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A Study Demonstrates that Ibuprofen Improves Bone Repair after Surgery or a Fracture

Publication Date: 2012-07-03

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An in vitro study conducted at the University of Granada has demonstrated that a therapeutic dose of this non-steroidal anti-inflammatory drug (NSAID) improves bone repair. The article has been recently published in the prestigious Journal of bone and mineral metabolism.

A study conducted at the University of Granada has demonstrated that ibuprofen –a non-steroidal anti-inflammatory drug (NSAID)– has beneficial effects on bone repair after a fracture or following bone surgery.

In vitro tests demonstrated that –unlike other NSAIDs– when a therapeutic dose of ibuprofen is administered, it has no negative effects on the proliferation and synthesis of osteoblast osteocalcin, a cell which is directly involved in the formation and regeneration of bones.

Osteoblast cells are bone cells that synthesize the bone matrix. Consequently, osteoblasts play a major role in bone development, growth, maintenance and repair.

Positive Results

In an article recently published in the prestigious Journal of bone and mineral metabolism, the University of Granada researchers report the positive effects of ibuprofen on bone repair. The researchers are members of the research group BIO277, which studies the effects of different pharmacological and non-pharmacological therapies on osteoblast cells.

The primary author of this article, Concepción Ruiz Rodríguez, a professor at the University of Granada Nursing Department states that "up to date, we had little information on the effects of ibuprofen on osteoblast cells". The University of Granada study demonstrates that a therapeutic dose of ibuprofen (5-25 µm.) does not inhibit the proliferation and synthesis of osteocalcin in the MG-63 cell line. However, when higher doses are administered (>25 µm.) they may activate other cells, which might explain the expression of membrane markers and the decrease in the phagocytic capacity.

Reference: This article is available at: <http://www.ncbi.nlm.nih.gov/pubmed/22543821>

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Quality Validation Date: 2012-07-03

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