POSTOPERATIVE HYPOGLYCAEMIC COMA ASSOCIATED WITH CHLORPROPAMIDE

R. J. SCHEN AND A. S. KHAZZAM

SUMMARY
A 72-year-old male being treated with chlorpropamide for diabetes mellitus had an emergency operation for a perforated gastric ulcer. Hypoglycaemic coma occurred after the operation.

Postoperative hypoglycaemia is an unusual complication although it has been reported following surgery in patients receiving long-acting insulin preparations (Kepes et al., 1972). We wish to draw attention to chlorpropamide (Diabinese) as a cause of this condition.

CASE REPORT
A 72-year-old male was admitted to hospital suffering from coronary insufficiency. He had diabetes mellitus which was being treated with chlorpropamide 250 mg taken orally twice a day. The electrocardiogram showed myocardial ischaemia. His chlorpropamide therapy was continued in hospital. On the 3rd day following admission, the blood-glucose concentration ranged from 234 to 340 mg/100 ml and the blood-urea was 37 mg/100 ml. On the 4th day following admission no chlorpropamide was given; instead, 24 units of isophane insulin were given at 08.00 hr. The patient complained of abdominal pain and developed anuria; at 21.00 hr, laparotomy revealed generalized peritonitis and a perforated gastric ulcer. General anaesthesia was given with propanidid (Epontol) 300 mg, suxamethonium 130 mg, in divided doses, nitrous oxide and oxygen.

After operation, his condition was satisfactory; he had good peripheral perfusion and an adequate urine output. Eleven hours after the operation, the blood-glucose concentration was 238 mg/100 ml and the blood-urea was 70 mg/100 ml. Thirty hours after the operation, the patient began to sweat and, 2 hr later, he became unconscious, the blood-glucose concentration being 28 mg/100 ml. He was treated with 400 ml of 50% glucose solution and he recovered consciousness. Although the blood-glucose concentration increased to 180 mg/100 ml, his general condition deteriorated and he developed oliguria and arterial hypotension. The patient died 48 hr after operation. A postmortem examination was not performed.

DISCUSSION
Chlorpropamide-induced hypoglycaemia is not uncommon and is especially liable to occur in the elderly (Seltzer, 1972; Schen, 1973). Predisposing factors are impaired food intake, renal or hepatic insufficiency and potentiation of chlorpropamide by other drugs. In our patient, there were three predisposing features: inability to ingest food because of gastric suction after the operation, the patient's age (72 yr) and the short period of anuria just before the operation. The administration of isophane insulin 45 hr before the onset of coma was not thought to have been a contributing factor.

The hypoglycaemic effect of chlorpropamide may be very prolonged (Dall, Conway and McAlpine, 1967); in this patient, hypoglycaemia occurred 60 hr after the last dose of the drug had been given. If a patient taking chlorpropamide needs emergency surgery, special vigilance is required for 4 days after operation. The blood-glucose concentration should be monitored frequently, glucose infusions should be given and, if insulin is indicated, only short-acting preparations should be used.

Finally, it must be stressed that, in the elderly, hypoglycaemia may cause hemiparesis or hemiplegia, thus leading to a mistaken diagnosis of cerebrovascular accident (Loehry, Chisholm and Summerhayes, 1967).

REFERENCES

**POSTOPERATIVES HYPOGLYKÄMISCHES KOMA IN VERBINDUNG MIT CHLORPROPAMID**

ZUSAMMENFASSUNG

Ein 72-jähriger Mann mit Diabetes Mellitus wurde mit Chlorpropamid behandelt; wegen eines perforierten Magengeschwürs mußte er operiert werden, und nach der Operation trat bei ihm ein hypoglykämisches Koma ein.

**COMA HYPOGLYCEMIQUE POSTOPERATOIRE ASSOCIE A LA CHLORPROPAMIDE**

RESUME

Un homme de 72 ans soigné à la Chlorpropamide pour diabète sucré a dû subir une opération chirurgicale d’urgence pour remédier à la perforation d’un ulcère gastrique. Il est entré dans un coma hypoglycémique après l’opération.

**COMA HIPOGLICEMICO POSTOPERATIVO, ASOCIADO CON CLOROPROPAMIDA**

SUMARIO

Un paciente de 72 años sometido a tratamiento con chlorpropamida para diabetes mellitus fue sometido a una operación de urgencia debida a una úlcera gástrica perforada. Después de la operación se produjo un coma hipoglicémico.