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Short fieldwork report

Human remains from Malhamdar, Iran, 2016

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Kamal Saleh Dam is one of Iran's major dams, located approximately 45 kilometers south of the city of Shazand, in Shazand County, Markazi Province, precisely at the boundary between Markazi and Lorestan provinces. About 2.5 kilometers west of the dam, during construction activities carried out outside the dam's protected zone and in the course of building an access road, a Sassanian cemetery (dated according to surface scattered pottery) was identified (33°38'10"N, 49°14'39"E). Following some stone chambers and some human remains exposed in the road cut section, the discovery was reported to the Cultural Heritage Administration of Markazi Province. In 2016, Esmail Sharahi conducted an on-site rescue investigation and documentation of the human remains (**Figure 1**). The examination revealed that the skull of the skeleton was missing, while other skeletal elements were still embedded in the road section. Consequently, the exposed remains were carefully collected and transferred for further study to the bioarcheology center of the University of Kashan. These findings indicate the presence of an ancient cemetery in this area, which had been damaged by modern construction activities.

The collection of human remains from Malhamdar includes one incomplete skeleton and nine bones or bone fragments from at least two more individuals (MNI=3). All these elements were described and measured using standard protocols (Buikstra & Ubelaker 1994; Steckel et al. 2006), with some modifications (Sołtysiak et al. 2019). Discriminant functions for sex assessment were based on a collection of North Mesopotamian skeletons (Sołtysiak 2010) and stature was estimated using the regression functions presented by Trotter and Gleser (1958). Degenerative joint disease in the ribs and vertebrae was expressed in the a/b/c frequency format, where a is the number of joints with absence, b is mild development and c is severe development of this condition.

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Bones of the incomplete skeleton were very well preserved, with all long bones from the left side present together with the right femur and tibia, complete pelvis and all thoracic, lumbar, sacral and coccygeal vertebrae but only C7 out of the cervical vertebrae, left clavicle, left talus and left calcaneus, all left ribs and both damaged scapulae. All morphological features of the pelvis and the diameter of the femoral head (46.0mm) indicated male sex. Age-at-death was estimated as 40–50 years based on the pubic symphysis (Suchey-Brooks grade 5) and auricular surface (Meindl-Lovejoy grade 5). Measurements of the maximum long bone lengths (humerus: 330mm, radius: 264mm, ulna: 279mm, femur: 451mm, fibula: 396mm) and the length of tibia (399mm) allowed estimation of the stature, which was 176.8±1.64cm. No degenerative joint disease was observed on synovial joints, but there were some cases both in the vertebral bodies (thoracic: 10/2/0, lumbar: 0/2/3) and in the articular surfaces of the ventral arches (thoracic: 32/13/1, lumbar: 17/3/0) as well as on the rib tubercles (7/4/1).

The other elements include: (1) complete frontal bone representing more likely male then female (glabella 4+, supraorbital ridges 3), no metopism, no *cribra orbitalia*, (2) both complete parietal bones of one individual, no parietal foramina present, the sagittal sulcus was not obliterated, (3) slightly damaged ilium of a mature/senile individual (auricular surface: grade 6), more likely male than female (greater sciatic notch 3, preauricular sulcus 4), (4) largely damaged sacrum, (5) proximal 1/3 of the right femur, more likely female than male (head diameter: 40.6mm), (6) proximal end of

Figure 1. The skeleton from Malhamdar during exploration. Photograph by Esmail Sharahi.

the left femur, with indeterminate sex (head diameter: 44.7mm), (7) proximal half of the right radius and (8) almost complete right middle rib, with more pale colour than the other elements. All these elements represent adult individuals.

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