

Diabetes Mellitus Type II

Diabetes is the most common endocrine disease. It affects 1 in 10 adults and is one of the leading cause of death in the United States year after year.

The disease process of diabetes is related to the insulin levels within the body, and the body's ability to utilize insulin.

Pathophysiology

Plasma concentrations of glucose signal the CNS to mobilize energy reserves.

Influencing Factors

Cerebral blood flow
Tissue integrity
Arterial plasma glucose
Speed plasma glucose concentrations fall
Other available metabolic fuels

A surge in autonomic activity is triggered by low plasma glucose concentrations.

Hormones Involved

Insulin
Glucagons
Growth hormone

The interaction of these hormones with the liver and their involvement in renal function make the pathological mechanisms of this disease difficult to pinpoint and vary widely among patients.

Considerations

Potential difficult airway - decreased TMJ mobility and obesity

Aspiration risk - gastroparesis

End organ disease:

- Hypertension

- Coronary artery disease

- Left ventricular hypertrophy

- Cardiomyopathy

- Peripheral vascular disease

- Chronic kidney disease

- Neuropathy

 - Autonomic instability

 - Chronic pain

Perioperative Complications

Related to severity of disease and control of blood glucose

DKA

Hypoglycemia

Related to end organ disease

Goals

Evaluate severity of end organ dysfunction

Perioperative management of elevated blood glucose

Special Considerations

Pregnancy:

- Increased risk:

- DKA

- pregnancy-induced hypertension

- Difficult airway

- Aspiration

- Pre-term labor

- Cesarean section

- Polyhydramnios

- Postoperative infection