

RHEUMATOLOGICAL DISORDERS IN DIABETES MELLITUS : THE NEGLECTED ASPECTS

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Diabetes has major effects on connective tissues, which have significant impact on both the development and outcome of these diseases of cartilage, bone, ligament, and tendon¹. Diabetes mellitus is a chronic metabolic condition characterised by persistent hyperglycaemia with resultant morbidity and mortality related primarily to its associated microvascular and macrovascular complications². Poor glycaemic control is associated with increased prevalence of these diabetic complications³. However, no direct association could be proven with the metabolic control of the disease⁷. Diabetes mellitus (DM) affects connective tissues in many ways and causes different alterations in periarticular and skeletal systems^{4,5}. Several musculoskeletal disorders have been described in these patients which can be divided into three categories: a. disorders which represent intrinsic complications of diabetes, such as limited joint mobility or diabetic cheiroarthropathy, stiff hand syndrome, and diabetic muscular infarction, b. disorders with an increased incidence among diabetics, such as Dupuytren's disease, shoulder capsulitis, neuropathic arthropathy, osteopenia (in type 1 DM), flexor tenosynovitis, septic arthritis, acute proximal neuropathy, proximal motor neuropathy, pyomyositis and the diffuse idiopathic skeletal hyperostosis (DISH) syndrome, the diagnosis of which depends on the radiographic recognition of a minimum of two bridges connecting three consecutive

vertebrae in diabetics usually complaining of backache, and finally c. disorders for which a possible association with diabetes has been proposed but not proven yet, such as osteoarthritis and the carpal tunnel syndrome⁴. Most musculoskeletal complications seem to be associated with the duration of DM and appear in diabetic patients of younger age than their counterparts in the general population⁶. The pathophysiology of these disorders in diabetic patients is not obvious. It could be associated with connective tissue disorders, such as the formation of abnormally glycosylated end products or the impaired degradation of byproducts, it could be indirectly related to the vasculopathy and neuropathy commonly complicating the primary disease, or finally, it could be attributed to a combination of factors⁷.

The incidence of DM and the life expectancy of the diabetic patient have both increased, resulting in the increased prevalence and clinical importance of musculoskeletal alterations in diabetic subjects⁸. But on many occasion, these disorders are easily overlooked both by doctors and patients as the complications of DM. Aggressive treatment strategy comprising pharmacotherapy, diet, and a regular, sensible physiotherapy programme should be the cornerstone of diabetes management. All patients with diabetes have an appropriate exercise programme, overseen by their medical practitioner, as an integral part of their diabetes management in order to reduce the frequency and severity of complications².

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