

Deep Vein Thrombosis (DVT) can be present in around 40% of cases. The mechanism of this is not precisely understood, but it is thought to occur due to the increased production of factor X by pancreatic alpha cells.

Diabetes Mellitus

Dyed-bead-pancreas

The excess of glucagon leads to glycogenolysis and gluconeogenesis in the liver, resulting in increased glucose in the blood (hyperglycemia). This can contribute to diabetes mellitus or glucose intolerance. It is often present in 80-90% of glucagonoma cases. Symptoms of glucagonoma can be described with 6Ds: Dermatitis (necrolytic migratory erythema), Diabetes (hyperglycemia), DVT, Depression, Diarrhea, and Declining weight.

Diagnosis

Increased Glucagon

Up-arrow Glue-King-Kong

Glucagonoma causes increased production of glucagon. Most glucagonoma cases can present with levels of glucagon 2-3 times higher than the normal range.

Abdominal CT

Cat-scanner of Abdomen

Abdominal CT can help visualize the precise site of glucagonoma. It is used as an initial diagnostic study due to its non-invasiveness. This diagnostic study is superior to ultrasonography due to its ability to visualize the pancreas' body and tail much better. Glucagonoma is often found (90% cases) in the body and tail of the pancreas.

Management

Octreotide

Octo-tree-ride

Somatostatin analogs, such as octreotide, are glucagon secretion inhibitors. These effectively reduce secretion of glucagon and control metastatic development. These also help in improving skin rashes and reversing the catabolic state from excess glucagon.

Surgical Resection

Surgeon

Surgical resection is the only curative treatment. It is recommended and effective in patients with localized cases. Some cases are inoperable due to advanced staging and/or metastases.