

ESWT on benign bone conditions

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Device and producing company:

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Introduction:

In our experience with more than 900 patients treated with ESWT during the last six years, 7% (63) of which had bone pathologies, 3 presented with cases of benign bone conditions. According to results of using ESWT on bone, we decided to apply this option, looking for the osteogenetic/remodeling capabilities described for the method.

Methods:

Clinical cases: 1) Male, 20 yo., professional athlete (motorcyclist) with long standing pain in right shoulder. X-rays showed heterotopic bone inside the bicipital groove; 2) Male, 13 yo., pain in left patella during daily life activities. X-rays and MRI showed a bipartite patella; 3) Male, 14 yo., with pain in distal left femur during normal activities. Xrays, Bone Scintigraphy and CT-scan displayed a large monostotic/solitaire Non-Ossifying Fibroma. Adolescent patients and parents consented to SW-treatment (single session, 5000 to 6000 pulses, 0.33mJ/mm², Orthospec device). Follow-up consisted of monthly reviews and restriction of activities.

Results:

Bipartite Patella and Non-Ossifying Fibroma went into initial resolution within a period of 6 to 8 months, and resolved completely in about 14 months. The heterotopic bone cases showed initial dissolution in 12 weeks according to monthly echography and complete fade-out in 24 weeks. All patients became rapidly asymptomatic after treatment. Follow up from 6 months to three years indicates no change in their resolution or clinical condition.

Discussion:

The cases of incomplete bone development resulted in complete repair/ remodeling. The heterotopic bone resulted in reabsorption. Possible explanations will be discussed in the oral presentation.

Conclusion:

Antagonistic bone reactions were induced by SW in these special benign bone conditions. Further studies are needed for future clinical relevance.