

OSTEOARTHRITIS IN PAST HUMAN POPULATIONS

AN ANTHROPOLOGICAL PERSPECTIVE

SUMMARY

Osteoarthritis (OA) is the most ubiquitous pathological condition in recent and past human groups. Although OA is used in health status reconstructions, lifestyle examinations, the question about the usefulness of OA in past populations analyses is still opened. An effect of some etiological factors on OA appearance in skeletal collections have been examined in anthropological literature, but the results are not unanimous and sometimes in the opposite to clinical ones. Therefore further studies are needed. to enrich knowledge about these factors influences. It is crucial for proper interpretation of OA in past human.

An effect of age, sex, body size, enthesal changes on OA formation is examined here. Additionally, the inter-population difference in OA changes frequencies are analyzed. Relationships between porosity, osteophyties, and eburnation were made also here.

Adult individuals from late medieval/highly medieval population from Cedynia, late medieval/early modern population from Łekno, and late medieval/early modern rural population from Słaboszewo were used in a study. Osteophyties, porosity, eburnation in a major joint were analyzed. Ten enthesal changes (EC) were examined. Body mass, body high were reconstructed, humeral massiveness index was calculated.

The lowest frequencies of osteoarthritis is observed in Słaboszewo, Łekno is the most affected. In Słaboszewo hip as the most affected joint. In Cedynia and Łekno elbow is the most affected joint. In all skeletal groups osteophyties were the most frequently observed type of OA changes . Eburnation is the least frequently recorded type.

Males from Cedynia, and Łekno are significantly more affected by osteoarthritic changes. Słaboszewo males do not differ from females according to OA. When each joint is analyzed separately, the sex differences are usually non-significant. There is no differences in OA changes between age groups. Heavier individuals are usually predicted to have more severe total OA. But when each joint is analyzed separately only

in some cases a relationship between body mass and OA is significant. An effect of bone massiveness on OA is small in some cases negative, and usually non-significant. An effect of body height does not play any role in OA formation. More "muscular" individuals have more developed osteoarthritis. Although, when each joint is analyzed separately not all correlations are significant, and some relationships between OA and ECs are negative. There is no observable overtime trends in OA changes from middle ages to early modern times.

It can be concluded that: (a) strong physical activity (stronger EC) or its lack can play an important role in OA formation; (b) the effect of body mass, bone massiveness is not so strong but it must be considered when interpret OA in past human; (c) inter-population differences in OA can be a result of the occupation diversity; (d) osteoarthritic changes formation cannot be treated as a continuous process from osteophytes, throughout porosity, to eburnation; an independent etiology of three types of OA changes is underlined. The present study results are in order to shed light on the osteoarthritic changes to improve the use of these traits in anthropological researches, especially with regard to past human biology analyses.