A trephined skull from Hévízgyőr

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Abstract — A Sarmatian male skull was found during the excavation of the Medieval church in Hévízgyőr. This finding is important both from archeological and anthropological points of view. The anthropological investigations prove that this skull is a trephined one. According to our knowledge trephined skulls are very rare in the Sarmatian population. With 2 figures.

INTRODUCTION

Trephination of skulls as medical treatment or cultical proceeding is a very ancient operation in the history of humanity. Trephination was practised as a custom from the Neolithic Age to the early Middle Ages. It may be symbolic trephination, when the cranial cavity was not opened. During the surgical trepanation the cranial cavity was opened. It could be done intra vitam (symbolic and surgical) or post mortem (cultical) (NEMESKÉRI et al. 1960).

The beginning of the search of the prehistorical trephination can be dated to the first half of the 19th century. The first trephined skull was found in 1841 with some Neolithic tools in the Buisse cave, but it was diagnosed as a trephined one only in 1883. The other very old finding came to light in Peru — but the importance of it was not recognised at that time (BARTUCZ 1966).

In Hungary the first trephined skull was found in Bene-puszta. The injury of this Conquering Hungarian skull was described as a wound made by a sword. The first correctly diagnosed and introduced trephined skull covered with silver plates was in Hungary the Hungarian pagan soldier’s one in 1853 from Vereb (BARTUCZ 1966).

The surgeons and anthropologists accepted hardly these findings as they came to light in a period when the trephination was a dangerous operation because the rate of deadly infection was extremely high. It was unbelievable in the 19th century that these prehistorical trephinations were made with the aim of restoring to health and the patients survived them many times.

If we study the frequency of the trephination we can see that there was a periodical ebb and tide through the ages concerning the number of cranial operations performed. Hippocrates and his disciples of Greco-Roman era were aggressive surgeons and avid trepanners. Their successors during the Middle Ages, both Islamic and Christian, were timid. They were poor anatomists because all major religions forbade autopsies. The number of trepanations was very low in the mid-1700s. At the end of the 18th century craniotomies fell into disrepute and were rarely practised during the first half of the 19th century. Later surgery increased in number but not in quality (BAKAY 1985).

The mortality index increased, but this increase was due to better registration. While earlier operations were performed in the patient’s home, in the 18th and 19th
century they were carried out mainly in hospitals. Therefore the registration of those cases when the patient died because of the operation became more and more correct, and this caused the above mentioned increase of mortality index (BAKAY 1985).

The most serious problem of trephination – as in the case of every medical operation – is the anaesthetization. Peruvians used coca leaves or brews for it. The narcotic effect of mandrake, henbane, opium were known in the ancient world. In the Middle Ages soporific sponges soaked with mandragora juice were applied. The leaves of hemlock were also used. Narcotic potion containing scopolamine was applied, too, but it was dangerous, because could not be regulated. "The operation started when the patient fell asleep – if indeed he died" (BAKAY 1985).

Sometimes it is difficult to diagnose trephination. There are certain lesions which are strikingly similar to trephination. These lesions can be different wounds, may come post mortem (e. g. chewing by animals) or may originate from some diseases.

American physical anthropologists examined a prehistoric indian skull from southern New England. Some of them diagnosed the perforation of the skull as trephination, others thought that it might result from a longstanding lesion. Finally a neurosurgeon gave a correct diagnosis of congenital cranial dysraphism (STEWART 1975).

MATERIAL AND RESULTS

Our material came to light during the excavation of the Medieval church at Hévízgyőrk. Unexpectedly two Sarmatian graves were found. One of these was the grave of a 40-45 years old (Maturus) man from the upper class. The age at the time of death was determined on the basis of bone changes during the lifetime (FARKAS 1972). Age group was classified according to MARTIN & SALLER'S (1957) categories. It was dug up in 1986 by E. TARI. The archaeological investigation was given by DINNYÉS (1989). The skeleton of the grave No. 28 was laid on his back in a coffin, with stretched limbs. The postcranial bones are badly preserved, incomplete, broken and unmeasurable. The skull is also fragmentary and defective. In spite of these conditions this skull is very remarkable because it is a trephined one.

This finding is most important because of the very low number of known cases of trephination in the Sarmatian population. There is only one known Sarmatian trephined skull in the territory of Hungary. It comes from the cemetery Szentes-Kistőke, grave No.124. It is the skull of a 15-16 years old boy. On the report of the scientists he survived the operation which was made with the aim of therapy. It has been found that this boy presumably suffered from otitis media et interna (BARTUCZ 1966).

The trephined skull from Hévízgyőrk – as I mentioned – is badly preserved and unmeasurable. We have only a part of os parietale with a part of os occipitale, a separated fragment of os frontale, a piece of maxilla and the mandible in two halves.

An oval hole is seen on the right parietale about 10-12 mm from the sutura sagittalis and approximately 20 mm far from the sutura lambdoidea. The longer diameter of the oval hole is 21 mm measured on the inner and 32 mm on the outer edge of the wound. The transversal diameter is 13 mm inside and 23 mm outside. The verge of the wound slopes everywhere inwards, towards the hole. It is the certain evidence of the wilful carving. The width of this slope is almost the same on the different parts of the
wound, 4.5 mm. The line of the wound’s verge is not symmetrical. Its closer part to the sutura sagittalis is waved. The other longitudinal curve of the oval is regular. The difference of the two curves supposes that the surgeon was standing behind the patient, and he was right-handed. He could make regular cutting on the right side of the hole, but could not do it on the left side. Simply the left side was not so handy for him.

The verges of the wound are covered with compact, even bone surface. The conclusion can be drawn that the trephined wound healed, the patient survived the operation.

Unfortunately the skull is in bad condition, so we cannot examine properly the inner surface of the bone. Not any mark of tumor or inflammation can be seen. Therefore we cannot diagnose the reason of the trephination but we may suppose that it was a surgical trephination.

References


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Fig. 1. The posterio-lateral view of the skull. – Fig. 2. A closer view of the trephination

*Annls hist-nat. Mus. natn. hung., 84, 1992*