

Ancient Egyptian society between Philadelphia (Fayoum) and Marina (North Coast) through the study of human remains.



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Introduction: Reiter's syndrome (reactive spondyloarthropathy, OR Reactive arthritis (ReA).

In 1916, Hans Reiter (1881–1946) described the case of a young German army officer with bloody dysentery who presented with a combination of urethritis, conjunctivitis and arthritis, which he believed was the result of an unusual form of syphilis. A similar combination of symptoms was described in the same year by Fiessinger and Leroy in a group of four French soldiers but the term Reiter's syndrome has persisted, at least in the English literature. New research demonstrates cases of the condition long before the first modern clinical descriptions of it.

Causes of the disease

A variety of infections can trigger the immunological condition, leading Ahvonen and his colleagues (1969) to describe it as Reactive arthritis (ReA). The most common precipitating event is an infection with *Campylobacter*, *Chlamydia*, *Clostridium*, *Salmonella*, *Shigella* or *Yersinia* species.

The symptoms

- The symptoms of joint disease may appear within two or four weeks of the infection, but may also appear after the infection has cleared up. It seems that once the immunological tap has been turned on, it cannot be turned off. The prevalence of ReA is not known with any precision, and different authors give different figures; it is low, however, not more than 0.5 per thousand.
- The prognosis is good although a quarter of patients may go on to develop chronic arthritis.
- In ReA sacroiliitis is asymmetrical; extra-spinal lesions are more extensive than in AS and typically affect the lower extremities; enthesopathy is common and there is a good deal of new bone produced.
- The changes in the SIJs may be bilateral or unilateral and the changes within the joint are asymmetrical.



Figure 1. Two cases of complete fusion of the sacrum and ilium due to Reactive arthritis from Marina cemetery.



Figure 2. A case of complete fusion of the sacrum and ilium due to Reactive arthritis from Philadelphia.

Operational definition for reactive arthropathy:

- Asymmetric fusion of one or both sacroiliac joints.
 - Spinal fusion with paravertebral bridging and skip lesions.
 - Asymmetric erosions of small joints of the feet
- Enthesophytes may be present, especially in the lower limbs and feet, and there may be proliferation of new bone.

The Archaeological Sites

Philadelphia

Philadelphia was one of a series of urban settlements founded by the first Ptolemies along the new irrigation system in the Fayyum depression. It was administered as a village throughout the Hellenistic and Roman periods, and was abandoned by the turn of the 5th century CE.

The cemetery contains eight burial pits, in which a number of burials were found, in addition to the mixed human remains found in the cemetery courtyard. The total number of individuals in the cemetery is 64: 30 adult males, 18 adult females and 14 children.

Marina

The archaeological area contains a large commercial market divided into several sections, with residential neighbourhoods, and a 150m long cemetery area carved into the rock of the ridge overlooking the seacoast. The cemetery dates to the Roman era. There was also a basilica and a pottery workshop. It was formerly a port for exporting grain.

The cemetery contains seven burial pits, in which a number of burials were found. The total number of individuals in the cemetery is 39: 17 adult males, 23 adult females, 4 subadults, 5 children.

Results and Conclusions

- By studying the human remains at the two sites, one case of ReA was observed at Philadelphia and two cases at Marina site.
- The infection is 1.5% of the sample size in the Philadelphia Cemetery, while it represents 5.1% of the total sample in the Marina Cemetery.
- Despite the geographical distance, the daily lifestyle of the residents of the two settlements appears to be similar.
- The lack of adequate healthcare at both sites may have led to bacterial infections developing into chronic complications, that can be seen in the pelvic bones.

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