



# GLIMEPIRIDE- INDUCED HYPOGLYCEMIA IN DIABETIC MELLITUS TYPE 2 - A CASE REPORT:

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## ABSTRACT:

Sulfonylureas are a group of medicines used in the management of type 2 diabetes. Sulfonylureas lower blood glucose levels by stimulating insulin release from the beta cells of pancreas, which do not work in people with type 1 diabetes. Where 2nd generation sulfonylureas [ glimepiride] are among most used anti-diabetic medication as they are highly efficient and inexpensive. The effective dosage range is 1 to 8mg/day which should be used with caution in elderly & in patients with renal/ hepatic disease. Where glimepiride, was generally associated with lower risk of hypoglycaemia & less weight gain compared to other sulfonylureas. A 65 yrs. old female patient was admitted in general medicine ward, in a tertiary care hospital with chief complaints of hypoglycaemia & was brought to emergency department for further management. While her past medical H/O indicates that she was taking oral hypoglycemic drugs [glimepiride-2mg] for 2yrs. Where, on laboratory investigation her GRBS- 31mg/dl, and was managed by giving IV dextrose [25%] later on further examination her GRBS got improved & were monitored every 2nd hour & was advised to hold the diabetic medication. This adverse reaction is considered as drug related type ADR as per WHO scale. Glimepiride as it is causing severe hypoglycaemia, alternative therapy concept i.e. by combination either with metformin/ insulin with lifestyle modifications is much efficient which can minimize the risk of hypoglycaemia in geriatric patients with type 2 diabetes.

**KEYWORDS:** Glimepiride, Hypoglycaemia, Sulfonylureas.

**INTRODUCTION:** Hypoglycaemia is a condition in which blood sugar levels is lower than 70mg/dl than the standard range. Glucose is the body's main source of energy. It is common in type 2 diabetes, especially in patient receiving intensive therapy in which the risk of severe hypoglycaemia is increased more than threefold. Hypoglycaemia is less frequent in type 1 diabetes.

**CAUSE:** -Medication -such as insulin, glimepiride, glibenclamide, quinolones, beta blockers. - excessive alcohol drinking -such as chronic kidney disease, severe liver failure cardiac failure -Some critical illness -Long term starvation -insulin overproduction -hormone deficiency, cortisol deficiency, growth hormone deficiency.

**SYMPTOMS:** Sweating, pallor, mood swings, lack of coordination, hunger, dizziness.

Type 2 diabetes mellitus is characterized by insulin resistance and progressive beta cells failure, beta cell secretagogues are useful for achieving sufficient glycemic control. glimepiride is a second generation sulfonylurea that stimulate pancreatic beta cells to release insulin. it works by binding to the sulfonylurea receptor in the

pancreatic beta cells plasma membrane leading to the closure of APT sensitive channel, The starting dose of glimepiride is 1-2mg typically taken before breakfast. The dose is adjusted according to the self-monitoring of blood glucose level and is gradually increased until glycaemia control is achieved. Glimepiride increase the risk of dangerously low blood sugar levels.

People who take this medication must therefore check to the blood sugar levels regularly. The most common side effects people may experience taking glimepiride induced -flu like symptoms, nausea, weight gain, dizziness. Take glimepiride exactly as directed by physician. Taking more than directed could lead to potentially fatal hypoglycaemia, taking less than directed may lead to high blood sugar level [hyperglycemia].

### CASE REPORT:

A 65 years old female patient was admitted in general medicine ward, with chief complaints hypoglycaemia was brought to emergency department. due to above mentioned complaints, admitted for further management. No h/o of vomiting, fever. Her past medical history says that she was taking glimepiride since 5 years. On examination her vitals on day 1 was found to be 110/70mmhg (blood pressure), pulse rate 86 bpm, spo2- 99%, a febrile. Her systemic examination reveals that p/a -soft distended cvs-s1s2+ve ,BAE-+ve .for further confirmation she was subjected to laboratory investigation which are as follows, GRBS - 31 mg/dl , ESR was also elevated up to 79mm/hr. lymphocytes decreased up to 14% , direct bilirubin increased- 0.40, AST-20, ACT-18 also got reduced so she was treated with iv dextrose 25%- SOS , IV Pantoprazole 40mg IV optineuron-1 Amp OD; tab .monocef 1gms -BD .on day 2 her GRBS levels got improved. Where it was monitored every 2nd hourly .later GRBS – 190 mg / dl .she was discharged and advised to hold the diabetic patient.

### DISCUSSION:

The uncritical prescription of sulfonylureas [glimepiride] neglecting crucial contraindications, and deficiencies of diabetes care contributes to the risk of severe hypoglycaemia mainly in geriatric patients as discussed above where a 65 years old female patient was admitted with chief complaints hypoglycaemia was brought to emergency department ,While her past medical H/O indicates that she was taking oral hypoglycemic drugs [glimepiride-2mg BD] for 2yrs which is considered as probable ADR as per WHO scale. Thus there is a need for alternative therapeutic concepts that minimize the risk of hypoglycaemia in geriatric patients with type diabetes mellitus.

**CONCLUSION:** thus, the main motive of this written report is to create awareness in hospital sectors about the adverse drug reactions and necessity to provide patient counseling of long term administration of glimepiride [sulfonylureas].

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