to his anticonvulsive therapy, and he is disappointed that he has been unable to continue to take this drug.

ADDENDUM.—Since this paper was submitted, a man aged 57, with glaucoma, has been admitted to Llandough Hospital with typical right renal colic, which occurred during long-term acetazolamide therapy (250–500 mg. daily for three months). The pain lasted 36 hours and there was no oliguria. The previous history and physical findings were not suggestive of renal disorder. Numerous red blood corpuscles and occasional leucocytes were seen on microscopical examination of the urine, which was sterile, and an intravenous pyelogram was normal. My thanks are due to Mr. D. B. E. Foster for inviting me to see this patient.

Summary

A case of recurrent renal colic attributable to the repeated use of acetazolamide is described. One episode of unilateral suppression of urine was successfully treated by ureteric catheterization. Similar cases in the literature are discussed in brief.

I am indebted to Dr. Byron Evans for his permission to publish this case and for his advice. My thanks are also due to Dr. G. de B. Hinde for his help in the interpretation of the radiographs.

REFERENCES

- Barraquer, J., and Escribano, J. (1957). *Rev. clin. esp.*, **64**, 310.
Becker, B., and Middleton, W. H. (1955). *A.M.A. Arch. Ophthalm.*, **54**, 187.
Bertino, J. R., Rodman, T., and Myerson, R. M. (1957). *A.M.A. Arch. intern. Med.*, **99**, 1006.
Glushien, A. S., and Fisher, E. R. (1956). *J. Amer. med. Ass.*, **160**, 204.
Persky, L., Chambers, D., and Potts, A. (1956). *Ibid.*, **161**, 1625.
Scheie, H. G. (1955). *Amer. J. Ophthalm.*, **39**, 887.

Medical Memorandum

Acute Dystonic Reaction to Perphenazine

Phenothiazine derivatives of increasing variety are now in use as tranquillizers and anti-emetics and in the treatment of psychiatric disorders. The toxic effects of these drugs may occasionally cause alarm and diagnostic confusion to the uninitiated, and we are prompted to report the following case in which a dramatic picture suggestive of tetanus followed the use of a small dose of perphenazine ("trilafon").

CASE REPORT

The patient, a girl aged 18, had been treated unsuccessfully with dimenhydrinate for vomiting of pregnancy. At 10 weeks, treatment was begun with perphenazine, 4 mg. twice daily. At 6 a.m. the next day she complained of aching at the root of the jaws and difficulty in opening her mouth, but as the vomiting had been relieved she took a third tablet.

A few hours later she reported in the surgery. Her head was tilted backwards and to one side and her jaw was held open. Her facies was immobile and vacant. Although she could talk, she could not maintain her mouth in the closed position. She said her eyes were trying to roll upwards and she still had aching in the jaws. Her gait was normal and there was no tremor. She had no vertigo or headache and was mentally normal, alert, and acutely embarrassed by her "foolish appearance."

The diagnosis of a drug reaction was made. Pethidine, 50 mg., was given intramuscularly, and after 30 minutes the posture had relaxed and the facies had improved. During the next six hours, however, the symptoms of dystonia returned in spasms of increasing severity alternating

with partial relaxation. The features were now clenching of the jaws and head retraction. At 7 p.m. she was found in a position of opisthotonos, with strong spasm of all the spinal muscles. There was severe trismus and risus sardonicus, the eyes were deviated upwards, and the brow was corrugated. She was fully conscious and anxious, and intimated that she had pain in the neck.

Apart from the upward deviation of the eyes, the picture was now typical of tetanus, and there was a recent history of chronic sepsis in the leg. Confidence was shaken in the diagnosis of an iatrogenic disorder, and after another dose of 100 mg. of pethidine she was transferred to hospital.

The pethidine again appeared to induce rapid relaxation. On arrival in hospital an hour later she was drowsy and depressed, but there was no trace of dystonia, and she could touch her toes. Full neurological examination was negative. As her story was reminiscent of an oculogyric crisis, signs of extrapyramidal disorder were particularly sought, but were absent.

Subsequently the use of phenothiazine drugs was avoided and there was no further evidence of any abnormality of physical or mental behaviour.

COMMENT

Perphenazine ("trilafon"; 1-[3-(2-chloro-10-phenothiazinyl) propyl]-4(2-hydroxyethyl) piperazine) is closely related to prochlorperazine ("stemetil"; 1-[3-(3-chloro-10-phenothiazinyl) propyl]-4-methyl piperazine). Various bizarre reactions which were thought to be peculiar to stemetil have been reported by the manufacturers. These include lip tremors, athetotic movements, trismus, and torsion of the spine with painful spasms of spinal muscles which may amount to opisthotonos. Hare (1958) has drawn attention to the very rare occurrence of similar symptoms, including head retraction, due to chlorpromazine. In addition mild features of Parkinsonism may occur with all drugs of the phenothiazine group. Although the more dramatic manifestations may be aggravated by stress and partly alleviated by commands, there is no doubt that they represent a true drug reaction and are not hysterical in nature. They appear to be related to high dosage and to be entirely reversible.

Acute dystonia following perphenazine has been noted previously (Shanon *et al.*, 1957). Other reports, however, have stressed its low toxicity in a dose range of 8–16 mg. daily, mild features of Parkinsonism occasionally occurring with daily dosage above 40 mg., while 72 mg. has been given for long periods in psychiatric practice (O'Reilly *et al.*, 1957; Schultz and Henderson, 1957). The reaction we have described after a total dose of 12 mg. is therefore remarkable. Although no other features of Parkinsonism were present, it appears to represent an exaggerated oculogyric crisis, with involvement of the muscles of the jaw and spine presumably through the medium of the extrapyramidal system.

A question of further interest, therefore, is the exact site of induction of this combination of trismus and opisthotonos, and its possible bearing on the unexplained predominance of these features in tetanus.

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REFERENCES

- Hare, E. H. (1958). *Brit. med. J.*, **1**, 1462.
O'Reilly, P. O., Wojcicki, H. M., Hrychuk, W., and Keogh, R. P. (1957). *Canad. med. Ass. J.*, **77**, 952.
Schultz, S., and Henderson, A. L. (1957). *Ibid.*, **77**, 1117.
Shanon, J., Kaplan, S. M., Pierce, C. M., and Ross, W. D. (1957). *Amer. J. Psychiat.*, **114**, 556.