

Anatomical study of the infrapatellar adipose body

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Inflammation plays an important role in the ethiopathogenesis of osteoarthritis. In the association between obesity and osteoarthritis a possible role of inflammatory properties of adipose tissue has been suggested. The infrapatellar adipose body, known as the body of Hoffa, can be regarded as a special form of adipose tissue due to its location, which is in close contact with synovial layers and articulating cartilage. The aim of the present study was to analyse the microscopic anatomy of the Hoffa's fat pad, through an histological, ultrastructural and radiological methods. Ten specimens of Hoffa's fat pad were sampled, 5 cases from subjects with osteoarthritis that underwent knee prosthesis, and 5 cases obtained from cadavers. Moreover, the volumetry of the Hoffa's fat pad was obtained from 20 cases of magnetic resonances exams. The Hoffa's fat pad consisted of white adipose tissue. In its context vessels and nerves fibers were visible. In all the specimens with osteoarthritis an hypertrophy of the synovial membrane with inflammatory cells infiltrations, an higher presence of blood vessels with hypertrophy of the tunica media in the synovial membrane and in the white adipose tissue were appreciable. Moreover, in the pathological cases the white adipose tissue presented thickening of the fibrous interlobular septa and the adipocytes were less represented. These data may support the hypothesis that the infrapatellar adipose body could contribute to the osteoarthritic disease process by producing and releasing inflammatory mediators, capable of modifying inflammatory and destructive responses in cartilage and synovial membrane.

Keywords

Adipose tissue, knee, radiological anatomy, osteoarthritis.