Enthesis of the ligamentum teres during ankylosing spondylitis: histopathological report

We were interested to read the article by Inoue et al.1 on ossification of the medial acetabular floor, including the ligamentum teres as a possible mechanism of lateral subluxation in coxopathy associated with ankylosing spinal hyperostosis. A few years ago we saw a patient suffering from ankylosing spondylitis (AS) with right coxitis including inflammatory enthesopathy of the ligamentum teres (ligamentum capitis femoris).

A 57 year old man with a five year history of a painful right hip was first seen at the rheumatology clinic in 1976, when the diagnosis of AS was made (HLA B27 was present). Anteroposterior radiography of the pelvis demonstrated joint space narrowing in the right hip, sclerosis and new bone formation on the right acetabular rim, enthesophytes of the femoral head, and an ankylosis in the sacro-iliac joints. Due to persistent pain and major disability, an arthroplasty was performed on the right hip.

On opening the capsule, the synovium was inflamed around the ligamentum capitis femoris although there was no obvious pannus the articular cartilage was considered preserved on the femoral head. Histological examination showed an intense vascular proliferation in the central area of attachment of the femoral head ligament to the fovea capitis, especially in the deep subchondral perivascular area (figure). Lymphoplasmocytic cells had spread along the proliferating vessels which dissociate the vertical collagen fibres at the ligamentum teres attachment. In the narrow spaces surrounding the damaged area there was evidence of chondrocyte proliferation. Ossifying enthesitis was also present on the attachment of the capsule in the acetabular labrum.

Published reports are scant concerning the histopathology in the early stage of AS. Nevertheless, several papers have underlined the role of enthesitis in the pathogenesis of AS and related spondylarthropathies.2-4 Ossifying enthesopathies on the great trochanter and capsular enthesophytes are common features in AS5 and Forester's disease6 with the resulting tendency to ankylosis of the hip.

Enthesopathies include all changes, whether traumatic, degenerative, metabolic or inflammatory of enthesis.5-6 As enthesopathies usually produce ossification, they are very useful diagnostically and nosologically, especially when they are diffuse or multiple. The most extreme example of metabolic enthesopathy is diffuse idiopathic skeletal hyperostosis (DISH, more commonly known as Forester's disease). Conversely, AS, which is the archetype of spondylarthropathies, is the more classic inflammatory enthesopathy.

The most distinctive feature of the natural history of ossifying enthesopathies, suggests that during AS and DISH, enthesopathy of the ligamentum capitis femoris, may initiate intra-articular involvement, as observed in the knee with cruciate ligaments.3 The presence of an intra-ligamentary artery probably enhances its proclivity to promote coxitis during AS.

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