Anaphylactic Reaction to Chlorpropamide

M. RAVID, E. RUBINSTEIN, S. CABILI

British Medical Journal, 1971, 3, 162

The total incidence of untoward reactions to chlorpropamide is about 6% (Sayers and Travis, 1965). Gastrointestinal symptoms, skin reactions, and blood dyscrasias constitute the major groups (Stein *et al.*, 1964; Dinsdale *et al.*, 1968; Aecker and Hynes, 1969; Norman *et al.*, 1970). The anaphylactic reaction to chlorpropamide as described in the following case has, to the best of our knowledge, not been hitherto reported.

Case History

A 46-year-old sanitation worker was admitted to hospital after sudden onset of nausea, retrosternal pressure, and confusion. Diabetes mellitus had been found two months earlier and treated for three weeks by 500 mg of chlorpropamide daily. The patient then stopped the medication. No history of untoward reaction to the drug could be elicited in retrospect. Polydipsia and polyuria made him seek medical help and he was again given chlorpropamide. On the morning of admission he ingested his first two chlorpropamide tablets and then had breakfast; a few minutes later he complained of nausea and increasing retrosternal pressure. He became confused and collapsed and was rushed to hospital.

Examination showed pallor, cyanosis, tachypnoea, and tachycardia; the systolic blood pressure was 30-40 mm Hg. Blood was drawn for glucose determination, and 40 ml of 50% glucose solution was injected intravenously. When his condition failed to improve 400 mg of hydrocortisone followed by 1,500 ml of isotonic saline and 46 mEq of sodium bicarbonate were rapidly administered intravenously. Blood pressure then rose to 140/80, he regained consciousness, and the cyanosis subsided. The E.C.G. was normal. The initial blood glucose level (drawn before the intravenous injection of glucose) was 278 mg/100 ml. The hyperglycaemia was subsequently controlled on tolbutamide and he was discharged.

Two weeks later he was readmitted because of urticaria. Treatment with tripelennamine and prednisolone for four days brought no relief. Tolbutamide was then withdrawn and the hyperglycaemia was controlled on 24 units of NPH (isophane) insulin. Less than 24 hours after the withdrawal of tolbutamide the urticaria disappeared. The presence of reaginic antibodies to chlorpropamide was tested by means of the Prausnitz-Küstner reaction: 0·2 ml of the patient's serum was injected intracutaneously into the forearms of three physicians. Twenty-four hours later a similar volume of chlorpropamide solution in isotonic saline (containing about 5 mg of chlorpropamide) was injected into the prepared site and into the contralateral forearm. A typical weal and flare reaction 40 by 20 mm in diameter appeared within 5 to 15 minutes at the prepared sites in all three volunteers, while no reaction occurred at the control sites.

Comment

The Prausnitz-Küstner reaction is a time-honoured, reliable procedure for the demonstration of reaginic antibodies. The positive test for anaphylaxis, together with the clinical signs of vascular collapse about half an hour after ingestion of 500 mg of chlorpropamide and in the presence of high blood glucose, leave little doubt about the anaphylactic aetiology of this patient's vascular shock. The urticaria, which was probably due to tolbutamide, may suggest the existence of cross-sensitivity between chlorpropamide and tolbutamide.

Tel-Hashomer Hospital and Tel-Aviv University Medical School, Israel

M. RAVID, M.D., Assistant Physician and Instructor in Medicine
E. RUBINSTEIN, M.D., Resident Physician
S. CABILI, M.D., Assistant Physician and Instructor in Medicine

References

Aecker, R. R., and Hynes, H. E. (1969). *Archives of Internal Medicine*, 123, 445.
Dinsdale, R. C. W., Ormerod, T. P., and Walker, A. E. (1968). *British Medical Journal*, 1, 100.
Norman, P. S., Levine, M., and Smith, M. (1970). *Drugs of Choice*. 1970-1971, ed. M. Modell, pp. 36, 472. Saint Louis, Mosby.
Sayers, G., and Travis, R. H. (1965). In *The Pharmacological Basis of Therapeutics*, ed. L. S. Goodman and A. Gilman, 3rd edn., p. 1596. New York. Macmillan.
Stein, J. H., Hamilton, H. E., and Steets, R. F. (1964). *Archives of Internal Medicine*, 113, 186.