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Short fieldwork report

Human remains from Bakr Awa, Iraqi Kurdistan, 2017

Rafał A. Fetner*[1], Joanna Szymczak[2]
[1] Department of Bioarchaeology, University of Warsaw,
Krakowskie Przedmieście 26/28, 00-927 Warsaw, Poland
email: rafetner@uw.edu.pl (corresponding author)
[2] Antiquity of Southeastern Europe Research Centre, University of Warsaw,
Krakowskie Przedmieście 26/28, 00-927 Warsaw, Poland

Tell Bakr Awa (35°13′14″N, 45°56′26″E), Halabja Province of Iraqi Kurdistan, is situated in the eastern Shahrizor Plain, at the Zagros foothills. The location of Bakr Awa along the trade route from Iran to Southern and Northern Mesopotamia influenced the wealth of this site. Prosperity is visible in the private architecture, tomb constructions and, finally, artefacts at this site, especially for the Middle Bronze Age (MBA, c. 2100-1500 BC) period. Later in the Iron Age (IA, c. 800-300 BC) the settlement seems to be of rural character with poorly defined architectural remains. After the IA, the site seems to be abandoned, at least in the investigated areas, and later repopulated in the Islamic Period (IS, c. 650-1900), when Bakr Awa seems to become an important city in the plain (Miglus et al. 2013, 2016).

In seasons 2010-2014, 90 individuals were unearthed, 45 of them date to the Early Bronze Age and the MBA, 13 to the IA and 32 to the IS. Moreover, many single bones from non-grave secondary contexts were also retrieved (e.g. looting pits). The human remains recovered were subjected to osteological analyses (Fetner 2011, 2014, 2015a), carbon and nitrogen stable isotope and dental wear analysis (Fetner 2015b).

In 2017 archaeological excavations at Tell Bakr Awa were resumed after a three years pause under the direction of P. Miglus (University of Heidelberg, Germany). Both the Citadel and the Lower Town were investigated. Human remains were unearthed exclusively in the Lower Town sectors (Area 1 and 2). Osteological analysis was conducted in the dig house in the Bakr Awa village. Human remains were examined and described using protocols based on recommendations in Brickley and McKinley (2004) with additional methods for age estimation of subadults (Smith 1991, Schaefer et al. 2009) and adults (Buckberry & Chamberlain 2002). All pathological changes were diagnosed and scored according to Steckel et al. (2011), Waldron (2009), and Ortner (2003). Results of the analysis are summarised in the **Table 1**.

In Area 1 three graves were explored, two simple earth interments and a stone tomb. Earth graves were found in the eastern part of the trench. The Middle Bronze Age grave of a 25–35 year old male (BA 1375/1) was partly explored in the previous

Table 1. Summary of the osteological analysis for the humans remains unearthed from grave context in Bakr Awa in the season 2017. Abbreviations: MNI – minimum number of individuals, EBA – Early Bronze Age, MBA – Middle Bronze Age, IA – Iron Age, IS – Islamic period, OA – osteoarthritis, LEH – linear enamel hypoplasia, AMTL – antemortem tooth loose.

Grave	Period	MNI	Age	Sex	Pathologies	Remarks
BA1375	MBA	1	20-35	male		
BA1399	EBA	1	newborn			
BA1400	MBA	2	35-50; 50+	male; female	OA, spondylolysis, OA, fracture	tomb
BA2735	MBA	1	adult		LEH	
BA2755	IS	2	35-50	female?	OA, AMTL, dental caries	non-adult bone admixture
BA2773	IS	1	adult			
BA2774	IS	1	35-50	female		
BA2775	IS	1	adult			
BA2779	IS	1	adult			
BA2780	IS	2	7-14			adult remains admixture
BA2791	IS	3	adult		CO, dental caries, LEH	non-adult bone admixture
BA2794	IS	2	adult			non-adult bone admixture
BA2795	IS	1	adult			
BA2797	IS	1	adult	female	dental caries	
BA2812	IS	1	20-35	female?	OA, abcess, AMTL, aleovar resorption, LEH, dental calculus	
BA2813	IS	3	20-35		AMTL, blunt force trauma	adult and non-adult bone admixture
BA2816	IS	1	adult		phalanx ankylosis	
BA2818	IS	1	adult			
BA2819	IS	2	7-14		LEH	adult remains admixture
BA2835	IS	1	35-50		LEH	
BA2836	IS	1	15-25		LEH	
BA2837	IS	2	20-50			adult remains admixture
BA2840	IS	2	20-35	male?		non-adult bone admixture
BA2851	IS	1	20-35	female?	dental caries	
BA2856	IS	2	20-50	female	dental caries	adult remains admixture
BA2859	IS	2	20-35			adult remains admixture
BA2860	IS	1	adult			
BA2895	IS	1	35-50	male	OA, dental caries	
BA2924	MBA	1	adult			

Table 1. (continued)

Grave	Period	MNI	Age	Sex	Pathologies	Remarks
BA2940	IA	1	4		dental caries	
BA2950	MBA	5	20-35; 35+; adolescent	male; female	OA, AMTL, dental caries, periosteal reaction, rib and vertebrae ankylosis, Schmorl's nodes	tomb
BA2951	IA	1	35-50	female		

season, when the skull was removed. This year the post-cranial part of the skeleton was exposed and documented. The individual was oriented along the N-S axis, with head at S, facing W. The individual was laying in the crouch position on the left side. A second interment, dating to EBA, contained remains of a newborn (BA1399/3), who was buried along E-W axis, with the head at E and facing NW.

In the report from season 2014 (Fetner 2015a), a pit with commingled humans remains (BA1348) was discussed. In the season 2017, this feature was re-examined and the area of exploration was expanded. The remains of at least two human individuals and possibly sacrificed animals were unearthed at the eastern edge of the feature, while deeper a stone tomb (BA1400) was discovered. In the previous report it was stated that the commingled remains can be associated with brick tomb BA1108 excavated in 2010, however later examination of the stratigraphical sequence of Area 1 proved this less likely. Hopefully planed radiocarbon dating of tombs and commingled remains will shade some light on a possible association between these contexts.

The Middle Bronze Age stone tomb (BA1400) was found in the western part of Area 1. The construction contained two individuals. First, a female older than 50 years was placed at the northern wall along an E-W axis. Her remains were found disturbed and single elements of shoulder girdle, cervical and thoracic spine and skull were in anatomical order. The second individual, a male between 35–50 years of age, was placed at the eastern wall along a N-S axis with skull at N, facing W (**Figure 1**). This skeleton was in anatomical order. Osteoarthritis was noted on the joint surfaces of both individuals. The male individual also had a fracture of the first metatarsal, while the female individual had a fracture of an arch of the lumbar vertebra (spondylolysis).

In Area 2, 29 graves were explored: 24 dated to the IS, 2 to the IA and 3 to the MBA. Like in Area 1, the MBA horizon contained two earth graves and a tomb. An adult individual of undetermined sex in burial (BA2735/1) was in poor condition and only general ostoeological observations were possible. The burial was arranged along N-S axis, the head of the individual, who was laying on the left side in crouch position,

Figure 1. Ortho-photography of the tomb BA1400, only male individual is visible. Author: Juan Aguilar.

was placed at S and facing W. The second interment contained only a humerus, ribs and part of the pelvis in anatomical order. This burial was probably destroyed by a wall that was found next to it.

The brick tomb (BA2950) contained remains of at least five individuals, four adults and one adolescent. Human remains were distributed on the floor of the tomb with a concentration at the entrance and along the northern wall, while most of the southern part was uncovered (**Figure 2**). Anatomical order was noted only among five vertebral bodies, which were fused by osteophytes. Human remains belonged to individuals of both sexes. More precise age assessment was possible for three individuals, one where the fusion of ischial tuberosity and illiac crest was incomplete (adolescent) and two adults, one being between 20–35 and a second being over 35 years old. On the skeleton, signs of osteoarthritis, periosteal bone deposition on the fibula, fusion of vertebral rib ends to the bodies of vertebrae, Schmorl's nodes, caries and antemortem tooth loose were noted. Unfortunately, the pathological changes cannot be ascribed to a particular individual(s).

The IA horizon in Area 2 contained earth interments of two individuals. A female c. 20–35 years old (BA2951/1) was buried in the crouch position on left side along the E-W axis, head at E, facing S. In the second grave (BA 2940/1) remains of a child, c. 4 years old, were found. The individual was laying in the crouch position on the

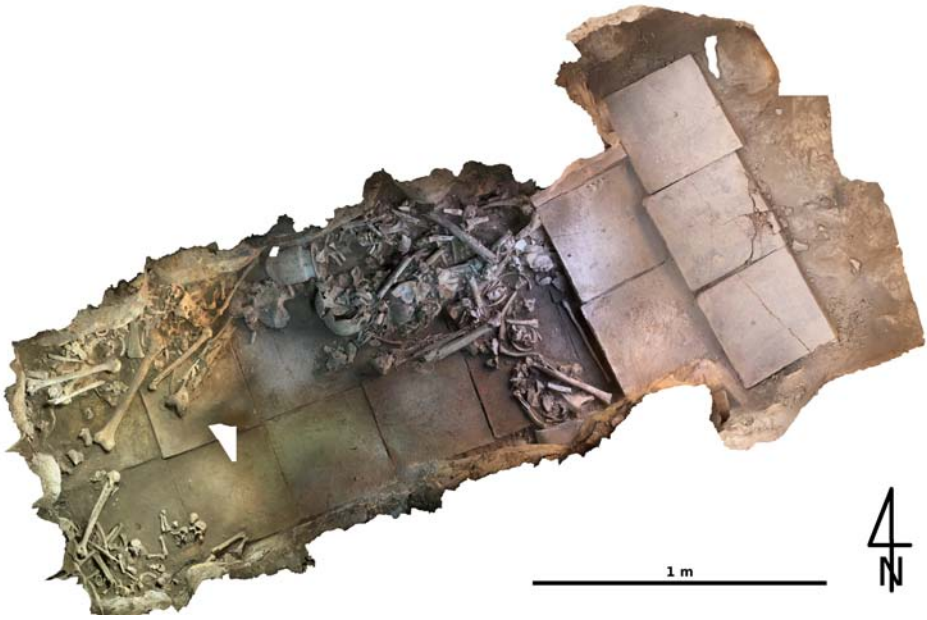

Figure 2. Ortho-photography of the tomb BA2950. Author: Juan Aguilar.

right side along the E-W axis, head at E, facing N. Despite this individuals young age, carious lesions were noted on the teeth.

The IS horizon, explored mainly in the N extension of Area 2, contained 24 graves. Except for one, they were found just beneath the top surface and were damaged due to human activity. In two cases, the earth grave pit was covered by flat stones. Twenty-one graves contained remains of adults and only three of sub-adults. More precise age assessment was possible for five individuals being between 20–35 years old at death and another four individuals between 35–50. Sex assessment was possible for 8 individuals: 6 females and 2 males. All graves were oriented along the NW-SE axis, each individual was lying on their right side in extended position (sometimes legs were gently bent), with head at NW, facing the SW. Bone admixture of the remains of another individual was common. An interesting example comes from grave BA2813, where remains of an adolescent were added to the interment of an adult individual, in such a way that the skulls were lying one on the another (**Figure 3**). Periodontal diseases were the most common, caries was noted on teeth of six individuals out of 14 with teeth preserved, linear enamel hypoplasia was noted in the case of six individuals out of 13 with preserved anterior teeth, antemortem tooth loose was noted in three cases out of 11 individuals with at least 50% of the maxilla or mandible preserved, single cases of pathological alveolar resorption and abscess were also noted. Osteoarthritis

Figure 3. Islamic grave BA2813. Author: Juan Aguilar.

was noted on remains of 3 individuals out of 21 adults. Single cases of blunt force trauma and phalanx ankylosis were identified.

So far archaeological works at Bakr Awa has resulted in the excavation of human individuals from 122 grave contexts, 51 dated to the Bronze Age, 15 to the IA and 56 to the IS. Further excavations are planned, but heavily depend on the political situation in the region. Further laboratory studies will focus on radiocarbon dating of the MBA tombs and kinship analysis of the individuals buried in the tomb BA1108. A study of the mobility based on strontium and oxygen stable isotopes will also be undertaken.

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