

A PALEOPATHOLOGICAL EVIDENCE OF PERTHES DISEASE

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INTRODUCTION

Twenty years ago, the remains of an early medieval cemetery were found in a small village of the Portuguese littoral, Maiorca. During construction works, human bones become exposed some of which were destroyed by the landscaping machines. As a consequence, part of the bones were commingled. Moreover, although some graves were kept intact the posterior inadequate bones storage, lead to a complete mixture of the remains which were, consequently, treated as an ossuary.

The part of the cemetery that was excavated consisted of twelve graves apparently with more than one individual by burial.

The estimated minimum number of individuals is 21 (15 adults and 6 non adults), being the adults mostly males and middle aged.

Among the commingled bones, the most striking case concerns an acetabulum and associated femoral head of an adult with a evident pathological aspect. As the rest of the skeleton was missing, these were the only pieces available for the diagnostic. After an accurate analysis, the most probable diagnostic of this collapsed hip seem to be Perthes disease (also known as Legg-Calvé-Perthes disease; Juvenile deformans; Coxa plana; Osteochondritis of the hip; Superior femoral epiphysitis; Perthes disease; Legg-Perthes disease; Legg-Calvé-Perthes-Waldenstrom's disease).

We will briefly describe the lesion and justify the proposed diagnostic.

MACROSCOPICALANALYSIS

The femoral head suffered an intense enlargement of size, accompanied by massive bone formation and widening of femoral neck giving a mushroom shape. Eburnation is, as well, noticeable with eminent porosity.

Regarding the acetabulum, the increase in size is also very evident. Note also the great porosity and eburnation particularly in the inner surface. Moreover, on its lateral side, there are signs of great amount of bone formation and remodelling.

All of the above mentioned features, seems to be connected, since the increasing size of the femoral head is leading to modifications on the acetabulum shape, that altogether, induced a severe degenerative disease, on both articular surfaces.

RADIOLOGICALANALYSIS

The X-ray image is characterised by increased radiological density mixed with areas of radiolucency, showing disorganisation of the bone architecture.

On the lateral view of the X-ray, the femoral "mushroom shape" is very evident.

Finally metaphyseal cysts, with radiolucent lesion that may simulate an abscess or tumour, can be observed.

SHORT PRESENTATION OF PERTHES DISEASE

Generally, Perthes is grouped in the circulatory diseases, as a specific case of osteochondrosis, affecting mainly the femoral head in children (between the age of 3 and 10, with a male prevalence in a proportion of 4:1) (ROTHSCHILD; MARTIN,1993). While some authors are still apologist that the triggering process of Perthes is unknown, others argue that this pathological circumstance can begin by several ways such as exogenous factors –trauma, metabolic factors, haematological disease, infection–, or any aetiology that cause a serious obstruction of the blood supply to the growing head of the femur, producing ischemia, and subsequent necrosis of the bone tissue.

It is a pathology that constrains the mobility of the individuals, despite certain tendency to self-resolution. The most perceptive complications are the degenerative alteration, which can reach 100 % when affects individuals older than 10 years. Cases over age 12 are considered adolescent vascular necrosis and have a worse prognosis and limitations to the individuals (AUFDERHEIDE, 1998).

DISCUSSION

It is very clear that the most striking and representative diagnostic feature of Perthes disease, the mushroom shape of the femoral head, can be observable in our case.

The increased size of the femoral head can be explained by several factors, such as the necrosis of the bone, natural remodelling, and by the adherence of small necrotic fragments that sometimes detached from the bone during the pathological process (ROBERTS; MANCHESTER, 1995).

When comparing with nowadays medical cases, we can hypothesise that in the absence of a suitable treatment, the lesion got worsen over the individual's life. In effect, when medical treatment is provided, the complete regeneration of Perthes disease takes 2-5 years. On the other hand, when an individual lives with this disease for to long, the natural remodelling of the bone, leads to a permanent mushroom shape with invisibility of fovea capitis and corresponding ligaments attachment.

DIFERENTIAL DIAGNOSIS

Other possible diagnostic can not, however, be completely precluded.

Thus, while congenital hip dislocation can be excluded since there is absence of a pseudo acetabulum to accommodate the femoral head, other diagnostics can not be totally ruled out. That's the case of slipped capital femoral epiphysis; multiple epiphyseal dysplasia; Gaucher's disease; infantile hypothyroidism (AUFDERHEIDE,1998). All of these diseases can produce similar lesions turning difficult the differentiation.

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ICONOGRAFÍA

Pósters

A paleopathological evidence of Perthes disease



Imagen 1



Imagen 2

