Discussion

Blepharospasm is an unusual manifestation in parkinsonism but this has been a well recognized symptom of the disease (Klawans and Erlich, 1970). In some cases, blepharospasm may be so severe as almost to prevent useful vision and may also be associated with painful contractions of the muscles of the eyelids. It is more frequent in post-encephalitic than idiopathic parkinsonism.

The first patient presented with difficulty in useful vision and pain in the eyes which was relieved within a short period following commencement of treatment with L-dopa. With regard to the other two cases, life became more comfortable when blepharospasm was relieved. In all these patients, there was also remarkable improvement in parkinsonism, depression and general condition (i.e. a feeling of well being).

L-dopa now seems to be a major therapeutic advance and most effective treatment of Parkinson's disease, particularly for the akinesia and parkinsonian blepharospasm. Although all the patients (in this series) were elderly, a daily maintenance dose of about 2 g of L-dopa was tolerated and there were no significant side effects.

It was interesting to observe that in two cases the initial positive glabellar reflex was reversed following treatment. It has been suggested that the reversal is secondary to the re-establishment of dopamine in-

hibition of the neurones of the striatum (Klawans and Goodwin, 1969).

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Penile Parkinsonism

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Summary

Priapism following the administration of the tranquillizer pericyazine (Neulactil) is reported. No other aetiology was found after full investigation. The condition resolved during treatment with intravenous benzotropine (Cogentin). An attempt has been made to explain the aetiology and rationalize the treatment given.

Case report

History

A 37-year-old Caucasian paper merchant presented to the accident and emergency department

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with a persistent painful erection for 48 hr. The onset of the priapism occurred following the administration of a prescription for pericyazine (Neulactil) 25 mg t.d.s. The patient had taken the first tablet, retired to bed and had sexual intercourse. He awoke the following morning with priapism, and continued to take the tablets for a further 24 hr. The tablets were prescribed for anxiety following a domestic disturbance. There was no relevant previous medical history and he had otherwise enjoyed good health.

Clinical examination

A fit looking, well nourished man in considerable pain. Apyrexial with no lymphadenopathy, the cardiovascular and respiratory systems were normal.

The liver and spleen were impalpable. The penis was erect, but only the corpora cavernosa were involved, the glans and corpus spongiosum being flaccid. The testes were normal. Rectal examination was normal. No abnormality was found on examining the central nervous system.

Investigations

Haemoglobin 14.6 g/100 ml; total white blood cells 12,000/mm³; differential: neutrophils 69%, eosinophils 1%, lymphocytes 27%, monocytes 3%. Film: normal. Platelets 425,000/mm³. ESR 3 mm first hour. Bone marrow biopsy normal. Blood urea 20 mg/100 ml, plasma electrolytes normal. MSU: microscopy showed no cells, culture: no growth. Blood clotting parameters: kaolin partial-thromboplastin and prothrombin times normal. Serological tests for syphilis—negative. Stool culture normal. Glucose tolerance test normal. Chest, lumbar spine and genito-urinary tract X-ray normal.

Treatment

The patient was initially managed with parenteral analgesics for pain and subsequently with caudal anaesthesia. When the likely aetiology was considered it was decided to treat the patient with a preparation known to counteract the neurological side-effects of phenothiazine-type tranquillizers. An intravenous injection of benzotropine (Cogentin) 1 mg resulted in immediate resolution of the priapism during injection. However, the patient was left with residual corpora cavernosa thrombosis and subsequent impotence.

Comment

The possible association between priapism and administration of the phenothiazine-type tranquilizer chlorpromazine was suggested by Dawson-Butterworth (1969). It was suggested that chlorpromazine might trigger spinal reflexes controlling erection in susceptible patients. A further report (Meiraz and Fishelovitch, 1969) described four cases of priapism induced by chlorpromazine therapy and suggested that hypotension, associated with autonomic imbalance, might be the precipitating factor. It is well recognized that the phenothiazines may induce other extra-pyramidal side-effects such as

dyskinesias and Parkinsonian-like syndromes. Pericyazine (Neulactil) has a similar chemical structure to chlorpromazine in that it is based on the phenothiazine ring, but has different groups substituted (May and Baker, Ltd, personal communication). The symptoms of idiopathic Parkinson's disease are attributable to dopamine deficiency in the region of the corpus striatum in the brain stem. It has been suggested (Horn and Snyder, 1971) that the structure of the phenothiazines has a similar conformation to that of dopamine and may block dopamine receptors in the brain stem by competitive inhibition. The blockade of dopamine receptors would account for the extra-pyramidal side-effects of the phenothiazines. It is known that Parkinson's disease and the neurological side-effects of the phenothiazines are ameliorated by administration of acetylcholine antagonists.

It may be that there is a balance between dopamine and acetylcholine in the brain stem nuclei. The administration of intravenous benzotropine (Cogentin) caused a dramatic resolution of the priapism and it is suggested that the acetylcholine antagonizing properties of benzotropine altered this balance. However, the precise chemical control and neural pathways are not fully understood.

An explanation of the clinical observations is that autonomically induced spasm of the ischiocavernosus muscles originating from the inferior pubic ramus (Gray's Anatomy, 1962) could result in compression of the venous drainage of the corpora cavernosa and maintenance of erection.

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