CASE REPORT

AMBULATORY DIABETIC PATIENT WITH REMARKABLE HYPOGLYCAEMIA

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A patient, now aged 52 years, with a body mass index of 18.3 and a family history of diabetes mellitus was detected to have a 2 hour post prandial (75 gm glucose) plasma glucose level of 23.88 mmol/L for the first time. He had been on glipizide (2.5 mg) before breakfast and dinner for the next six years during which time periodic assessment revealed his fasting and 2 hour post meal plasma glucose being 5.94 ± 0.55 mmol/L and 8.05 ± 1.6 mmol/L respectively.

Once the patient was delirious in the night while in sleep. Next morning, he suffered from weakness, vertigo and somewhat double vision about two hours after taking the morning dose of glipizide. Anticipating hypoglycemia, he ate some sweets. Despite this, he could not adjust the gear of the car properly while driving afterwards. He took the evening dose of glipizide as usual and suffered from delirium in the night.

Next morning, he came under almost identical condition of the preceding day for investigation which revealed a 1 hour and 2 hour post breakfast plasma glucose of 1.55 mmol/L and 1.11 mmol/L. These were not deliberately informed to the patient despite observing the abnormally low values only to wait for the time of occurrence of the typical symptoms experienced on the preceding day and draw a sample immediately. The patient remained seated, was talking normally, walked in the laboratory for blood collection. After blood collection at 3 hour the patient was escorted and he could walk about 150 meters to a sweet shop where he felt uneasiness, slightly restlessness and was found moving constantly on the chair. He returned to the laboratory by walking after taking sweets. The 3 hour value was found to be 1.72 mmol/L. He could drive home without any symptom.

After immediate centrifugation following each collection the analyses were done in Hitachi-704 autoanalyzer (Boehringer Mannheim, Germany) by glucose oxidase / peroxidase method as stat sample while the routine analyses were going

on. The intraassay ($n=10$) coefficient of variation with all three samples was about 2.5%.

Follow up of the case after three days of stopping glipizide showed a fasting, 1 hr., 2 hr. and 3 hr. post lunch being 5.72 mmol/L, 8.83 mmol/L, 8.5 mmol/L and 6.44 mmol/L respectively.

During the next seven years he never had any such event following resumption of glipizide after one year. The levels of routine blood biochemical parameters including T_3 , T_4 and TSH estimated periodically were within normal limits for last twelve years. However, he has been suffering from Parkinson's disease for last six years.

The patient was never administered insulin. On close questioning, the patient disclosed that he reduced the amount of total food, replacing carbohydrate with protein on his own while taking the anti diabetic drug as usual due to ignorance in order to control the diabetic state aggressively preceding the occurrence of remarkable hypoglycemia. Since the patient did not experience the typical symptoms as experienced earlier on the day of investigation, it may be presumed that the plasma glucose level was perhaps still lower on the preceding day. Although the above levels were indeed alarming to warrant medical attention, the patient's metabolic set point was perhaps lowered as a result of progressively decreased intake of calories with more of protein.

Hypoglycaemia unawareness probably due to shifting of glycaemic thresholds to the lower side resulting from recurrent hypoglycaemia might be operative in this case.

However, although the patient has been suffering from Type 2 diabetes mellitus, he did not hitherto have features of autonomic neuropathy.

No report with such remarkably low blood glucose level in an ambulatory patient is available in the medical literatures.