

Aetiology of Ankle Osteoarthritis

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COMMENTARY

Ankle osteoarthritis is a chronic condition that affects about 1% of the population, with an estimated prevalence of 30 cases per 100,000 residents, and accounts for between 2% and 4% of all Osteoarthritis Patients (OA). Ankle osteoarthritis is less prevalent than knee and hip osteoarthritis, according to cadaver, radiological, and clinical investigations. This is paralleled in clinical practise, where symptomatic knee osteoarthritis is 8 to 9 times more common than ankle osteoarthritis, and complete knee work is performed around 24 times more than arthrodesis and arthroplasty combined. Ankle OA is very debilitating in advanced stages and can have similar repercussions on quality of life as severe hip osteoarthritis, advanced kidney failure, or congestive heart failure. While its clinical impact on patients has not been considered particularly relevant, it is very debilitating in advanced stages and can have similar repercussions on quality of life as severe hip osteoarthritis, advanced kidney failure, or congestive heart failure.

In 75% of cases, osteoarthritis of the ankle is caused by a periarticular fracture, and in 13% of cases, chronic, unresolved ligament instability. Mechanical variables that increase the stress on isolated sections of ankle cartilage, such as incongruence, instability, malalignment, and impacts, have been linked to the start of osteoarthritis. However, we can't overlook the role of proinflammatory mediators present at the time of fracture as initiators of the cascade that leads to the cell damage that develops

osteoarthritis.

Only 7% to 9% of cases are classified as idiopathic osteoarthritis, and 13% are secondary to other causes, according to the scientific literature. Unlike hip and knee OA, there is an apparent consensus that primary ankle osteoarthritis is not the most common aetiology; however, there is an apparent consensus that, unlike hip and knee OA, primary ankle osteoarthritis is not the most common aetiology (rheumatoid arthritis, haemochromatosis, haemophilia, and osteonecrosis). As a result, the most common cause, accounting for 75 percent to 80 percent of all cases, is a traumatic event, with fractures around the ankle (malleolus, distal tibia, talus, and so on) accounting for 62 percent, and unresolved chronic ligament injuries, particularly those affecting the lateral collateral ligament (which some authors refer to as "ligamentary ankle osteoarthritis") accounting for another 16 percent.

Despite being a commonly injured joint (fractures, sprains, and so on), clinically significant ankle OA is less common than in other weight-bearing joints, which may surely be explained by ankle cartilage's morphological, biochemical, and biomolecular characteristics. All hyaline cartilage in the human body gets the most force per unit area in the ankle (500 N/350 mm²), compared to the same force per 1100 mm² or 1120 mm² in the hip and knee, respectively. As a result, ankle cartilage can be subjected to three times the stress of knee or hip cartilage, however, as previously stated, radiological and clinical osteoarthritis in the ankle is less common than in the knee or hip.

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