



Impact of Joint Complications in Diabetic Patients and its Mitigation Techniques

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DESCRIPTION

Joint changes in diabetic patients are the result of various factors, such as high blood sugar levels, nerve damage, inflammation, and obesity. These factors can affect the structure and function of the joints, causing pain, stiffness, swelling, and deformity. Joint replacements in diabetic patients can affect any joint in the body, they are more common in the hands, feet, and spine. Some of the joint replacements in diabetic patients are Diabetic cheiroarthropathy is a condition that causes thickening and tightening of the skin and connective tissue of the hands, limiting the joint mobility and range of motion. It is also known as diabetic stiff hand syndrome or limited joint mobility syndrome. It is more common in people with type 1 diabetes and long-standing diabetes. The cause of this condition is not clear, it may be related to increased glycosylation of collagen, decreased collagen degradation, microvascular damage, and neuropathy. The main symptom is the inability to fully extend the fingers or press the palms together flat, known as the "prayer sign". The treatment involves optimizing blood sugar control and physical therapy. Diabetic charcot arthropathy is a condition that causes progressive destruction and deformity of the joints, especially in the feet. It is also known as neuropathic arthropathy or charcot foot. It is more common in people with type 1 diabetes and peripheral neuropathy. The cause of this condition is not clear, but it may be related to loss of sensation, trauma, inflammation, and abnormal bone metabolism. The main symptoms are redness, warmth, swelling, and instability of the affected joint, which may lead to fractures, dislocations, and ulcers. The treatment involves immobilization, off-loading, infection control, and surgery.

Diabetic osteoarthritis is a condition that causes degeneration and inflammation of the cartilage and bone, resulting in symptoms such as pain, stiffness, and decreased mobility. It is more common in people with type 2 diabetes and obesity. The cause of this condition is not clear, but it may be related to increased oxidative stress, inflammation, and glycation of cartilage. The main symptoms are pains and stiffness of joints, especially in the morning or after prolonged inactivity, and reduced joint movement and flexibility.

The treatment involves weight loss, exercise, pain relief, and joint replacement. Diabetic osteoporosis is a condition that causes weakening and thinning of the bones, increasing the risk of fractures. It is more common in people with type 1 diabetes and poor glycemic control. The cause of this condition is not clear, but it may be related to decreased bone formation, increased bone resorption, and hormonal imbalances. The main symptom is bone pain and fracture, especially in the spine, hip, and wrist. The treatment involves calcium and vitamin D supplementation, bone-protective medication, and fall prevention. These are some of the joint changes in diabetic patients, but there may be others depending on the individual and the duration of diabetes. Therefore, it is important to consult a doctor regularly and follow their advice to prevent, detect, and treat joint changes in diabetic patients. Exercise is an important part of managing diabetes and preventing joint problems. Exercise can help lower blood sugar levels, reduce inflammation, improve muscle strength, and maintain joint mobility and flexibility. However, not all exercises are suitable for people with diabetes and joint issues.

CONCLUSION

Some exercises may be too strenuous, causing injury, or worsen joint pain. Therefore, it is important to consult a doctor before starting any exercise program and follow their advice on how to exercise safely and effectively. Low-impact aerobic exercises, such as walking, cycling, swimming, or water aerobics. These exercises can help improve blood circulation, cardiovascular health, and weight management, without putting too much stress on the joints. According to a 2021 review, walking can help people with type 2 diabetes lower their blood pressure, HbA1c levels, and body mass index. Swimming and water aerobics can also help lower blood sugar levels and reduce joint pain and stiffness. Resistance exercises, such as weightlifting, resistance band exercises, or calisthenics. These exercises can help improve muscle strength, bone density, and insulin sensitivity, as well as prevent muscle loss and joint deformity. However, these exercises should be done with caution and proper technique, as they can increase the risk of injury or hypoglycemia.

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