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Insulin resistance due to obesity

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Insulin resistance due to obesity
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Introduction
Diabetes is defined as a common metabolic disorder where the body produces insufficient levels of insulin or cells become resistant to the effects of insulin. When the body has insufficient insulin, blood glucose levels are elevated, leading to symptoms such as frequent urination, excessive thirst, and unexplained weight loss. Untreated diabetes can cause long-term complications such as kidney disease, heart disease, and blindness. Preventing and managing diabetes is crucial to maintaining quality of life and reducing the risk of these complications.

Pathophysiology of Diabetes
The pathophysiology of Diabetes involves multiple organs. The pancreas is responsible for the B-cell function and insulin secretion. People who have impaired glucose tolerance may have last 10% of their insulin B-cell function. When the B-cell function is impaired, glucose levels will remain elevated and free fatty acids will be released. This will lead to the transport of glucose to the plasma membranes, resulting in hyperglycemic states. Obesity produces extracellular concentrations of lipids and abundant accumulation of macrophages in adipose tissue which causes insulin resistance. Inflammation, cytokines, and other insulin-susceptible variables are linked to obesity-induced insulin resistance. The significant impact of insulin resistance has been reduced due to obesity from 1980 to 2015 and 2019 (Jung & Choi, 2014). This fast growing concern with insulin resistance leads to the development of T2DM along with other health conditions such as heart disease, stroke, retinopathy, nephropathy, neuropathy, and peripheral vascular disease (Jong & Choi, 2014).

Underlying Pathophysiology
Insulin resistance is the decreased ability of the tissues such as adipose tissue to react to insulin. Diabetes mellitus (T1DM) is a condition caused by insulin deficiency. The first line of treatment for a newly diagnosed T2DM is metformin and a delay in the administration of insulin. InsulinIDDENVITABILITY due to obesity

Significance of Pathophysiology
Insulin resistance is a decreased ability for the tissues such as adipose tissue to react to insulin. Diabetes mellitus (T2DM) is a condition caused by insulin deficiency. The first line of treatment for a newly diagnosed T2DM is metformin and a delay in the administration of insulin. Insulin resistance leads to the development of T2DM along with other health conditions such as heart disease, stroke, retinopathy, nephropathy, neuropathy, and peripheral vascular disease (Jong & Choi, 2014).

Nursing Care
The first line of treatment for a newly diagnosed T2DM is metformin and a delay in the administration of insulin. Insulin resistance leads to the development of T2DM along with other health conditions such as heart disease, stroke, retinopathy, nephropathy, neuropathy, and peripheral vascular disease (Jong & Choi, 2014).

References

Conclusion
There is no cure for T2DM. Physicians, nurses, and patients are all involved in the patient’s care. Proper education about this disease, including how to prevent and manage T2DM. Oral medication and insulin are effective treatment options, but ultimately controlling the glucose levels by diet and exercise help decrease the severity of the illness. Diabetes can affect many other organs including your heart, kidneys, brain, eyes, and vascular system. Optimal glycemic control is achieved by early diagnosis and treatment. Diet and exercise play a key role in decreasing the risk of developing T2DM. Understanding health and how to keep a body mass index below 30 kg/m² will help with insulin resistance.

Additional resources:


Note: adapted from National Institute of Diabetes and Digestive and Kidney Diseases.