 200 mg twice daily was started in
1979 and his arrhythmias stopped. Later that year he developed photosensitisation, and during 1980 corneal deposits were noted. He also received
bendrofluazide 5 mg daily for his hypertonism.

The patient remained well until July 1981, when he was admitted to hospital after a syncopal attack. He complained of increasing breathlessness
and fatigue developing over five weeks. Examination showed a plethora
man with bluish pigmentation and thickening of the skin around the nose and
cheeks. Pulse rate was 56 beats/min, and blood pressure 140/80 mm Hg.
There was no evidence of cardiac failure. Fine inspiratory crackles were heard
at the lung bases.

Electrocardiography showed diffuse myocardial ischaemia. Haemoglobin
concentration was 9.2 g/dl (indices indicating a normochromic, normocytic
anaemia); white cell count 5.0 × 109/l (normal differential); platelet count
200 × 109/l; erythrocyte sedimentation rate 120 mm in first hour; and
blood urea concentration 14.2 mmol/l (85 mg/100 ml). Erythrocyte concentrations
and liver function values were normal. Lactate dehydrogenase activity was
620 IU/l; serum haptoglobin was normal. The chest radiograph (figure) showed infiltration of the middle and lower zones of both lungs. Arterial
oxygen pressure was 4.9 kPa (37 mm Hg), and carbon dioxide pressure
4.1 kPa (30 mm Hg). Forced expiratory volume in 1 second was 1.4 l
(predicted 2.75 l), and forced vital capacity 2.5 l (predicted 4.0 l). Bone
marrow was poorly cellular with large fat spaces; erythropoiesis was normo-
blastic. Thyroxine concentration was 43 nmol/l (5.3 μg/100 ml) (normal
50-160 nmol/l; 3.6-10.4 μg/100 ml); triiodothyronine resin uptake (Thyropac-3)
107 nmol/l (69.7 ng/ml) (normal 93-124 nmol/l; 60.5-80.7 ng/ml); free thyroxine index 40 (normal 54-172); and thyroid-stimulating
hormone concentration 35.7 mIU/l (normal 0.8-6.0 mIU/l). Precipitins for
farmers’ lung, bird-breeders’ lung, and aspergillus were negative. Rhema-
toid and antinuclear factors were not detected.

Amiodarone was thought to have induced both pulmonary infiltration and
bone marrow depression. The drug was stopped and prednisone 40 mg daily
started. Within a week there was symptomatic and radiological improvement.
Pulmonary function tests at one month showed spirometry unchanged, total
lung capacity 6.1 l (predicted 6.4-6.5 l), and carbon monoxide transfer factor
1.8 mmol/min/kPa (5.3 l/min/mm Hg) (predicted 8.0 mmol/min/kPa;
23.9 l/min/mm Hg). Bronchoscopy showed increased secretions, and
transbronchial biopsy showed cellular alveolar walls with clumps of alveolar
macrophages but no fibrosis.

Two months after withdrawal of amiodarone the chest radiograph was
virtually clear (figure) and pulmonary function tests showed improvement.

Comment

Amiodarone apparently induced pulmonary infiltration and bone
marrow depression in this patient. The pulmonary infiltration re-
responded promptly to withdrawal of the drug and treatment with prednisone.
Bone marrow hypoplasia was still present three months later at the time of necropsy.

Hyperreactivity pneumonitis3 and fibrosing alveolitis4 have been reported
as complications of treatment with amiodarone. We contacted both
the manufacturers of the drug and the Committee on the Safety of
Medicines to find out whether they had been notified of similar side
effects. Apparently there is free interchange of information between
them. Including the present case, there had been five cases of pulmonary
infiltration reported. No cases of bone marrow depression had been
reported to either. The mechanism of induction of side effects is not
clear, but their occurrence gives cause for concern.

We suggest that patients receiving amiodarone should be observed
not only for corneal deposits, skin lesions, and thyroid function
abnormalities but also for pulmonary infiltration and bone marrow
depression.

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