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## THE PEOPLE OF DIYARBAKIR / SALAT TEPE IN THE CHALCOLITHIC AND MIDDLE BRONZE AGE

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### ABSTRACT

In this study, 21 skeletons, obtained from rescue excavations conducted in Diyarbakır/Salat Tepe (Salat Hill) flooded by a lake formed by the Ilisu Dam, were examined in terms of paleopathology, paleodemography, morphology and non-metric features. The analysis of archaeological and anthropological findings reveal that the Salat Tepe people dated back to the Middle Bronze Age. Their small socio-economic structure based on agriculture, and the inhabitants lived a modest life in harsh conditions. The evidence of small and local agriculture, rather than being an advanced agricultural society, shows that Diyarbakır/Salat Tepe people share the general characteristics of ancient Anatolian societies of the period.

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KEYWORDS: *Middle Bronze Age, Anthropology, Paleodemography, Paleopathology, Stature.*

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## 1. INTRODUCTION

Significant information can be gained about ancient societies from distinct geographical regions and time periods by examining their skeletal remains. This is approached through the examination of individual morphological features and population dynamics of the skeletal remains. Through taking into consideration traces on bones related to certain diseases, nutritional practices, life style, cultural habits, the relationships through the examination of non-metric characters between individuals, and genetic proximity and overall health conditions can be observed. Changes and developments in various areas such as: morphological structure, pathological structure, demographical structure, cultural structure, and similarities and differences between societies, can be revealed by means of such studies from past to present. Further studies must be conducted in order to obtain such data about ancient Anatolian societies. This is promising, as a growing number of studies have been conducted in recent years, and further information has been gained concerning subjects such as: cultural habits, nutritional habits and life styles, ecological areas, diseases and demographic structures of people that lived in Anatolia. The aim of this study is to reveal the anthropological features of the Salat Tepe people, dated back to Bronze Age. Comparatively little information has been obtained on ancient Anatolian people from this time period due to the limited number of skeletal material belonging to the period. The present study consists of paleoanthropological analyses performed on 21 individuals in total obtained from 14 graves which were unearthed from Chalcolithic and Middle Bronze Age layers of Salat Tepe.

## 2. MATERIAL

Salat Tepe is one of the mounds that was unearthed in connection with the rescue excavations necessitated by the Ilisu Dam construction and HES Project (Hydroelectric Power Plant Project). It was located on the north terrace of the Salat watercourse, situated 5 km north of the area where the watercourse flows into the Tigris River. The archaeological excavations, carried out between the years of 2000-2013 under the presidency of Diyarbakır General Directorate of Monuments and Museums with the scientific responsibility of Prof. A. Tuba Köser revealed the stratigraphy observed until the Modern Age (Ökse 2005, 2009). Five primary periods were defined on Salat Tepe (Figure 1). Period I includes continuous settlement beginning with the transition period of Late Halaf-Early Ubaid lasting until the end of the Early Bronze Age II. Period II consists of

six structure layers which are constituted over the hill after the ca. 500 year break, lasting from the Late Akkadian period until the end of Early Mitanni period. Salat Tepe was abandoned again after the period of Mitanni. Period III-IV includes phases in which the hill was used as temporary settlement and cereal storage area by nomadic societies from the second half of the 11th century BC. Period V includes phases during which this hill was used as gravesite in Modern Age (Ökse 2012a).

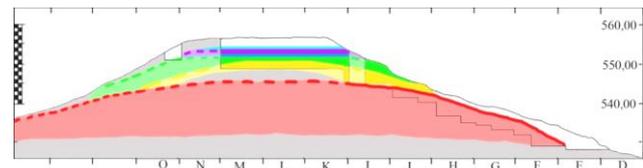


Figure 1: Salat Tepe Layers (Ökse 2012b).

	The first layer is built up over the second structure layer. Ruins date back to the end of Middle Bronze Age and the first half of Late Bronze Age.
	The structural complex of the second layer was built over it.
	The architecture of the third layer was evened on a large scale. The graves belonging to this layer were found.
	The construction site on the hill for the fourth layer was enlarged through filling the outer edges over the hill with soil, loam and mud-brick.
	The mound cone on the earliest layer of Middle Bronze Age.
	The height of Chalcolithic mound is approximately 20 meters and it is probable that Early Bronze Age layers that have been still unattained were built over it.

## 3. THE SITE

### 3.1. The Middle Bronze Age Cemetery (2000-1750 BC)

Cemeteries provide important clues about the beliefs in life after death, the religious rituals, and the social and economic structure of a society. All of the graves on Salat Tepe are intramural burials. The individuals were buried in hocker style in north-south direction without being cremated (Table 1). Three types of graves including pit, larnax and pottery were determined (Figure 2). 13 individuals were unearthed from 7 graves belonging to the 3rd layer and the late phase of the 4th layer, dating back to the first centuries of 2000.

**Table 1:** Burial and Grave Types

Burial No.	Skeleton No.	Gender	Age	Position	Burial No.	Skeleton No.	Burial Type
M13/072/G	M13/0268/İ/07	Male	18-20	Semihocker	M13/072/G	M13/0268/İ/07	Pit Grave
	M13/0268/İ/08	Male	28-30	Semihocker		M13/0268/İ/08	
	M13/0268/İ/09	Male	22-24	Semihocker		M13/0268/İ/09	
	M13/0268/İ/10	Unknown	Adult	Unknown		M13/0268/İ/10	
L12/110/G	L12/0275/İ/04	Female	Adult	Hocker	L12/110/G	L12/0275/İ/04	The Terra Cotta Larnax
L11/066/G	L11/0132/İ/05	Unknown	Fetal	Unknown	L11/066/G	L11/0132/İ/05	The Pottery Grave
L12/142/G	L12/0369/İ/01	Unknown	Fetal	Hocker ?	L11/069/G	L11/0139/İ/03	The Pottery Grave
L11/069/G	L11/0139/İ/03	Unknown	4	Belirsiz	L11/070/G	L11/0140/İ/01	The Pottery Grave
L11/070/G	L11/0140/İ/01	Unknown	6-7	Hocker		L11/0140/İ/02	
	L11/0140/İ/02	Unknown	4	Hocker	L12/126/G	L12/0312/İ/05	The Pottery Grave Surrounded by Mud-Brick
L12/126/G	L12/0312/İ/05	Unknown	6±3 month	Hocker		L11/0118/İ/01	The Pottery Grave Surrounded by Mud-Brick
	L11/0118/İ/01	Male	30-35	Supine		K13/0213/İ/04	Pit Grave (K13/037/C)
	K13/0213/İ/04	Male	Adult	Unknown			

**Figure 2:**a) The Pit Grave b) The Pottery Grave Surrounded by Mud-Brick c) The Terra Cotta Larnax d) The Pottery Grave

The pit grave and three pottery graves were positioned by damaging the architecture of 4th layer and the pottery grave was surrounded by mud-brick and the grave covered with a terra cotta larnax was buried in an abandoned house in the 4b layer. An individual found in a burnt area belonging to this layer and a skeleton ruined by an Iron age hole could not be associated with any graves. Three adult males and one adult individual which was undetermined in terms of sex were buried in pit grave and one adult female was covered with terra cotta larnax (Ökse 2012a). The grave of an adult female and newborn infant was placed at the feet of adult female,

suggesting that that these are individuals of a family. This mother and her infant might have lost their lives during childbirth, and it can be postulated that they were buried in the same grave for this reason. The other four infants and children were laid inside cookware. Three males which were unearthed from a pit grave were laid down in a semi-hocker position, and the adult female covered by terra cotta larnax and the infants and children buried in wares were laid down in the closed hocker position (probably with the aim of fitting them into the burial containers) (Ökse 2012a). Apart from the pit grave that four adults were buried in and the pottery grave

which two children were buried in, there are no multiple burials in other graves. Although the infants and children were buried in pots, four of the adult individuals were buried in pit grave and the fourth one was covered by the terra cotta larnax. The grave types of the other two individuals could not be determined. It is thought that one of these individuals lost his life during a fire. An adult skeleton was uncovered with a cracked left side of the skull. Burned wooden pieces stuck inside the skull demonstrate that the individual lost his life due to wreckage while a building was burning (Figure 2d). Sooty wooden ruins belonging to the fourth layer were unearthed from the filling between the walls of structure implying that the structures were exposed to serious fire (Ökse 2012a.)

Salat Tepe graves are inadequate in terms of findings. The limited number of miniature wares, a few bronze jewelry pieces and beads were left to the graves regardless of age and types of graves. These findings reveal that belongings at minimum number were left to the graves in Salat Tepe and the quality of graves belongings, and their number were not differentiated to the extent that the deceased was adult or infant/children (Ökse 2012a.)

### 3.2. The Chalcolithic Period Cemetery (5000-3000 BC)

The graves in the settlement include typical simple soil graves (Figure 3b). The only exception was an infant placed in a pot before burial. The practice

of burying infants and young children in cooking pots beneath houses in the settlement area was observed during the Chalcolithic period, but became a more common practice as of the second half of 3000 BC (Carter & Parker 1995). Simple soil graves were also preferred frequently within the Chalcolithic period. The distribution of grave types is demonstrated in Table 3. The individuals were placed in graves in the north-south direction and mostly in the hocker position (Table 2). The burial type of only one individual could not be determined. The skeleton belonging to a child who was presumably 10-13 years old was in the prone position and there was a stone on the dorsal side (Figure 3a). It suggests that the individual lost his life presumably as a result of an accident. All of the Chalcolithic graves are intramural and the bodies were buried without being cremated. In Chalcolithic Age, both intramural and extramural burial practices are observed. Intramural burial practice is performed rarely for adults while it is performed frequently for the burials of infants and children. The skeletons obtained from the graves of Chalcolithic period in Salat Tepe belong to infants and children. This situation reveals that the tradition suggesting that only infants and children were buried in settlements was maintained by Salat Tepe people. The Chalcolithic graves of Salat Tepe are inadequate in terms of findings. Apart from a couple of beans and one stone tool, no findings were obtained.

Table 2: Types of Burials

Burial No	Skeleton No.	Gender	Age	Position	Burial No	Skeleton No.	Burial Type
I12/107/G	I12/0239/İ/01	Unknown	10-13	Unknown	I12/107/G	I12/0239/İ/01	Unknown
I12/126/G	I12/0250/İ/01	Unknown	6±3 month (postnatal)	Hocker	I12/126/G	I12/0250/İ/01	Simple Soil Burial
	I12/0250/İ/02	Unknown	6±3 month (postnatal)	Hocker		I12/0250/İ/02	Simple Soil Burial
H12/095/G	H12/0257/İ/02	Unknown	2-3	Hocker	H12/095/G	H12/0257/İ/02	Simple Soil Burial
G12/169/G	G12/0169/İ/01	Unknown	Fetal	Hocker?	G12/169/G	G12/0169/İ/01	Simple Soil Burial
I12	I12/097/6	Unknown	1 year (±3 month)		I12	I12/097/6	Simple Soil Burial
L12/142/G	L12/0369/İ/01	Unknown	Fetal	Hocker	L12/142/G	L12/0369/İ/01	Simple Soil Burial
H12	-	Unknown	1 year (±3 month)	Hocker	H12	-	Simple Soil Burial

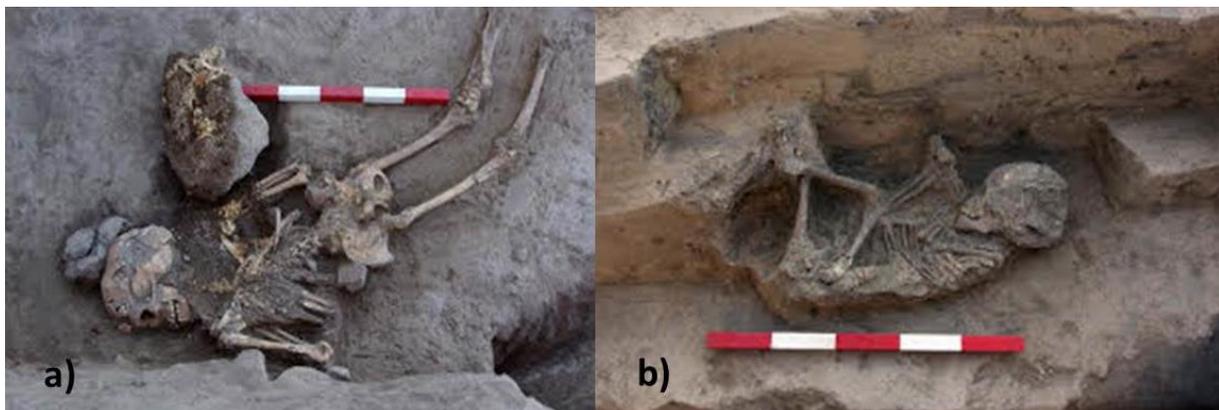


Figure 3: a) The Individual whose burial type could not be determined b) Chalcolithic Age Simple Soil Burial

#### 4. METHOD

13 individuals were unearthed from 7 graves belonging to Middle Bronze Age layers and 8 individuals were also unearthed from 7 graves belonging to Chalcolithic Age layers in Salat Tepe. The skeletons obtained from these graves constitute the material of the present study. The bones were cleaned and repaired in a laboratory environment. The sex of the skeletons was determined by microscopic analyses of the anatomical details demonstrated by the bones. The developmental chronologies of infant and child teeth (Buikstra & Ubelaker 1994) and the degree of fusion of the epiphyses (White & Folkens 1991) were used in order to determine ages of the bones. In determining the age of adults the following elements were used: the degree of closure of cranial sutures (Oliver 1969), the sternal ends of the ribs (İşcan et.al. 1984, 1985), the period of observed microscopic change in pelvic bone (Krogman & İşcan 1986; Buikstra & Ubelaker 1994; White & Folkens 1991), and complex ageing methods (WEA 1980). The maximum length of long bones was taken into consideration for height estimation (Pearson 1899; Trotter & Gleser 1952). The criteria suggested by Buikstra - Ubelaker and Ortner were based on paleoanthropological findings (Buikstra ve Ubelaker 1994; Ortner 2003). Variation analyses were evaluated according to Berry-Berry and Brothwell (Berry and Berry 1967; Brothwell 1972). The permanent teeth of individuals were examined for level of decay and erosion, abscess, hypoplasia and variation for the determination of oral and dental health. The schematic models

of Brothwell and Boulville applied to teeth were used in order to determine the degree of erosion (Brothwell 1972:51; Boulville et.al. 1983).

#### 5. RESULTS

##### 5.1 The Middle Bronze Age

###### a) Paleodemographic Structure

Paleodemography is the study that examines population structure and the dynamics of ancient societies through demographic methods (Acsadi & Nemeskeri, 1970). The paleodemographic structure of a society can be revealed through the determination of: population structure, the death rates by age and sex, the death rates of infants-children and the average age of death as related to the society in this period (Sevim, 1993). As well as the number of individuals is low, 13 individuals obtained from 7 graves belonging to Salat Tepe Middle Bronze Age layers were evaluated in terms of paleodemography in view of the fact that they provide opinions about the period which they lived in. It is determined that 5 of these individuals are males, 1 of them is female, 3 of them are infants and 1 of them is undetermined (Figure 4). The age distribution of adults with regard to sex is shown in Table 4. It was observed that 42.85 % of the individuals were within the age group of young adults and 57.15 % of them were within the age group of middle-aged adults. The age determination of infants and children is shown in Table 4.

Figure 4: The Sex Distribution of Salat Tepe Middle Bronze Age Skeletons

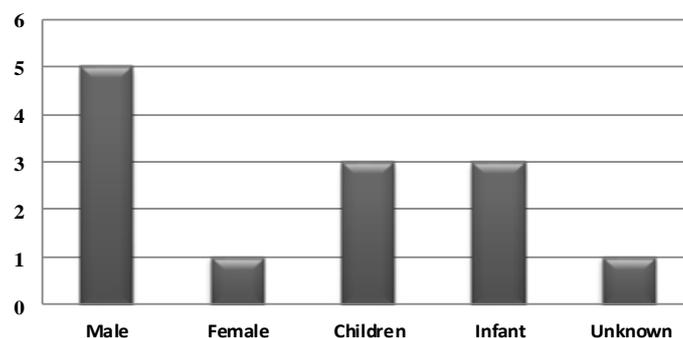


Table 3: Distribution of Salat Tepe Middle Bronze Age Skeletons By Age Groups

Age Grops	Female	%	Male	%	Unknown	%	Total	%
Young Adults (18-25)	1	33.33	2	66.66	-	-	3	42.85
Middle-Age Adults (25-45)	-	-	3	75.00	1	25.00	4	57.15
Total	1		5		1		7	100

**Table 4:** The Distribution of Salat Tepe Middle Bronze Age Infants and Children By Age Groups

Infants	Children
40 weeks (fetus)	4-5 age
6 months (+3)	4-5 age
40 weeks (fetus)	6-7 age

Adults lost their lives at early ages. In particular, the age range 20-35 was risky for males in ancient societies. Wars can be regarded as the reason for this situation. Moreover, the pathological data of male individuals indicates that their lives were tough. The archaeological data showed that Salat Tepe people were actually an economically underdeveloped society and their welfare levels were not high to support a good standard of living (Ökse, 2012a). Infant mortality occurred within the first year of life. Deaths of infants and children are regarded as an indicator of the level of development of a society as well as of their environmental conditions, health conditions, and nutritional habits (Erdal 2000a). It is suggested that 5 or 8 child deaths occurred while 10 adult deaths happened in prehistoric societies (Acsadi & Nemeskeri, 1970). Four factors including biological environment (virus, bacterium, parasite), physical environment (hygiene, poor nutrition, living conditions), social environment (cultural practices, maternal health, economic structure), and the features of children have impact on the deaths in question (Özcebe, 2006). These high death rates, a general feature of all ancient Anatolian societies, can be related to poor and insufficient nutrition, poor health conditions, and presence of infectious diseases. However, because the number of individual skeletons used in the study is low generalized inferences can not be made.

### b) Morphological Structure

Stature and cranial index value are key indicators for determining the morphological structures individuals. The average stature, determined according to the maximum length of long bones, and the cranial index, that reveals the cranial form, give information about the morphological structure of societies. In line with this aim, the stature (Table 5) was obtained from 4 male individuals that are in good condition beyond our control.

**Table 5:** The stature of Middle Bronze Age male individuals.

	Pearson (1899)	Trotter ve Glesser (1952)
L-11/0118/i/01 M1	162,2 cm	169.4 cm
K-13/0213/i/04 M37	160,7 cm	169.4 cm
M13/0268/i/09	156,4 cm	158.3 cm
M 13/0268/i/08	163,8 cm	167.4 cm

The stature calculated via the Pearson formula falls into the below average height category accord-

ing to the stature classification of Martin while the stature calculated via Trotter and Glesser formula falls into the above average height category.

### c) Pathology of Cranial and Postcranial

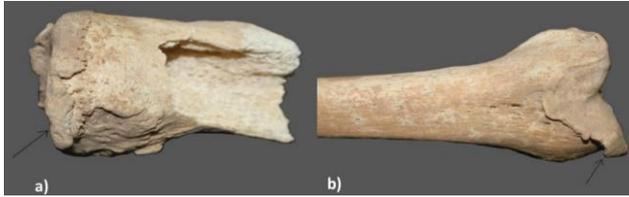
Ancient societies were faced with various infectious diseases. Not every infectious disease leaves traces on the skeleton. However, the examination of diseases that leave traces on skeleton plays an important role for the determination of health conditions of ancient societies and for the understanding of their adaptation process to environment that they lived (Özbek 2007b). These traces of diseases provide useful clues regarding the life styles, cultures, economies (e.g. hunter-collector or agricultural society), environment, occupations, and possible death causes of the individuals.

The lesions, known as porotichyperostosis ve cribraorbitalia, developed in skull are also known as the distinctive feature of anemia. The prevalence of porotichyperostosis and cribraorbitalia is one of the most important indicators regarding to nutritional habits of ancient societies. The development of this lesion was attributed to the anemia which occurs as a result of nutrition disorders, certain infections and metabolic diseases (Stuart & Macadam 1992; Ortner 2003). The development of lesions observed in male individuals numbered M 13/0268/i/08 and M13/0268/i/09 and the skulls of infants numbered L-11/0140/i/01 M70 and L-12/0275/02 M70 can be attributed to anemia, occurring as a result of iron deficiency because the process of lesions takes place at a low level (Figure 5a,b). One of the most important causes of nonhereditary anemia is iron deficiency. The presence of anemia due to the lack of sufficient iron sources in diet can be proposed for these individuals.

**Figure 5:** a) Cribraorbitalia on the eye orbit b) Porotichyperostosis in the cranium

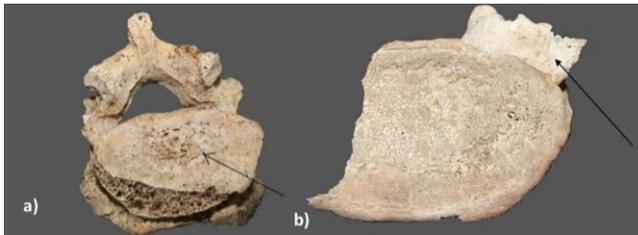
Osteophyte, Osteoarthritis and Schmorl's nodule are joint disorders that occur as a result of physical stress in daily life or from infectious diseases. Osteophyte is seen in elderly people more at the present time and it generally stands for extra growing of bones to outward. Schmorl nodule is defined as the herniation of upper and lower surfaces of vertebral discs. Osteoarthritis occurs in the way of the degeneration of articular surfaces. Osteoarthritis was ob-

served to have occurred in the toe bones of male individual numbered M13/0268/i/08 and in the distal end of left femur, the proximal end of the right and left tibia, the proximal end of left fibula and the toe bones of male individual numbered M13/0268/i/09 (Figure 6a,b).



**Figure 6:** a) Osteoarthritis in the toe bones. b) Osteoarthritis in the femur

Moreover, the Schmorl's nodule and Osteophyte were also observed to have occurred in the lumbar vertebrae of the female individual unearthed from the grave numbered K-13/0213/i/04 M37 and the male individual numbered L-11/0118/i/01 M1 and the abovementioned two male individuals (Figure 7).



**Figure 7:** a) The Schmorl's nodule in vertebra b) Osteophyte

Furthermore, deformation appeared in the thoracic vertebrae of a male individual numbered L-11/0118/i/01 M1. Almost all adult individuals show these pathologies.

These formations can be attributed to intense physical activities and living conditions due to the fact that these individuals were young. They may indicate that they dealt with activities related to weight and strength (Özbek 2007b; Ortner and Putschar 1985).

#### d) Dental and Maxillofacial Pathology

The examination of teeth and jaws of the ancient communities from a paleopathological perspective gives information about various issues such as life styles, nutritional habits, dental and oral health, food preparation styles of the society (Özbek 2007b). Moreover, it provides information that represents the physiological stress with which the individuals faced in their lives from the prenatal period to death. The occurrence of pathological cases such as dental caries, dental calculus, hypoplasia and dental wearing were found among the 118 teeth in total obtained from the Salat Tepe Middle Bronze Age individuals. The occurrence of dental caries in 8 (6,78%) teeth, hypoplasia in 6 (5,08%) teeth and calculus in 10 (8,47%) of these teeth were observed. Furthermore, it was determined that 4 teeth were lost post-mortem and 1 tooth was lost antemortem. It was also determined that there was 1st degree wearing in 19 teeth, 2nd degree in 4 teeth, 3rd degree in 18 teeth and 4th and 4+ degree in 36 teeth according to the Bouville scale (Bouville et al., 1983). The pathological cases that Salat Tepe people showed in the context of oral and dental health are compared with other ancient Anatolian societies in table 6.

**Table 6:** The Comparison of Dental Pathology of Ancient Anatolian Societies (%).

Populations	Period	Study	Caries	Calculus	Hypoplasia
Karataş	Early Bronze Age	Angel (1970)	5.6	–	6.00
Resuloğlu	Early Bronze Age	Atamtürk % Duyar (2010)	3.74	79.77	57.23
Hayazhöyük	Early Bronze Age	Özbek (1984)	3.93	–	–
Küçükhöyük	Early Bronze Age	Açikkol (2000)	2.92	1.58	13.79
Salur	Early Bronze Age	Yiğit et.al. (2010)	2.80	25.00	22.92
Aşağısalat	Late Uruk- Early Bronze	Başoğlu et.al (2013)	9.00	–	–
Panaztepe	Middle Bronze Age	Güleç & Duyar (1998)	3.01	20.89	31.51
Salat Tepe	Middle Bronze Age	<b>Present Study</b>	6,78	8.47	5.08

#### e) Tooth Wear

The greatest contributors to dental erosion are nutrition and food preparation techniques. Moreover, cultural habits such as using tooth as a tool can cause dental erosion. All of the permanent teeth found from the Salat Tepe society were affected by erosion. Premolar and molar teeth were the most affected by erosion. It should not be ignored that the number of premolar and molar teeth found were higher than that of other tooth groups which in turn contributed to the overall higher

number of eroded premolar and molar teeth. The corroded permanent teeth were ranked according to the Bouville erosion scale, and the most frequent erosion is found at 3rd and 4th degree erosion levels (Bouville et al., 1983). The results were compared with other Anatolian societies from proximate time periods, and the results are represented in table 7. According to these results, there are 3rd and 4th degree dental erosions in almost all Bronze Age Anatolian societies. The fact that the high erosion degree is frequently present could in-

dicates that individuals in these societies ate rough foods (Erdal 2000b).

#### f) Dental Caries

Dental caries were rarely seen in pre-Neolithic societies. When Ancient human societies are examined in terms of dental caries, a slight increase in their appearance can be seen with the transition to

agriculture, further accelerating with the transition to intensive agriculture (Özbek 2007b, Erdal 2000b). The increased usage of sugar and carbohydrates in diets with the transition to intensive agriculture caused dental caries to increase. The prevalence rate of dental caries in Salat Tepe people is approximately 7% (Table 7, Figure 8a).

**Table 7:** The Dental Erosion Degree of Ancient Anatolian Societies

Populations	Period	Study	Wearing Degree
Küçükhöyük	Early Bronze Age	Açıkkol (2000)	3-4
Hayazhöyük	Early Bronze Age	Özbek (1984)	1-2
Salur	Early Bronze Age	Yiğit et.al (2010)	4
Resuloğlu	Early Bronze Age	Atamtürk & Duyar (2010)	3-4
Aşağı Salat	Late Uruk- Early Bronze	Başoğlu et.al. (2013)	4+
Panaztepe	Middle Bronze Age	Güleç ve Duyar (1998)	3-4
Çavlum	Middle Bronze Age	Sevim et.al. (2004)	4
Ağzören	Middle Bronze Age	Yılmaz & Açıkkol (2003)	4
Salat Tepe	Middle Bronze Age	<b>Present Study</b>	3-4
Hakkari	Early Iron Age	Gözlük et.al. (2003)	4
Karagündüz	Early Iron Age	Erkman et.al. (2008)	4
Altıntepe	Urartu	Yiğit et.al.(2005)	2-3

Factors such as nutritional conditions, genetic structure, environment and practices carried out relating to daily activities are effective in the occurrence of dental caries (Hilson 1990). Some researchers suggest that the dental caries were lower in the societies in which dental erosion was at higher level (Maat & Van der Velde 1987). The odontological analysis of Salat Tepe people also supports this opinion. In addition to these, tartar was determined on incisor and canine teeth at the rate of 9% (Figure 8b). Tartar is a pathological case which is observed on the teeth of almost all ancient Anatolian people. As of the Neolithic Period, the societies that underwent the process of the transition to agriculture began to include starchy foods, which were ground and turned into flour, in their diets and this situation caused the occurrence of tartar to increase (Özbek 2007 b).



**Figure 8:** a) Dental Caries b) Tartar c) Hypoplasia Example

#### g) Hypoplasia

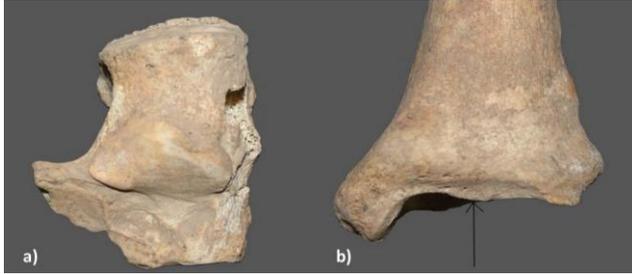
Hypoplasia, defined as the defects found in dental enamel, effects become permanent because enamel cannot renew itself. The data of hypoplasia (Figure 8c), which reveals itself in the form of color change, lines and small defects in enamel layer of

tooth, are regarded as the best indicators of physiological stress that the individual is exposed to as of the development process in the mother's womb (Buiskstra & Ubelaker 1994). The chronic starvation, certain metabolism disorders, certain childhood diseases with high fever, intestinal infections, traumas, vitamin A and vitamin D deficiencies, genetic factors are indicated among factors causing hypoplasia (Hilson 1990, Özbek 2007a). Hypoplasia, which has been observed as of the prehistoric period, is at 5,08% frequency for Salat Tepe individuals and these individuals might have been exposed to at least one or some of the factors causing hypoplasia. The prevalence rate of the lesion affected incisor and canine teeth were high in the whole collection.

#### h) Evaluation of Non-Metric Features

Non-metric features are significant data sources for skeleton studies in order to reveal biological proximity and differences between societies. There are certain genetic characteristics that appear on the human skeleton which cannot be expressed in a measured way. These characteristics, also named as variation, are believed to be transferred genetically through genes (Berry and Berry 1967; Çırak et al 2014). The variation analyses, performed at the population level, can reveal the proximity degree of societies to one another, or in other words their biological distance. It is seen that some variations are more frequent in certain societies (White and Folkens 2005; Berry and Berry 1967). In accordance with this purpose, Salat Tepe skeletons were examined in terms of non-metric characters. As a result of these examina-

tions, anteriorcalcaneal facet double on calcaneus and lateral and medial tibial facet on both tibiae (squatting facet) were determined on the male individual numbered M13/0268/i/09 (Figure 9a, b). The squatting facet is seen frequently in ancient Anatolian societies.



**Figure 9:** a) Anteriorcalcaneal facet double on calcaneus b) Lateral and medial tibial facet on tibia (Squatting Facet). (The skeleton number and whether it is right or left can be stated).

The supraorbital foramen was also determined on the eye orbits of the same individual (Figure 10a). The squatting facet was observed on the tibiae of male individual numbered L-11/0118/i/01 M1. The foramen olecrani which separates the coronoid cavity in olecranon and which is also defined as aperture or foramen in the septum was determined in a humerus belonging to the male individual numbered M13/0268/i/08 (Figure 10b).



**Figure 10:** a) Supraorbital Foramen b) Foramen olecrani

## 5.2 The Chalcolithic Period

### a) Paleodemographic and Pathological Evaluation

8 infant and children skeletons in total were obtained from 7 Chalcolithic graves in Salat Tepe (Table 8).

**Table 8:** The Distribution of Infants and Children of the Chalcolithic Period by Age Groups

Infants	Children
40 weeks( fetus)	1. Birey: 2-3 yaş
6 $\pm$ 3 month	2. Birey: 10-13 yaş
40 weeks( fetus)	
1 ( $\pm$ 3 month) years old	
1 ( $\pm$ 3 month) years old	
6 month ( $\pm$ 3 month)	

75% of the individuals are infants under 1 year old. Two of them are fetuses within the process of childbirth. The age range between 0-1 is a highly risky period in ancient Anatolian societies because of the insufficient maternal care and negative health conditions. The data which would show the compar-

ison of rates of the infant and child mortality and overall society could not be acquired because the skeletons belonging to adult individuals were not obtained. The pathological evaluation of Salat Tepe Chalcolithic period infants and children could not be carried out because the skeletons were preserved improperly and broken into several pieces.

## 6. CONCLUSION

The skeletons obtained as a result of the Salat Tepe rescue excavations belong to two different periods, Chalcolithic Period and the Middle Bronze Age. The number of skeletons uncovered was low and the preservation conditions of the existing skeletons were subpar, and this made the examination and evaluation difficult. However, this study conducted on 21 individuals gives significant information about Anatolian Bronze age societies, contributing to the sparse amount of skeletal data about peopulations from this time. These skeletal materials are highly significant for both archaeology and anthropology. We can remark that the anthropological analysis failed to reflect the overall society at statistical rates in this study. which the evaluation of individuals obtained within the scope of Salat Tepe rescue excavations were carried out, because the number of the individuals was low. However, substantial definitional consequences and determinations were obtained as a result of the examination of existing remains.

In terms of paleodemography, the adult individuals lost their lives at early ages. The age range of 20-35 was a risky period for males in Anatolian societies. This situation can be explained with wars. A reasonable inference cannot be made because the number of female individuals was inadequate. The frequency of infant mortalities draws attention to this point. The rate of infants which lost their life before they turn 1 year old is 50% in Middle Bronze Age and 75% in Chalcolithic Period. Infant and child mortalities are regarded as the indicator of the development level, environmental conditions, health conditions and nutritional habits of societies. These high rates, which are common features of all ancient Anatolian societies, can be explained on the grounds of insufficient diet and malnutrition, the existence of negative health conditions, and the fact that the infectious diseases made an impact were. Pathological data shows that the individuals were had poor nutrition, participated in intensive physical labor, and were exposed to poor living conditions. It can be an indicator of participation in activities related to weight and strength. Taking into consideration that the society was agricultural and the individuals might work in the field or carry out hard labor, these conditions can be mentioned as having a potential

impact on the occurrence of osteoarthritis and the Schmorl's nodule. When oral and dental health was examined, the dental erosion is seen at high level. Moreover, hypoplasia, tartar and dental caries were also determined. This shows us that the individuals ate rough and starchy foods and some of the individuals were affected by high fever related complications. The pathological data of individuals indicates that they had a very hard life. When the individuals were analyzed in terms of non-metric characters to reveal the biological proximity and distance of societies, anteriorcalcaneal facet double, lateral and medial tibial facet, supra orbital foramen and foramen olecrani variations were determined. These variations are cases seen frequently in ancient Anatolian societies. It was revealed that there were limited numbers and simple qualified objects in Chalco-

lithic and Middle Bronze Age graves when the archaeological data were analyzed. The settlement consists of modest, small housings with a couple of rooms. This insinuates that economically underdeveloped society lived there. When weak architecture and simple findings are evaluated together, it is understood from the archaeological records that the welfare level of Salat Tepe people was low (Ökse 2012a). The archaeological findings and anthropological findings correspond to each other. As a result, it is seen that Salat Tepe people had an agriculture-based socio-economic structure. Diyarbakır/Salat Tepe people, who were engaged in small and local agriculture rather than being an advanced agriculture based society, reflect the general characteristic of ancient Anatolian societies.

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