

represent a result of a mechanical mixture while others attest to incipient hybridization. Despite the evidence of military activity in the society (fortified settlements, chariots, weapons), a small number of injuries suggests that Sintashta and Potapovka populations were involved in conflicts only occasionally. It should be emphasized that despite the apparent cultural homogeneity of the cemeteries, the buried people were not necessarily related to each other. The central and elite graves often contain individuals of a hypermorphic European type, perhaps of steppe origin. We therefore conclude that one must concentrate on elite burials to identify the founders of the Sintashta and Potapovka traditions in this archaeologically homogenous and, at the same time, biologically heterogeneous group.

Key words: *Bronze Age, Southern Urals, Sintashta-Arkaim, Potapovka, Indo-Iranian origins*

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FINGER LENGTH RATIO IN CHUVASHIANS

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In a Chuvashian sample (803 males and 738 females) we evaluated the mean values of 2D:4D ratio, the contributions of phalanges and metacarpals to the 2D:4D ratio; the symmetry between right and left 2D:4D ratios. Age, sex, anthropometric data and radiographs of both hands were collected. Each hand was visually classified with the x-ray method as either Type 1 (index finger longer than ring finger); Type 2 (equal); or Type 3 (shorter than the ring finger). The following measurements were obtained from the index and ring fingers: (1) midpoint of base of the proximal phalanx to midpoint of tip of the distal phalanx; and (2) midpoint of the base to midpoint of tip of the metacarpal. Visual classification was significantly associated with the measured 2D:4D length ratio. Women had a higher prevalence of Type 1 and Type 2, but lower prevalence of Type 3 ratio in both hands. Men had lower measured 2D:4D phalangeal, metacarpal and ray (combined) ratios than women. Symmetry between the right and left hand measured 2D:4D ratios were significant in phalangeal ($r=0.657$, $p<0.001$), metacarpal ($r=0.638$, $p<0.001$), ray ($r=0.682$, $p<0.001$) ratios and visual classification types (contingency coefficient = 0.559, $p<0.001$). No sex dimorphism was found between the right and left hands. Correlations between age and visual classification were significant on both sides before and after adjustment for sex. This is probably a sign of a secular trend and should be replicated in other samples. Evaluation of the association between 2D:4D finger length ratios (representing the prenatal environment, i.e., early androgen exposure) and reproductive indices, such as age at menarche, menopausal age and length of reproductive period was done. Retrospective data on the age at menarche and menopausal age as well as x-rays of both hands were obtained from 674 Chuvashian women aged 18-70 (mean 46.32 ± 15.42). We found that a low 2D:4D ratio (radiologically evaluated), a masculine 2D:4D ratio type (visually evaluated), and a putative bioassay for prenatal androgen exposure were associated with a later menarche and shorter reproductive period. No association was found with menopausal age.

Key words: *hand, 2D:4D, finger length ratio, menarche, menopause, Chuvashians*

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