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Efficacy of celecoxib therapy in hydroarthrosis associated with Knee osteoarthritis

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In this study, we observed improvement in hydroarthrosis associated with osteoarthritis of the knee (OA) with celecoxib, a specific cyclooxygenase (COX)-2 inhibitor therapy, and also reduction of the production of cytokines in serum and in synovial fluid. Concentrations of interleukin (IL)-6, tumor necrosis factor- α (TNF- α) in serum and synovial fluid obtained from patients with knee OA were determined by chemiluminescence-ELISA (CL-ELISA) method, the sensitivity of which is 100-1,000 times greater than that of the conventional ELISA method. The degree of improvement in knee hydroarthrosis with celecoxib therapy could be graded into 3 groups: Group A, patients in whom hydroarthrosis disappeared following within a month with celecoxib; Group B: patients in whom hydroarthrosis disappeared after treatment with celecoxib had been performed within 2 months; and Group C, where the amount of fluid was unchanged. Significant changes in serum levels of IL-6 and TNF- α before and after celecoxib therapy were seen only in Group A. In addition, significant changes in synovial fluid levels of IL-6 and TNF- α before and after celecoxib therapy were seen in Group A and Group B, but not in Group C. Evaluation of X-ray findings revealed that there was a tendency for mean IL-6 and TNF- α to decrease as the grade rated on the basis of X-ray findings became higher, and a tendency for mean IL-6 and TNF- α to increase as the grade became lower.

Biography

Joseph Holoshitz received his MD from The Hebrew University in Jerusalem, and completed his basic research training at the Weizmann Institute and Stanford University. He is Professor of Internal Medicine at the University of Michigan, focusing his bench research effort on the pathogenesis of RA. His research has been recognized for its innovation by the Searle Scholar Award, NIH-EUREKA Award, the Carol Nachman International Prize for Rheumatology Research, and many other distinctions. His published work has been cited in over 3000 scientific articles.

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