HOMICIDE AT QAṢR AL-ḤALLABĀT

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Introduction

Qaṣr al-Ḥallabāt is an Umayyad period (636-750AD) "desert castle" located in the steppe region of eastern Jordan (**Fig. 1**). During restoration and excavation of the Qaṣr in 2007, excavators from the Spanish Archaeological Mission discovered the skeletal remains of six individuals at the bottom of one of the Qaṣr's cisterns. Radiocarbon dating of bones from two of the individuals revealed that they perished, and presumably deposited in the cistern, between the 8th and 9th centuries AD. Five of the six individuals (four males and one female) show evidence of blunt force cranial trauma, while three of the six (two males and one female) show sharp force trauma in their appendages. Physical anthropological methods have determined that a majority of this trauma occurred perimortem (i.e., around the time of death) as a result of violent confrontation. Here, these results are interpreted within the broader historical and archaeological context of socio-political relations and the role of the Qaṣr during this period.

1. Location of Qaṣr al-Ḥallabāt.

Background

Qaṣr al-Ḥallabāt served as a luxurious retreat for the ruling elite and as a center of desert agricultural production during the Umayyad period (636-750AD). The structure originally was built by the Ghassanids in the mid-sixth century AD from the remains of a Roman fort (Arce 2009). The Umayyads renovated the structure into a main palatial building, and also constructed a mosque next to the Qaṣr and a bath approximately 8km to the west (Ḥammām as-Sarāḥ). The Umayyad political leaders distributed goods to the local semi-pastoralist communities surrounding the Qaṣr, garnering their support. After the Abbasid takeover of the Islamic Empire (ca. 750AD), elite use of the Qaṣr declined. Ties between the elites and bedouin nomads supposedly dissolved as a result, which some feel caused the bedouin to resort to raiding and threatening communication and pilgrimage routes as a means to obtain subsistence and express their disfavor of the new political regime (Jabbur 1995: 484). This breakdown in control and inter-societal relationships may have stimulated an increase in localized violent conflict.

A system of eight cisterns along a slope to its west and two cisterns located within Qaṣr provided water for the Umayyad elites, and later, local pastoralists. The semi-arid to arid climate of this region makes water collection systems such as these important resources for agriculture and drinking water. Excavation of a cistern located in the innermost palatial room in 2007

uncovered the skeletal remains of six individuals. The skeletons were located directly on the bottom of the cistern, suggesting they were deposited while the cistern was in use and before post-abandonment soil deposition began. Carbon-14 analysis of two skeletal samples implies that these individuals died and were immediately deposited in the cistern between 772 and 895 CAL AD[1], after the Qaṣr went out of official use. The importance of water sources in the region makes the choice of a cistern as a place of final rest a curious choice. The purpose of this study is to combine historical and archaeological data with skeletal analysis through the application of physical anthropological methods to provide an accurate depiction of what happened to the individuals recovered from the cistern.

Materials and Methods

The skeletal sample includes the comingled, well-preserved remains of a minimum of six individuals. Many of the postcranial remains could be separated by individual due to morphological and taphonomic differences; however, they could not be linked definitively to crania in the sample. Age and sex estimation was accomplished using morphological features of the skull and pelvis following Buikstra and Ubelaker (1994). Skeletal pathologies also were recorded following Buikstra and Ubelaker (1994). Health and quality of life of the sample was assessed via non-specific indicators of stress (dental enamel hypoplasias, cribra orbitalia, porotic hyperostosis, evidence for infection).

The patterns of trauma and pathology associated with these individuals were analyzed using macroscopic, microscopic, and radiographic techniques. Trauma in the skeleton first was scored according to the standards within Buikstra and Ubelaker (1994). Microscopic and radiographic investigation of trauma in the cranial and post-cranial remains identified any healing at the trauma site indicative of antemortem trauma (i.e., occurring before death) or unique breakage patterns that could indicate postmortem trauma (i.e., occurring after death). Additional radiographic examination was conducted on skeletal elements with evidence of perimortem trauma. Furthermore, any visible discolorations along the edges of the fractures in the skeletal remains were examined to investigate taphonomic influences on the bones. An assessment of antemortem and perimortem trauma patterning provided evidence for accidental vs. violent incidents before or around the time of death. Finally, the morphology of the trauma was examined to try and determine the possible instruments used to cause them based on historical and archaeological evidence.

Results

Health and Quality of Life

The sample from the Ḥallabāt cistern displays relatively few skeletal pathologies with the exception of antemortem and perimortem trauma (see **Table 1**). Half of the individuals survived conditions resulting in cribra orbitalia. Furthermore, one out of six survived stresses that led to the development of dental enamel hypoplasias (DEHs) based on the observable dentition. One-third of the individuals had developed dental caries. Only one bone, a right femur, displayed a periosteal reaction indicative of infection and no osteoarthritis was noted in the sample beyond slight spicule formation on the superior aspects of two sacra.

Blunt Force Trauma

As noted in the introduction, five out of six of the individuals recovered from the cistern displayed perimortem blunt force trauma, and four out of six had well-healed antemortem blunt force trauma. Examples of cranial blunt force trauma are outlined below:

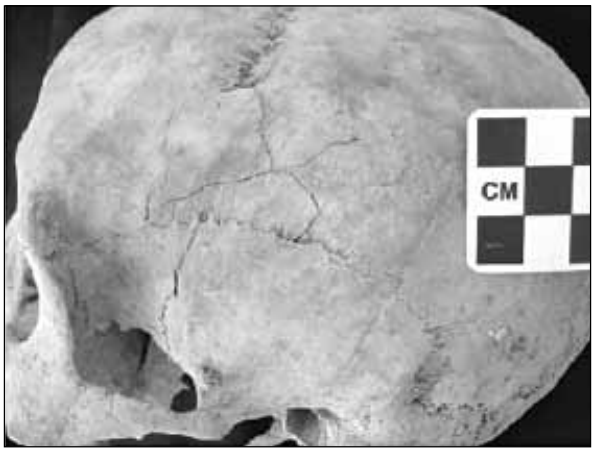
Cranium 1 displays perimortem blunt force trauma on the left and right parietals. The trauma on the left parietal (**Fig. 2**) appears as an impact site on the left anterior portion with fractures radiating outward from the center. These radiating fractures extend to and follow along the coronal and squamosal sutures. As the fractures move along the path of least resistance, they continue through the temporal bone to the glenoid fossa. The right parietal displays a depression injury just posterior to the coronal suture (**Fig. 3**) that resulted in fracturing along the coronal suture and posterior from the coronal suture just superior to the impact site. The frontal bone also contains three partially healed circular depressions indicative of antemortem blunt force trauma.

1. Sample Nos GX-33006 and GX-33066 analyzed by Geochron laboratories.

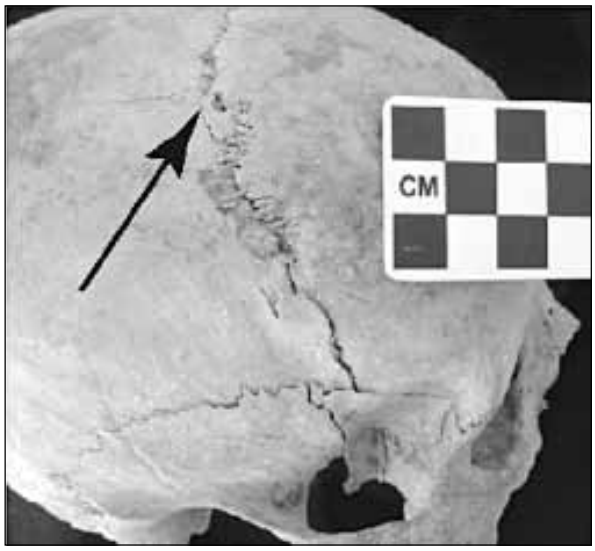
Table 1: Descriptions of the individuals discovered in the Qaṣr al-Ḥallabāt cistern.*

	Age	*Sex*	*Antemortem trauma*	*Perimortem trauma*	*Other pathologies*
Cranium 1	35-50	M	Frontal (3 healed)	Left side of skull near pterion, right parietal near coronal suture	Caries RM^2, healed cribra orbitalia
Cranium 2	27-44 yrs.	M?	Frontal (2 healed)	Left posterior side of skull near asterion, left and right eye orbits and zygomatics	Dental calculus, dental caries, DEHs (RPM^2, RPM^1, RPM^2), healed cribra orbitalia
Cranium 3	35-50 yrs.	F?	Left parietal (1 healed)	Left posterior side of skull near asterion, right side resulting in removal of temporal	Cribra orbitalia, dental calculus
Cranium 4	35-50 yrs	M?	None	Left side near squamosal suture involving left parietal and resulting in removal of temporal, trauma also may have resulted in destruction of craniofacial skeleton (unrecovered)	None
Cranium 5	indeterminate	M	Frontal (2 healed), occipital (1 healed)	Left parietal, occipital, left temporal, left side of frontal	Caries (RM^2), dental calculus
Cranium 6	indeterminate	indeterminate	None	None	None
Postcrania 1	40-49 yrs.	M	None	None	Abnormal bone loss R humerus
Postcrania 2	40-44 yrs.	M	None	None	None
Postcrania 3	40-44 yrs.	M	None	SFT L ulna	Active periostitis L femur
Postcrania 4	30-34 yrs	M	None	None	Vertebral osteophytosis superior sacrum
Postcrania 5	indeterminate	M?	None	SFT R femur and R tibia	None
Postcrania 6	indeterminate	F?	None	SFT L tibia	Vertebral osteophytosis superior sacrum

*Crania and postcrania from the sample could not be associated with each other due to similar age and sex profiles of the individuals. The final demographic breakdown of the sample is: one 35-50 year old female, one 30-34 year old male, three 40-49 year old males, and one male of indeterminate age.



2. Cranium 1: perimortem blunt force trauma on left parietal.



3. Cranium 1: perimortem trauma on the top of the right parietal (indicated by arrow).

Cranium 2 displays perimortem blunt force trauma on the posterior left side of the cranium and the left and right sides of the cranio-facial skeleton. The posterior impact site is located along the lambdoidal suture near asterion, and radiating fractures extend along this suture into the occipital bone and along the squamosal suture (**Fig. 4**). Cranio-facial trauma also resulted in fracturing along the right zygomatic sutures and of the ethmoid within the right eye orbit (**Fig. 5**). Perimortem fracturing also surrounds the left eye orbit, causing fracturing between the zygomatic and the frontal and the greater wing of the sphenoid, and between the ethmoid and the maxilla. Healed ovoid wounds were observed on the frontal bone, one ca. 5 mm above the right orbit, the other ca. 50mm above the left orbit near the coronal suture.

Cranium 3 shows perimortem trauma on the posterior left side and on the right side that possibly resulted in removal of the temporal bone. The small fractures on the posterior left side (**Fig. 6**) originate from an impact site just inferior to asterion. In addition, perimortem trauma likely caused fracturing along right squamosal suture down to the foramen magnum, completely disarticulating the temporal bone from the cranium. The edges of the trauma are sharp and distinct with no sign of an osteogenic response. While the external auditory meatus is still partially present, the temporal, mastoids, and entire

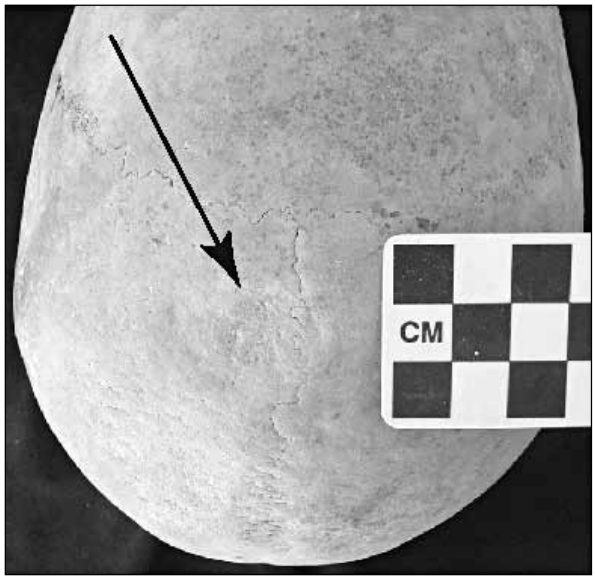
4. Cranium 2: perimortem blunt force trauma impact site at left rear of skull.

5. Cranium 2: perimortem fracturing of cranio-facial skeleton.

zygomatic arch have been removed. Lastly there is a large (22.21 x 29.08mm) healed depression fracture to the left of the sagittal suture just behind bregma (**Fig. 7**).

Two other crania, 4 and 5, also have perimortem trauma. The left and right temporals and cranio-facial skeleton of Cranium 4 apparently have been removed due to substantial trauma. An 86.99 mm-long radiating fracture extends posteriorly on the left parietal from the squamosal suture to and following along the lambdoid suture due to the force of impact. Cranium 5 displays a blunt force impact point on the left parietal surrounded by two rings of concentric fractures (**Fig. 8**). Massive force also caused

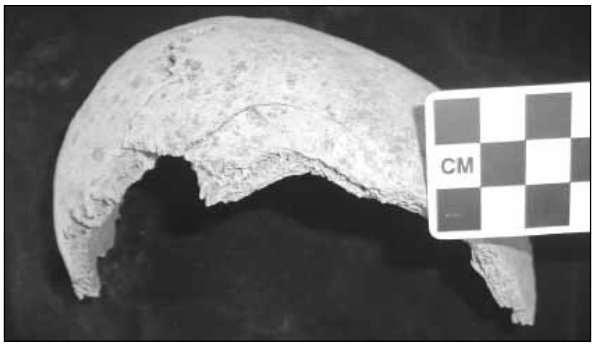
6. Cranium 3: perimortem blunt force trauma impact site on left rear of skull (indicated by arrow).



7. Cranium 3: healed antemortem depression fracture.

fracturing along the left squamosal, lambdoidal, and coronal sutures, and created a linear fracture running from left asterion across the occipital.

Cranium 6 is composed only of portions of the calvarium. All of the broken edges of the calvarium are more rounded in appearance. They also show a great deal of flaking on both the inner and outer tables of the cranium. A distinctly lighter coloration also is present along all of the edges of the calvarium. As a result, there does not appear to be any fractures associated with perimortem trauma within the remains.



8. Cranium 5: perimortem blunt force trauma impact site on left side of skull.

Sharp Force Trauma

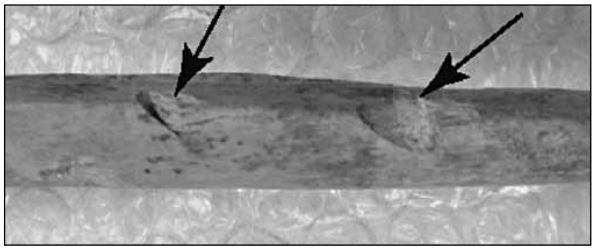
The sharp force trauma only was observed in the postcrania. A right ulna displays two small cutmarks on its lateral margin: one 6.08mm v-shaped cutmark 1/3 of the way down the shaft from the proximal end and another 8.18mm x 7.91mm wound at midshaft which contains a cutmark with splintering and breakage (**Fig. 9**). The location of these cutmarks is similar to that seen in defensive wounds when the victim tries to protect their head with the forearm. Furthermore, a left tibia has small (6.60mm and 2.58mm) v-shaped cut marks on the proximal end along the anterior margin, and a larger (926.72mm) v-shaped cutmark on the posterior side just proximal to midshaft. A right tibia has a 14.29mm v-shaped wound just medial to the tibial tuberosity (**Fig. 10**). Finally, a right femur displays a small v-shaped wound just above the lateral condyle.

Discussion and Conclusions

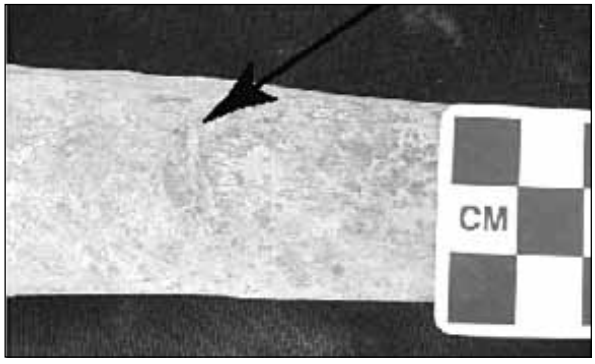
The skeletal sample recovered from the cistern at Qaṣr al-Ḥallabāt clearly contains an interesting assortment of skeletal trauma. Crania numbers one through five all show evidence of blunt force trauma inflicted perimortem. In addition, three individual display an assortment of sharp force trauma in their postcrania. The microscopic examination of each wound seems to show uniformity in coloration, sharp fracture lines and broken edges, and acutely angled patterns of breakage. All of these characteristics are consistent with wounds that occur at or around the time of death.

The patterning of trauma and lack of blunt force trauma in the extremities clearly indicate that the injuries did not result from falling into the cistern but were the result of intentional violence. The perimortem wounds indicate that both blunt and sharp instruments were used in the skirmish. Furthermore, assessment of military equipment and the high prevalence of sharp force (as opposed to blunt force) trauma in skeletons from Islamic/Crusader-period battle sites signifies that violence at Ḥallabāt was likely not committed by an organized military (see Kennedy 2001; Mitchell 2006, Mitchell *et al*. 2006; Nicolle 1997). Evidence for similar antemortem injuries in the skeletal remains implies that these skirmishes, with the same or multiple groups, occurred relatively regularly.

This study therefore concludes that the manner of death of the individuals recovered from the cistern at Qaṣr al-Ḥallabāt was homicide. The fact that these bodies were deposited in the cistern seems to show a desire to disrupt occupation and activity at the site or cover up the deeds that had been done. Despite the circumstances surrounding their death, these individuals did not suffer extensively from poor health or nutrition while they were alive. Crusader-period communities in Israel, such as Caesarea and Tel Jezreel, have notably lower frequencies of these conditions (Mitchell 2006; Smith and Zegerson 1999). The individuals from Ḥallabāt have almost no periosteal reactions or other signs of in-



9. Perimortem sharp force trauma on right ulna (possible defensive wounds) (indicated by arrows).



10. Perimortem sharp force trauma on right tibia (indicated by arrow).

fection. Half of the individuals had at least one non-specific indicator of stress but all occurred during childhood or were inactive. The lack of pathologies may indicate a primarily pastoral-nomadic lifestyle and suggests that, presuming these are locally-derived individuals, the political changes of the 8th century did not result in decreased access to resources in the region. The presence of extensive antemortem trauma on the other hand suggests that these individuals were not strangers to violent skirmishes during their lifetime. However, the fact that these individuals survived this cranial trauma may indicate that they had knowledge of how to treat such injuries.

Two questions remain: why were these individuals killed, and why was one of the precious local water sources contaminated with their remains? The latter activity would imply that at least the disposal of the bodies, if not the violent activity itself, was carried out by outsiders unconcerned with contaminating local resources. Furthermore, under Umayyad rule, the influence of elites in the Qaṣr probably would have kept violent conflict to a minimum. They likely acted as adjudicates in internal disagreements and would have had weaponry to repel external combatants. However, the political vacuum after the 8th century Abbasid takeover may have let conflict with outsiders run unchecked. At some point shortly after deposition of the bodies in the cistern, the cistern went out of use and began collecting silt and debris. Finally, building debris from an earthquake sealed the entrance of the cistern, hiding evidence of this ancient homicide until the 21st century.

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