

Original Synthetic Report

Study of Neolithic human graves from Tell Qaramel in North Syria

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Abstract - In this report we present the study of human skeletons and the mortuary practice in Tell Qaramel site in northern Syria during the period of the Pre Pottery Neolithic A (PPNA). The samples came from 12 graves which present both individual and collective burials and contain altogether 20 skeletons. All burials discovered are of adult individuals who were buried without cranium, or cranium alone, and in few cases buried with the entire skeleton. Analysis of these skeletal remains provides the most obvious proof of the cut head process and the circumstance according to which it is done. In some cases many cut marks on the second cervical vertebra are be noted indicating very likely that the separation of the head was made by a flint tool directly after the death. While in other cases the body seems buried until the flesh was decayed and then the burial is opened and only the skull is taken. Our results are compared with those of previous studies relating to Neolithic in northern and southern Syrian sites and in other sites in other regions of Middle Orient and North Africa in the aim to show the general evolution of the mortuary practice during the different periods of Neolithic and to show the religious and social beliefs governing burial rites at these periods.

Key words: Tell Qaramel site, Syria, PPNA, PPNB, cut marks, mortuary practice.

Introduction

The location of Tell Qaramel site in northwestern Syria places it at the center of several geographical and cultural regions inhabited by ancient man, from southern Syria (Jericho and al-Sultan Tell) to the land south of the Turkish border in the north (Map 1). Generally, the same environmental conditions have prevailed in these regions since 10,000 years BP. This emphasizes the importance of the study of biological and cultural relations between the Tell Qaramel population in the PPNA and populations lived in the same period in other sites located in southern Syria, Jordan, Palestine and the middle Euphrates (Mureybet and Jerf al- Ahmar).

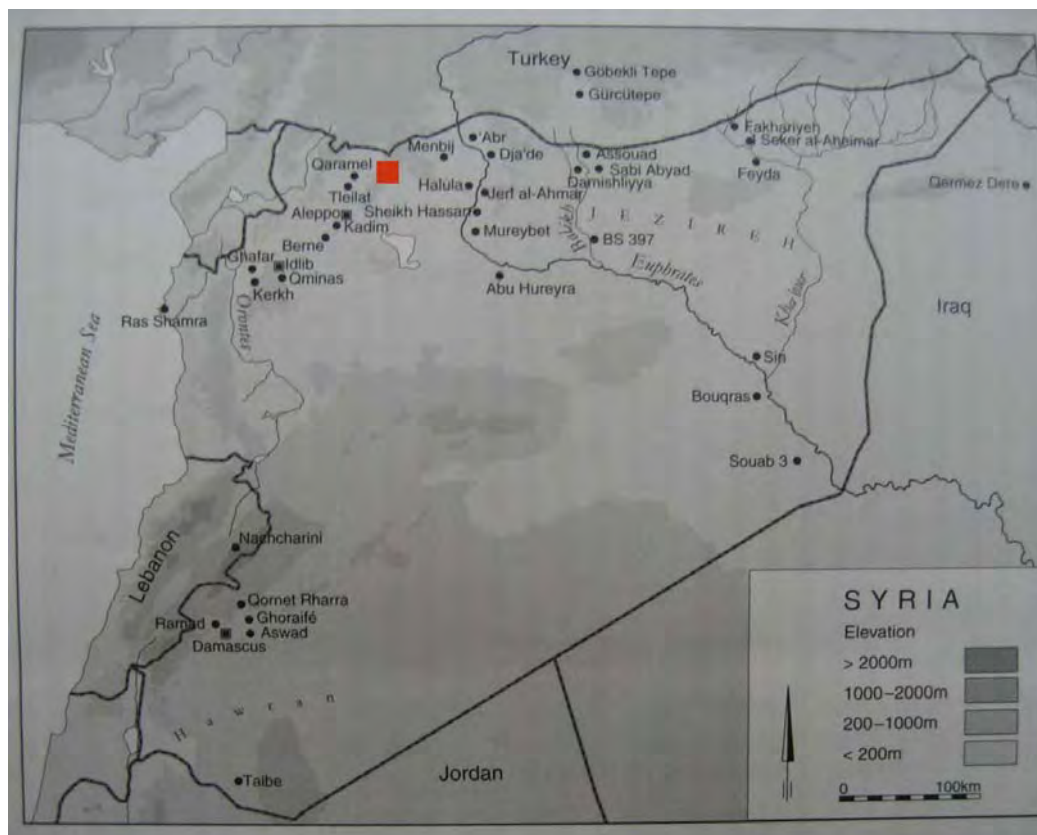
In fact numerous human skeletons have been unearthed in these regions, but only a few relating to the PPNA has been studied. One skull and fragmentary long bones from Tell Mureybet site (Ozbek 1976) and six mandibles from Tell Sheikh Hassan site (Clère, Adeleine and Ferembach 1985). The Pre Pottery Neolithic B (PPNB) is better represented by a much better preservation of the skeletal remains in Tell Ramad, Tell Aswad, Tell Halula and Jade el-Mugharah sites (Contenson 1985).

For more analyzing the relations between Tell Qaramel society and other prehistoric societies living along the Euphrates, we intend to do more human skeleton discoveries and practice relatively new techniques like DNA and isotope analysis. But in this report we present the first basic data obtained from the application of traditional methods permitting to collect data on demographic and cultural modification, including mortuary practices.

Samples and methods

Of the sizeable number of burials with human bones discovered in Tell Qaramel site only 12 could be studied (Table 1). They present both individual and collective burials, secondary and primary graves, containing altogether 20 skeletons. All these were of PPNA date and only a complete skeleton was found in Burial n° 4.

Several traditional methods were used in this study, such as Buikstra & Ubelaker's standards (1994), age and sex determination (Acsadi & Nemeskeri 1970) and dental wear scoring (Scott 1979).



Map . 1 : the location of Tell Qaramell between neolithic sites in Syria, 10,000 – 6800 BC. (Akkermans et al. 2003).

Description of graves

The burial sites are presented in the order of discoveries.

Grave - Tower

Collective burial containing four human skulls and two lower jaws set in the tower wall on the eastern side. All the skulls (TO-04-1,-2,-3,-4) are of adults and have feature of enlargement in skull bones. One of the two lower jaws (TO-04-3) belongs to a man. Long parallel lines on the inner right side from top to bottom are proof of cutting through the muscle tendons attaching the mandible to the skull. The fact that these cuts are visible indicates that the cutting process occurred while the bone was still soft. The other mandible belongs to an adult woman. It does not bear signs of cutting. The teeth show heavy wear and the presence of caries.

Table . 1 : sex, age and position for all skeletons

Grave No.	Skeleton No.	Age	Sex	class	Position	Remark
Tower	TO-04-1	Adult	indeterminate	secondary	----	Skull
	TO-04-2	Adult	indeterminate	secondary	----	Skull
	TO-04-3	Adult	Male	secondary	----	lower jaw
	TO-04-4	Adult	indeterminate	secondary	----	lower jaw
5 -03	K-03 -7	Adult	indeterminate	secondary	-----	Part of skull
11 – 03	Tem-03-8	Adult	indeterminate	secondary	Flexionate	Without skull
2 – 07	T5-07-9	Adult	female	secondary	Flexionate	Without skull
3 - 07	T3-07-10	Adult	indeterminate	secondary	Flexionate	Part of skeleton
4-07	5-07-11	Adult	Male	Primary	Flexionate	complete
5 – 07	T5-07-12	Adult	Male	secondary	----	skull
	T5-07-13	Adult	Male	secondary	-----	lower jaw
	T5-07-14	Adult	Female	secondary	-----	lower jaw
6 – 07	T5-07-15	Adult	indeterminate	secondary	Flexionate	Without skull
7 – 07	T5-07-16	Adult	female	secondary	----	skull
8 – 07	T5-07-17	Adult	Male	secondary	-----	skull
	T5-07-18	Adult	Male	secondary	----	Skull
	T5-07-19	Adult	indeterminate	secondary	Flexionate	Without skull
	T5-07- 20	adult	male	secondary	----	lower jaw

Grave 5 -03

Part of a human skull (fragmentary burnt bones) of an adult (K-03 -7) . Animal bones were found with the skull.

Grave 11 - 03

Burial contains only a vertebral column in sitting position (Tem-03-8) leaning to the right and oriented to the east. The first and second vertebrae bore have no cut marks and appear without be moved from their original position. The lower jaw was found down the skeleton.

Grave 2 - 07

A skeleton with missing skull (T2-07-9), a mandible (lower jaw) and the first neck vertebra in original position were identified as those of a female, aged 40 years at death. No pathologies were observed. A cut mark on the second cervical vertebra testifies to a blow with a flint tool from the front side of the body, under the lower jaw, to remove the head from the body. Several parallel lines on the first and second vertebrae, longitudinally in relation to the spinal column from left to right and vice versa, are proof of excellent knowledge of the decapitators which are done by cutting for separating the head from the body. No other cut marks can be seen indicating the use of a very sharp and long tool for reaching this purpose. The absence of the mandible and the first cervical vertebra confirms that the separation of the head was performed during life or immediately after death. If it was the opposite, the first cervical vertebra should be in place because it is easily separated from the body only after the latter's decomposition.

Grave 3 - 07.

A skeleton (T3-07-10), lower part in anatomical position, upper part missing.

It is of adult, middle-aged, unknown sex and no pathological features (Photo 1).

Grave 4 - 07.

Complete skeleton (T4-07-11) of an old male. Bone spurs and thickening between vertebrae segments indicate spinal degeneration (osteophytes) (Photo 3). The teeth of the lower jaw are complete except for M3 which was lost shortly before death. The right M1 is worn; M2 is partly worn on the left and completely on top. An abscess is proof of inflammation in the left M1 and there is calculus on the front teeth. All the teeth from the upper jaw were missing before death, except for the front teeth which show extreme wear (Photo 2).



Photo 1 : grave 3, incomplete skeleton.



Photo 2 : Grave 4, complete skeleton, primary - flexed position.



Photo 3 : The lumbar vertebra is from the individual of the burial 4, note the connection between vertebrae (Osteophyte formations)

Grave 5 - 07

A collective burial of three individuals: one adult skull with the first cervical vertebra and two unattached mandibles, placed next to the skull but facing in opposite directions (Photo 4). The skull (T5-07-12) belongs to a male adult about 30 years old. The presence of the vertebra is proof that the skull was removed from the body while the flesh and muscles were still intact. The upper jaw preserves the full set of teeth, showing only small wear on M1. Retouches on the left and right canine on the outside upper part are a cultural effect. Also, there are simple wear signs in the form of lines on the tooth from the top (before the death changes).

The east-facing mandible (T5-07-13) has all the teeth in place with only slight wear observed on M1, as on the skull described above. It belongs to an adult male, 25-30 years old. The other mandible faced southwest (T5-07-14). The wisdom teeth had not erupted yet, and M2 was lost before death. There are also signs of wear and caries in M1. It is identified as the mandible of an adult female, 20-25 years old.

Grave 6 - 07

It contains an incomplete skeleton in very poor condition (T6-07-16) without the skull and the lower jaw. It is of adult of unknown age and sex, bone pathologies not observed (Photo 4).



Photo 4 : Grave 5,6. Grave 5: a skull with tow lower jaws. Grave 6: skeletons without skull.

Grave 7 - 07

A single skull without lower jaw (T7-07-17) is in situation which suggests that the skull was removed after death and body decomposition. It belonged to a female who died in old age. The M1 and M2 teeth of the upper jaw show wear.

Grave 8 - 07.

A collective burial contains up to four related individuals, including two skulls of adults in no anatomical relation to a skeleton without skull, found in anatomical position, and a part of a mandible (Photo 5). One of the two skulls belongs to an old female (T8-07-18); the teeth are in good condition and free from caries and wear except for M1, which shows a little wear. The other skull (T8-07-19) is of a male adult demonstrating slight wear on the M1 tooth and there is no missing of teeth. The headless skeleton is of a young adult of unknown sex; femoral joint disease and osteoporosis were observed, the attachment is incomplete at the head of hip bone. The broken mandible (T8-07-20) was found under the skeleton; it is the right half of the lower jaw of a male adult with caries in the M1 tooth. The jaw was broken during life or immediately after death.



Photo 5 : Grave 8, collective burial, including two skulls of adults, no anatomical relation with a skeleton without skull.

Discussion and Conclusion

The burials discovered so far are all of adult individuals (over 20 years old), suggesting either a very healthy population with no child or juvenile mortality or little attention paid to the burial of immature individuals, who were subsequently buried in less important sites (Table 1). With regard to the second idea, it has been observed that in the PPNA individuals who died young were buried intact, while in the case of older deceased, the skull was separated from the body and placed in different locations. Skulls could be stored in groups and / or plastered. The latter custom is developed and became one of the features of the PPNB.

The relative healthy teeth showed in the present cases represents an important biological factor which is at the same time a cultural indicator of nutrition quality that very likely shows a relative low amount of carbohydrates in the food and therefore less sugars. This could be due to a shortage of cooking cereals, because cooking cereals, like wheat, leads to carbohydrate decomposition and transformation into sugars, which are the main cause of human dental decay. The spread of diseases affecting the teeth after the emergence of cultivation has been noted in various primary agricultural societies.

The violence in dealing with dead bodies has been evidenced by cutting signs on the first and second cervical vertebrae (Burial from grave 2) and the lower jaw (tower burial). This is due to religious and social beliefs governing burial rites, according to which it is important for a dead individual to have two burials — the skull in a distinct spot inside the house and the body buried in flexed position under the floor.

Moreover, it seems that they are two methods for separating the skull from the body. The body can be buried until the flesh has decayed and then the burial is opened and only the skull is taken. In this case the first cervical vertebra and the mandible are found with the skeleton in undisturbed condition. The second method consists in removing the head with a sharp tool from the front and in burying the body without the head that will be placed in a selected spot inside the house. In this case, the first cervical vertebra remains with the skull and cut marks are on the second cervical vertebra.

Investigations on discovering human skeleton in the prehistory sites in Syria and in other countries around indicate that the mortuary practice has been developed according to several phases. During the first step, Natufian period, the common mortuary practice customs consist in burring the human skeleton by parts in different sections inside the house; in some cases the skull adorned by different martial as in El-Wad site (Bar-Yosef p165, 1998). During the second step, PPNA period, the mortuary practice evolves to more systematic burial, where the people put the dead persons inside holes. Generally at the beginning they buried human body often in a complete state, but after as shown the majority of cases of our study they separate the skulls and burying them in a special part of the house. Our findings provide the most evident proofs concerning this PPNA custom of mortuary practice. However, in previous scarce studies relating to other sites, storage of skulls in groups is noted. In Jericho (in Palestine), in one of stored skull groups discovered, skulls were arranged for giving the form of circle and the face of each skull behold to inside of the circle. While each of other three groups is formed by three skulls, all of them view to the same direction (Kenyon, 1957). In Euphrates region, the investigation of tow secondary graves in Tell Mureybet site shows that the first contains only skull with large bones of a female and the second contains all bone without large bones and skull very likely belonged to the same female. Similar cases have been noted in Tell Sheikh Hassan site: one of primary graves contains an adult and a child together, and storage of three skulls (Cauvin 1978).

In the third step, Pre Pottery Neolithic B (PPNB), generally the mortuary practice evolves to concentrate on the treatment of skulls. In fact after their separation from skeletons, skulls were plastered, panted and put in special part of the house. This shows a cult of the ancestor skulls. People lived in PPNB, use the clay to re-create human facial features (noses, eyes, chins, and mouths) and they paint the face for giving the color of the skin. The upper part of the skulls could be presented some trace of red color for indicating the hair (Kuijt 2008). In Jericho (in Palestine) some skeletons without skulls were discovered. These skeletons present some arrangement owing to the removal of the skull. In this case the inferior jaw is still present with the skeleton indicating that the removal of the skull has been done in short time after the first burying (Kenyon 1975).

Other example of PPNB site in Tell Ramad in southern Syria shows many skulls with plaster and panting on the face. The treatment covers also the inferior jaw from which tooth was removed after the death. A storage of 12 skulls together inside an oval hole shows that between skulls there are small human figurines (20 cm large) made from pottery in sitting position without head. These figurines could be considered as bases of the skulls (Contenson 1967). While in Abu hureyra on Euphrates, graves with skeleton without skulls were found as other graves which contain skeleton and skull don't belong to the same individual (Cauvin 1978). Finally in Tell Aswad, southern Syria, new archaeological excavations (2003-2007) revealed several groups of remodelling skulls which formed circles, and sometimes are together around skeleton child. Each group contain 3 to 5 skulls on which some complementary process were done using plaster on the face and the lower jaw, and sometimes using coloration on the face (Stordeur 2003).

Similar observations were noted in North Africa discoveries, in Capsian Site 12, Algeria, dated to 8000 BP. In this site the remains of five adults, a sub adult and an infant were excavated. Cut marks were found on several postcranial bones of each of the adult individuals. These marks are associated mostly with long bones and skulls, while two individuals show cut marks on the thorax. Following theories relating to secondary burial practices of a nomadic lifestyle, it is hypothesized that these individuals were died away from their camp and initial preparations were made until the arrival to site 12. These preparations could be followed by decapitation,

dismemberment, and a possible spoliation of the thorax and removal of the internal organs (Haverkort et al. 1999).

If we compare our results concerning PPNA in Tell Qaramel site in northern Syria with those already quoted above and concerning the same period and other regions of Syria, we note the following conclusion: A significant similarity was noted between the different Neolithic sites in northern Syria (Euphrates region) in terms of separation of skull only without the lower jaw. On the other hand, in Neolithic sites of southern Syria, the skulls are remodelling after their emergence and they were expanded to cover the lower jaw and full face. In this context, the results of the present study on graves of Tell Qaramel converge with those found in the Euphrates sites of northern Syria, but present some difference with those obtained in southern Syria sites.

A general conclusion could be deduced from our findings and those of previous studies as follows: The mortuary practice in the Levant started by focusing on the separation of the skull and then the skull has been developed to be a center and a symbol which persist long time after death. This process led to the existence of two graves for each individual, in the first we find the skull which represents the symbol of the life and in the second we find the post cranium which represents the death. In fact, the interest in the skull (head) concerns also other cultures where people advertised other or similar motives behind this care. This will be attractive point for current and future researches.

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