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New therapeutic perspectives for sport-related musculoskeletal pain management: nutraceutics

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Abstract

Introduction: Musculoskeletal pain (MSK) is a deep somatic pain that originates in myofascial, tendon, ligamentous, joint, capsular, and osteoperiosteal structures. Its incidence is very high, especially among amateur sportmen who are often forced to quit sports activities even for long periods of time[1]. Treatment can be pharmacological or nonpharmacological. The most commonly used drugs in the management of MSK are nonsteroidal anti-inflammatory drugs (NSAIDs) and paracetamol, but also opioids and tricyclic antidepressants[2]; but drug therapies can cause various adverse effects. Non-drug treatment, instead, involves the use of physical therapies, therapeutic exercises[3] and nutraceutics. In particular, in recent years the field of nutraceutical is increasingly developing with greater importance, with the use of dietary supplements that can reduce inflammation, edema and consequently pain.

Methods: A bibliographical research of articles published between 2016 and 2022 was carried out, using as keywords "pain", "musculoskeletal pain and sport", "non-drug treatments", "nutraceutical". Articles on types of pain, pain in sports and non-invasive treatments were examined in order to extract information about pain and the use of non-drug treatments.

Results: In the specific case of MSK pain, some natural products such as curcuma, boswellia, green tea, omega-3 and cannabidiol (CBD)[4] have shown remarkable results in resolving algic symptoms in many patients. Many of these compounds perform their function by inhibiting the inflammatory pathways similar to NSAIDs. In fact, they can inhibit COX-1 and COX-2 so as to block the release of inflammatory prostaglandins.

Conclusions: Dietary supplements could be a valid treatment option for mild and moderate MSK pain, limiting drug abuse and allowing athletes a faster recovery.

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