

Anti-inflammatory Curry Extract May Reduce Tendinitis: Study

By Nathan Gray, NUTRA Ingredients

Curcumin extract may be able to suppress biological mechanisms that spark inflammation in tendon diseases, according to new research.

The research, published in the Journal of Biological Chemistry, reveals that curcumin, which is known as a for giving turmeric its bright yellow colour and its use as a food colouring ingredient, blocks important inflammatory pathways known to initiate tendinitis, preventing the initiation and promotion of inflammation in the tendons.

The international team of researchers led by scientists at the University of Nottingham and Ludwig Maximilians University in Munich said that the spice extract could offer a new treatment hope for sufferers of the tendinitis

“Our research is not suggesting that curry, turmeric or curcumin are cures for inflammatory conditions such as tendinitis and arthritis...However, we believe that it could offer scientists an important new lead in the treatment of these painful conditions through nutrition,” said Dr Ali Mobasheri from the University of Nottingham, who co-led the research.

“Further research into curcumin, and chemically-modified versions of it, should be the subject of future investigations and complementary therapies aimed at reducing the use of non-steroidal anti-inflammatory drugs, the only drugs currently available for the treatment of tendinitis and various forms of arthritis,” he added.

Anti-inflammatory

Tendinitis is a form of tendon inflammation that causes pain and tenderness near to joints. It is particularly common in the shoulders, elbows, knees, hips, heels and wrists.

The authors noted that as the global population ages, and inflammatory diseases become more prevalent, the incidence of tendinitis has increased. It is also linked to other arthritic and rheumatic diseases such as rheumatoid arthritis or metabolic diseases such as diabetes.

Mobasheri and his colleagues explained that current treatments for tendinitis are restricted to the use of non-steroidal anti-inflammatory drugs (NSAIDs), such as aspirin or ibuprofen.

However, NSAIDs can be associated with undesired side effects including stomach ulcers, nausea, vomiting, heartburn, headache, diarrhoea, constipation, drowsiness and fatigue. Consequently, there is an acute need for new treatments with fewer debilitating side effect, said the authors.

Curcumin has been associated with anti-inflammatory responses, and has been successfully used to treat inflammatory conditions in experimental research and in clinical trials.

Recent studies in cell models have suggested that that curcumin is able to target specific inflammatory signalling pathways.

Other research has linked curcumin to potential uses in treating arthritis and a range of rheumatic diseases, and potentially even as an agent to kill cancer cells.

“However the potential for the treatment of tendinitis has not been explored,” said Mobasheri and his colleagues.

Study details

The new study used a culture model of human tendon inflammation to study the anti-inflammatory effects of curcumin on tendon cells, to assess the effects of curcumin on the inflammatory and degenerative signalling pathways.

The research team found that curcumin inhibited interleukin-1beta-induced inflammation and cell death in the tendon cultures.

“The anti-inflammatory effects of curcumin included down-regulation of gene products that mediate matrix degradation, prostanoid production, apoptosis, and stimulation of cell survival,” said the researchers.

“These results demonstrate, for the first time, a potential role for curcumin in treating tendon inflammation,” they added.

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“Curcumin Modulates Nuclear Factor κ B (NF- κ B)-mediated Inflammation in Human Tenocytes in Vitro”

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