Mass grave excavation and osteological evaluation of mass grave in Shaxke- Duhok

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Abstract

Background and Objective: anthropological evaluation of mass graves considered as one of the important steps for scientific documentation of mass graves. The main objective of this study is to investigate the exhumation, osteological evaluation and individual victim identification of a mass grave in Shaxke village, Duhok governorate, Iraqi Kurdistan region.

Methods: The investigation included excavation of the graves and identification of the victims. The field study was started after taking testimonies and witnesses for locating the site of graves. The site was determined, which were excavated according to the scientific standard procedures. Sex determination, age and stature estimation were performed on the remained skeletons in the laboratory of medico-legal institute-Erbil.

Results: The grave included 13 bodies, 10 of them were males which constitute about 77% of the bodies, and 2 of them were possibly male which are approximately 15% percent of the bodies, while the other one was not identified because of degradation happens to the bones. The results of age estimation reported that all victims were young and their age was between 17-23 years old. The results of stature revealed that 11 cases had stature more than 160cm, while only one case was less than 159 cm and the other one was not identified because of bone. All the remained bones were recorded in details for more documentation.

Conclusion: This finding described the anthropological evaluation of 13 victims peshmergas mass graves in Shaxke village, Duhok governorate, Iraqi Kurdistan region.

Keywords: Mass grave; Shakhke, Exhumation; Identification

Introduction

Shaxke is a small village located in the north region of Duhok governorate. Mass graves skeletal remains identification and anthropological studies regarded as the key step towards documenting human rights violations and giving back the victim’s remaining skeleton to their families.

The mass graves in Iraq are identified as unmarked sites containing at least six bodies. Some can be characterized as deep pits that appear to have been filled or by mounds of earth piled above the ground, but older mass graves are difficult to found, because over this long period of time, they have been covered by debris and vegetation. Various mass graves have been identified in almost all regions of Iraq that contain people of different religious and ethnic groups as well as foreign nationals, including Arabs such as Kuwaitis and Studies. According to the estimation of the Iraqi government, the number of missing people reached about 250000 victims; however, some estimates put the number of missing people from the crimes committed by Saddam's army, including attacks against the Kurds in the 1980s and 1990s, at more than 1 million. Therefore, the Kurdish people say "There is another Iraq, buried under Iraq." The main intention of this paper is to present and discuss the exhumation, anthropological evaluation and individual victim identification including estimation of victim’s age, gender and stature of a mass grave in Shaxke village, Duhok governorate, Iraqi Kurdistan region.
Methods

Study setting and design

The current study was designed as a descriptive investigation for the mass graves in Shaxke. The field work was started in 2010 which included taking testimonies and witnesses, site description and excavation. The morgue study was performed in 2011. The study duration was ten months.

Testimonies and witnesses for locating the graves sites

However, of the emotional influences on the witnesses’ statements, but still they were the most important and reliable source of information for general or specific site location of the graves. Although different techniques are used to identify the human corpse, one of the methods used under this study is the identification of human corpse through statements by survivors (those who knew the victims).

Site Description and Assessment

Before the excavation took place, a preliminary visit to the suspected site was made to map the area to be excavated. Above all, we insured that the area has been cleared of surface debris. The graves sites were in Shaxke village, which is located in the north region of Duhok city.

Excavation

After identifying the location of the grave sites, the major dimensions (width, length and depth) were estimated as closely as possible. The surface of the ground was examined for finding any important evidence such as bullets, jewelry, personal belongings, etc) before being slowly and carefully removed. Soil removal then probed by careful use of picks and shovel and finally, with trowels and brushes.

Figure 1: The excavation and exhumation processes in Shaxke mass grave in Shaxke village- Duhok governorate- Iraqi Kurdistan region
Osteological Analysis
The osteological analysis is concerned with the determination of the identity of a skeleton, by estimating its age, sex and stature. A count of the ‘minimum number of individuals’ (MNI) was performed as standard procedure in osteological reports on inhumations to confirm how many individuals are present by the articulated and disarticulated human bones. The MNI was calculated by counting all long bone ends, as well as other larger skeletal elements recovered. The MNI was considered as the largest number of these skeletons. The MNI is mostly lesser than the actual number of skeletons which have been interred on the site, but it can represent the scientifically proven minimum number of individuals in the graves. 

Age was determined using standard aging techniques. Age estimation relies on the presence of the pelvis and uses different stages of bone development and degeneration to calculate the age of an individual. Age is split into two categories: Young victims include the ages below 18 years old, and adult victims, which include the ages equal or more than 18 years old. 

Sex determination was carried out using standard osteological techniques, such as those described by Mays. Assessment of sex in both males and females relies on the preservation of the skull and the pelvis and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood. Stature was estimated by applying the formulae for the maximum length of femur developed using modern Portuguese samples.

Data analysis
Microsoft Excel program was applied for summarizing and graphical presentation of the data. Percent values were calculated as a descriptive statistical analysis for the acquired data.

Results and Discussion
Several interviews had been made prior to starting the fieldwork. Also, we took witnesses from the people who were living in the villages around. The victim's bodies then transferred to Erbil city, the capital city of Iraqi-Kurdistan region, where they stored in the morgue of Kurdistan Medico-legal Institute. The laboratory works were done in special laboratories of the Medico-legal Institute for estimation of Age, Sex and stature after the bodies have been separated and the skeleton outline finished. All the works had been done by a special team who had taken a training course in ICMP program. The results are shown in figures 2 and 3.

Using special form prepared by ICMP, we recorded the presented and absent bones for everybody as much as possible, because this work was very difficult and needed too much hard work as most of the bones were degenerated.

Figure 2 showed that almost all the victims were male. However, we couldn't find out all bodies as they were degraded. Seven body remains were surely male according to our evaluation, while only two bodies were possibly male and the last one was not identified.

Figure 3 illustrates the distribution of stature. According to our results, the majority of victims in were young people and their stature were more than 160cm, and one victim was less than 160cm and the for last one we couldn't determine the stature. The technique applied for age identification was very useful, but the skeletal remains were the challenge for stature determination because the victims remaining bones determine the efficacy of the results.
Figure 2: Sex distribution according to sex determination procedure in both sites.

Figure 3: Distribution of stature

References