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Original Research

Evaluation of clinical profile of patients with hypoglycaemia

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ABSTRACT:

Background: When the blood's glucose level falls below normal, it's known as hypoglycemia, or low blood sugar. The present study was conducted to assess the clinical profile of hypoglycaemic patients. **Materials & Methods:**70 patients with hypoglycemia of both genders were selected. Parameters such as the etiology of hypoglycaemia were recorded. **Results:** Out of 70 patients, males were 40 (57.1%) and females were 30 (42.9%). The common clinical features were syncope in 51%, fall in 36%, anorexia in 64%, fever in 78%, AMS in 19%, FND in 32%, and others in 22% patients. The difference was significant (P< 0.05).The common causes of hypoglycemia was OHA in 24%, OHA +insulin in 16%, insulin in 12%, alcohol in 18%, skipped meal in 11%, and others in 9% cases. The difference was non- significant (P> 0.05). **Conclusion:** Alcohol consumption, skipping meals, OHA, OHA + insulin, and insulin were common causes of hypoglycemia. The most prevalent clinical manifestations included syncope, AMS, FND, anorexia, fever, and LOC.

Keywords: Diabetes, Hypoglycemia, OHA

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INTRODUCTION

When the blood's glucose level falls below normal, it's known as hypoglycemia, or low blood sugar. The main energy source for the body's cells, particularly the brain, is glucose. If blood sugar levels go too low, it can cause a number of symptoms and develop into a medical emergency if treatment is not received.[1,2]Hypoglycemia is a serious adverse effect of glucose-lowering medications in people with diabetes mellitus.[3] Attempts to manage blood sugar levels intensely are always associated with a higher risk of hypoglycemia. Compared to individuals without the illness, patients with severe hypoglycemia have been associated with a six-fold rise in diabetes-related deaths. Frequent episodes of hypoglycemia can harm the counter-regulatory system and cause hypoglycemia unawareness.[4]

Long- and short-term consequences of diabetes-related hypoglycemia include retinal cell death, myocardial infarction, acute cerebrovascular illness, neurocognitive impairment, and loss of eyesight. Additional health-related problems with quality of life include difficulty sleeping, driving, working, participating in exercise-related leisure activities, and traveling.[5]

It is imperative to assess the clinical range and burden of hypoglycemia to implement appropriate care strategies against this potentially lethal yet frequently ignored illness.[6] Choosing treatment regimens with low or no risk of hypoglycemia, self-monitoring blood glucose, early identification of hypoglycemia risk factors, and appropriate educational programs for diabetic patients and healthcare professionals are the main ways to maintain good glycemic control, minimize the risk of hypoglycemia, and thereby prevent long-term complications.[7,8]The present study was conducted to assess the clinical profile of hypoglycemic patients.

MATERIALS & METHODS

The present study consisted of 70 patients with hypoglycemia of both genders. All patients gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Hypoglycaemia was defined as a capillary blood glucose of 70mg/dL or less. Recorded were

parameters like the cause of hypoglycemia. Using an Accu-Check Gluco-stix, the blood glucose concentration was measured. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 70		
Gender	**Male**	**Female**
Number	40 (57.1%)	30 (42.9%)

Table I shows that out of 70 patients, males were 40 (57.1%) and females were 30 (42.9%).

Table II Assessment of clinical features

Clinical features	Percentage	P value
Syncope	51%	0.05
Fall	36%	
Anorexia	64%	
Fever	78%	
AMS	19%	
FND	32%	
Others	22%	

Table II, graph I show that common clinical features were syncope in 51%, fall in 36%, anorexia in 64%, fever in 78%, AMS in 19%, FND in 32%, and others in 22% patients. The difference was significant (P< 0.05).

Graph I Assessment of clinical features

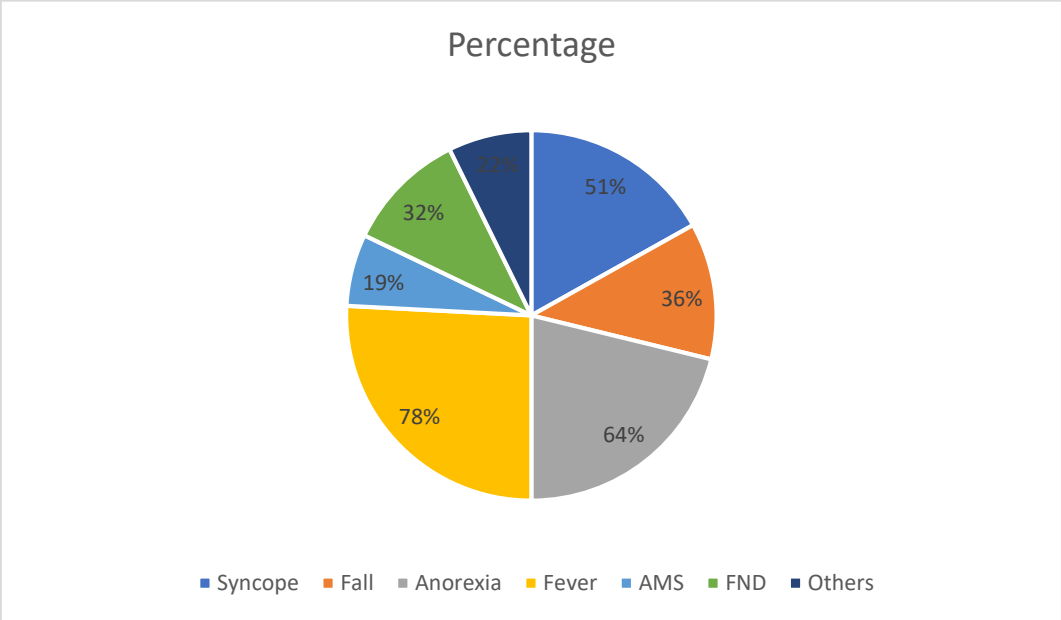

Table III Etiology of hypoglycemia

Etiology	Percentage	P value
OHA	24%	0.81
OHA +insulin	16%	
Insulin	12%	
Alcohol	18%	
Skippedmeal	11%	
Others	9%	

Table III shows that common causes of hypoglycemia was OHA in 24%, OHA +insulin in 16%, insulin in 12%, alcohol in 18%, skipped meal in 11%, and others in 9% cases. The difference was non- significant (P> 0.05).

DISCUSSION

The most common link between hypoglycemia and diabetes is overuse of insulin or other blood sugar-lowering drugs by diabetics.[9,10] We refer to this as hypoglycemia produced by insulin. Blood sugar levels can fall if you skip meals for a long time or don't eat

enough carbohydrates. Blood sugar levels may decline after intense activity, particularly if proper dietary or insulin modifications are not made.[11] Hypoglycemia can result from alcohol consumption because it can disrupt the body's capacity to control blood sugar, particularly if alcohol is consumed without food. Low blood sugar is a negative effect of some drugs, including those for certain bacterial infections and diseases such an overactive thyroid.[12,13]The present study was conducted to assess clinical profile of hypoglycaemic patients.

We found that out of 70 patients, males were 40 (57.1%) and females were 30 (42.9%). The common clinical features were syncope in 51%, fall in 36%, anorexia in 64%, fever in 78%, AMS in 19%, FND in 32%, and others in 22% patients. Ashwell et al[14]discovered that 52% of the patients were female and that their median age was 35. None of the patients used insulin pumps or sensors, and every patient had many daily insulin injections. Compared to patients without severe hypoglycemia, individuals with severe hypoglycemia were older, had less education, had had diabetes for a longer time, and used beta-blockers more frequently. In addition to having more symptoms of despair, anxiety, physical indicators, and social disengagement, patients with severe hypoglycemia (88% vs. 77%, respectively, p = 0.027) also had a higher rate of positive screening for common mental disorders. Furthermore, patients with severe hypoglycemia had a lower median DTSQs score than patients without this problem.

We observed that common causes of hypoglycemia was OHA in 24%, OHA +insulin in 16%, insulin in 12%, alcohol in 18%, skipped meal in 11%, and others in 9% cases.Banarer et al[15]studied eight adult patients with uncomplicated type 1 diabetes and eight matched nondiabetic control subjects with hyperinsulinemic stepped hypoglycemic clamps (glucose steps of approximately 85, 75, 65, 55, and 45 mg/dl) in the morning (0730-1230) while awake and at night (2100-0200) while awake throughout and while asleep from 0000 to 0200 in random sequence. Plasma epinephrine (P = 0.0010), perhaps norepinephrine (P = 0.0838), and pancreatic polypeptide (P = 0.0034) responses to hypoglycemia were reduced during sleep in diabetic subjects (the final awake versus asleep values were 240 +/- 86 and 85 +/- 47, 205 +/- 24 and 148 +/- 17, and 197 +/- 45 and 118 +/- 31 pg/ml, respectively), but not in the control subjects. The diabetic subjects exhibited markedly reduced awakening from sleep during hypoglycemia. Sleep efficiency (percent time asleep) was 77 +/- 18% in the diabetic subjects, but only 26 +/- 8% (P = 0.0109) in the control subjects late in the 45-mg/dl hypoglycemic steps. They concluded that autonomic responses to hypoglycemia are reduced during sleep in type 1 diabetes, and that, probably because of their reduced sympathoadrenal responses, patients with type 1 diabetes are substantially less likely to be awakened by hypoglycemia. Thus, both physiological and behavioraldefenses are further compromised during sleep. This sleep-related hypoglycemia-associated autonomic failure, in the context of imperfect insulin replacement, likely explains the high frequency of nocturnal hypoglycemia in type 1 diabetes.

Su CC et al[16]reported that 228 hypoglycemic patients (112 women and 116 men, mean age 69.6 years) were included in the study; these patients' hypoglycemia was primarily caused by overuse of insulin or sulfonylureas; 182 patients (79.83%) had a history of diabetes; sepsis was the primary cause of acute hypoglycemia in 13 patients (5.70%) and extensive liver disease in 13 patients (5.70%).

The limitation of the study is the small sample size.

CONCLUSION

Authors found that alcohol consumption, skipping meals, OHA, OHA + insulin, and insulin were common causes of hypoglycemia. The most prevalent clinical manifestations included syncope, AMS, FND, anorexia, fever, and LOC.

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