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## A brief insight into the implications of hypoglycemia

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This article tries to bring the attention of young researchers to the currently relevant but more ignored field of hypoglycemia. The cause of hypoglycemia fall into two groups according to whether the condition either occur in fasting state (fasting hypoglycemia) or provoked by specific stimuli and which can include reactive hypoglycemia. Causes of fasting hypoglycemia include insulin secreting tumors (insulinomas) and certain other tumors producing insulin like substances, pituitary and adrenal failure, severe liver disease, and glycogen storage disease notably type I (Glucose 6 phosphate deficiency). Except in patients with insulinomas clinical features due to hypoglycemia are rarely the only feature of any of these conditions. The diagnosis of insulinoma depends upon the finding of inappropriately high insulin and C-peptide levels in the blood at the time of when the patient is hypoglycemic. This is demonstrable after an overnight fast, precipitated if necessary by exercise. Provoked test to stimulate insulin secretion are rarely required in patient with an insulinoma. Reactive hypoglycemia may be caused by drugs. Most patients with insulin dependent diabetes experience occasional episodes of hypoglycemia for example, as a result of delayed meal following an insulin injection, an error in insulin dosage or unaccustomed exercise. Oral hypoglycemic drugs (sulphonyl urea) can also cause hypoglycemia. This is more common in patients treated with the longer acting drugs, particularly the elderly, whose capacity to metabolize or excrete drugs may be impaired. Following gastric surgery, rapid transit of food into small intestine may cause inappropriate insulin secretion and lead to hypoglycemia. Hypoglycemia may occur following alcohol ingestion and several distinct syndromes of alcohol related hypoglycemia have been described. Alcohol potentiates insulin and drug induced hypoglycemia and may enhance any tendency to post-prandial reactive hypoglycemia. The hypoglycemia that can develop 12–24 hr after alcohol ingestion, particularly in chronic alcoholics is due in part to impairment of gluconeogenesis, but the presence of liver disease, poor nutrition and depletion of hepatic glycogen reserves may also be important. Hypoglycemia is particularly common in neonates who are small for dates and is risk in those born to diabetic mothers. In addition to the conditions described ketotic hypoglycemia may occur in infancy. This is a condition of unknown etiology in which there appears to be a decreased supply of glycolytic substrates. Acutely, hypoglycemia causes clinical features related to increased activity of sympathetic nervous system (sweating, tachycardia) and decreased supply to the central nervous system (paresthesia, fits and coma). These usually respond to administration of glucose. Patients who are chronically hypoglycemic, for example, due to insulinoma, often present with behavioral disturbances or frank psychosis and the acute manifestation of hypoglycemia may be absent.

## Biography

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