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Advanced glycation end productions and tendon stem/progenitor cells in the pathogenesis of diabetic tendinopathy

Shi L *et al.* AGEs and TSPCs in the Pathogenesis of Diabetic Tendinopathy

Abstract

Tendinopathy is a challenging complication observed in patients with diabetes mellitus (DM). Tendinopathy usually leads to chronic pain, limited joint motion, and even ruptured tendons. Imaging and histological analyses have revealed pathological changes in various tendons of patients with diabetes, including a disorganized arrangement of collagen fibers, microtears, calcium nodules, and advanced glycation end product (AGE) deposition. Tendon-derived stem/progenitor cells (TSPCs) were found to maintain homeostasis and to participate in the reversal of tendinopathy. We

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Stem cell-based regenerative therapies hold great promises to treat a wide spectrum of diseases. However, **stem cell** engraftment and survival are still challenging due to an unfavorable transplantation environment. **Advanced glycation end-products (AGEs)** can contribute to the generation of these harmful conditions. AGEs are a heterogeneous group of glycated products, nonenzymatically formed when ...