metabolism in the liver is unknown.[9] The pharmacokinetics of disulfiram have not been elucidated because there are no sensitive and specific methods of determining disulfiram and its metabolites.

Acute toxicity studies with disulfiram in rats have shown no signs of liver necrosis but disulfiram decreases the drug metabolising capacity of the liver.[10 11] This mechanism probably accounts for disulfiram's inhibition of diphenylhydantoin and warfarin metabolism.[12 13]

Our findings indicate that long-term toxicity studies in animals should be performed to detect possible hepatic damage after pro-prolonged administration of disulfiram.

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Photo-onycholysis caused by demethylchlortetracycline

Photodermatitis is a well-known and relatively common side effect of treatment with the tetracyclines. It appears as a bright erythema of the exposed skin in response to sunlight. Photo-onycholysis is another recognised side effect of the tetracyclines but is much less common and less widely known.

Case report

A 64-year-old housewife was treated for a chest infection with demethylchlortetracycline (demeclocycline), 150 mg four times a day, from 4 August 1976. On 5 August 1976 she spent about two and a half hours in the sun. By that evening she had developed severe erythema and blistering of the face, arms, and legs where her skin had been exposed. The eruption got worse over the next 24 hours. She was treated with oral antihistamines and topical corticosteroids and it took three weeks for her skin to return to normal.

On 9 September 1976, five weeks after the onset of the rash, she developed onycholysis of two nails of the right hand. By 6 October 1976 the onycholysis affected all the finger nails: the distal two-thirds of most nails had separated from the nail beds. Thereafter there was a steady improvement, though the nails did not return to normal until mid-March 1977.

Comment

Photo-onycholysis may occur with tetracycline[1] and doxycycline[2] as well as with demethylchlortetracycline. Usually it accompanies a severe photodermatitis but it is occasionally seen when the skin is not otherwise affected. It is a rare side effect in Britain and has not been reported from the UK. From March 1964 to December 1975 the Committee on Safety of Medicines was notified of 91 cases of photosensitive eruptions due to demethylchlortetracycline treatment but only one case of unspecified "nail disorder."[3] Reports of photo-onycholysis have all come from countries with hotter climates, such as India,[1] Spain,[4] and the USA.[5] If, however, the weather we experienced in the UK last year sets a precedent for the future it would be wise to avoid prescribing demethylchlortetracycline in the summer. This drug should also not be given to patients about to holiday abroad in the sun.

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Convulsive seizures and viloxazine

Viloxazine is a novel bicyclic compound with atypical pharmacological properties. It is marketed as the antidepressant Vivalan. During a trial of this drug—a double-blind comparison with placebo—one of the patients treated with viloxazine had three convulsive seizures. This was an unexpected finding because viloxazine protects rodents from convulsions induced electrically and with pentylenetetrazole,[1] these tests being indicative of potential anticonvulsant activity in man.

Case report

The patient was a 50-year-old man with depressive psychosis. He had no family or personal history of a neurological disorder and no signs of a concomitant physical illness. He had not abused alcohol, barbiturates, or other drugs.

On the sixth day of treatment with viloxazine, 100 mg three times a day, he said that he felt lost and that he did not know where he was. Shortly afterwards he complained of headache. Three-quarters of an hour later he fell to the ground and had a typical grand mal attack with generalised convulsions. On recovery he was disorientated in time and place, and he claimed that the staff were trying to make him mad. It was thought that he was in a postictal confusional state. Viloxazine was discontinued. Several hours later he had two more grand mal seizures. Examinations after each attack showed no abnormal physical signs. His persecutory ideas persisted for a few days.

The following values, measured during the trial, were all normal: haemoglobin; total and differential white blood cell count; erythrocyte sedimentation rate; blood sugar; glucose tolerance; and serum protein, albumin, calcium, inorganic phosphates, cholesterol, urea, creatinine, total bilirubin, alkaline phosphatase, lactic dehydrogenase, and aspartate aminotransferase. Chest and skull radiographs were also normal. An electroencephalogram, recorded 11 days after the fits, showed a mild, non-specific abnormality with generalised theta activity, but no focal or paroxysmal features.

The patient was followed up for four years. During this time he remained free from further attacks and symptoms and signs suggestive of an insidiously developing neurological disorder.

Comment

The difficulties of establishing a cause-and-effect relation between the administration of a drug and the occurrence of an unwanted effect are well known. It is equally well known that no firm conclusions can be drawn from a single case report. The only other possible cause of the fits was withdrawal of the therapeutic doses of benzodiazepines that his general practitioner had prescribed for him up to three days before his inclusion in the trial. The patient had received chlordiazepoxide 10 mg three times a day and nitrazepam 5-10 mg at night for