

New Application of Shock Waves in Arthritis and other Osteochondropathies: Clinical Data, Biological Considerations and Future Perspectives

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Recent reports in medical literature have shown that pain in arthritis and osteochondropathies, not to mention inflammation, can be due to bone marrow oedema. The aim of our study was to examine the effects of Extracorporeal Shock Waves (ESW) on these pathologies and to underline their potential positive interference on the evolution of chondro-osseous degeneration.

Forty-five patients suffering from knee, ankle or foot pain due to arthritis or other degenerative osteochondropathies, all of them characterized by bone marrow oedema, were subjected to high energy ESW (1 or more series of 3 treatments; 4,000 – 5,000 shocks/treatment; 0.15 - 0.4 mJ/mm²). After each treatment, patients were on crutches for 20 - 25 days. Results were evaluated according to subjective and objective clinical findings and MRI imaging (pre and post treatments).

More than two-thirds of the patients reported positive results after ESW, in regard to pain, swelling or joint stiffness, and bone marrow oedema. Pain resolution was strictly related to an improvement of MRI imaging (> 90%). No local nor general side effects were reported.

Bone marrow oedema, responsible for pain in arthritis and other osteochondropathies, recently has been described as a negative prognostic factor regarding their degenerative evolution. According to our promising data, ESW seems to positively interfere not only with symptoms but also with the pathogenetic mechanism of degeneration. The authors are going to explain the rationale of this new therapeutic application, of which its "protective" effects against tissue degeneration are underlined.