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CHILEAN INFANT MUMMY IN THE COLLECTIONS OF THE NÁPRSTEK MUSEUM: ANTHROPOLOGICAL ANALYSIS

Gabriela Jungová[1] – Jakub Pečený

ABSTRACT: This paper reports conclusions from an anthropological analysis of a mummy bundle from the Azapa Valley in northern Chile. The mummy was acquired by Dr. Václav Šolc in 1966–1967. The bundle was examined with the use of computed tomography (CT) and the results were compared to unpublished findings from 2009. The remains are that of an infant that died of unknown causes. The possible presence of Harris lines suggests that the individual suffered from stress during their life. The mummification process was in all probability spontaneous.

KEY WORDS: Chile – South American mummies – CT

Introduction

The National Museum – Náprstek Museum of Asian, African and American Cultures in Prague curates a small collection of human mummies from South America; namely from Peru and Chile. Unfortunately, the origin of these mummies is insufficiently documented; and despite being displayed in several exhibitions, they have received little attention in published literature. This paper introduces the first results of analysis for one of the Chilean mummies: an infant wrapped in a textile bag.

Material and Methods

The mummy (Inv. No. A 7132) was obtained by the Náprstek Museum on 14 March 1968 as part of a collection acquired by its director at the time, Václav Šolc, during his field research in Chile in 1966–1967. According to the acquisition documentation; the mummy is an archaeological finding from the Azapa Valley near the city of Arica, in northern Chile. The mummy was dated by the Museum's staff to 1100–1200 CE.

In 2009 the mummy was scanned at St. Anne's University Hospital Brno. Results of the anthropological analysis conducted by the Hospital's experts were summarized in

[1] Contact: Gabriela Jungová, National Museum – Náprstek Museum of Asian, African and American Cultures; e-mail: gabriela_jungova@nm.cz. The present research was financially supported by the Ministry of Culture of the Czech Republic (DKRVO 2017/34, National Museum, 00023272).

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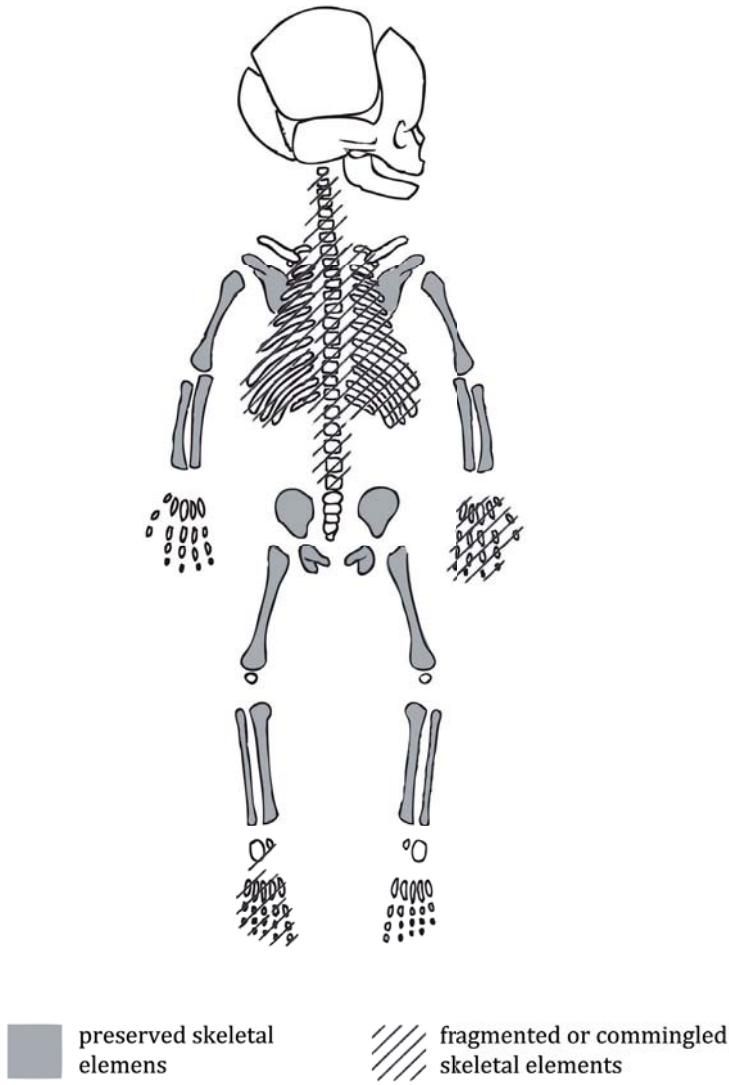

Fig. 1 Preservation of skeletal elements of the studied invididual (Inv. No. A 7132).

an internal document (Urbanová – Mořkovský – Králík – Čuta 2010), which has never been published.

In 2015, the mummy was rescanned in the framework of a project aimed at mapping all the anthropological material in the collections of the Náprstek Museum. The mummy was examined with a 64-detector row General Electric LightSpeed VCT scanner in cooperation with the specialists from Affidea Praha, s.r.o.; a radiology clinic in Prague. Transversal, coronal and sagittal slices (slice thickness 0.625 mm), as well as VRT and MIP reconstructions were used for evaluation of the findings.

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Age was estimated using length of the long bones' diaphyses measured from the CT scans and presence or absence of respective epiphyses. Three methods were used and compared (Maresh 1970; Ubelaker 1989: 65–71; Baker – Dupras – Tocheri 2014: 157–160). Dental morphology and calcification could not be used as no teeth were identified. Sex estimation was not attempted due to the sub-adult age at death of the individual.

Results

The mummy was packed in a textile bag. Desiccated soft tissues (skin, muscles, ligaments and tendons in the major joints) are partially preserved. No cranial elements have been identified. The axial skeleton (spine and ribs) is present, but disintegrated and scattered inside the mummy bundle; its completeness therefore cannot be assessed. Upper extremities are preserved except for the bones of the right hand; the left hand is present. The left scapula is dislocated cranially, the rest of the upper limb bones are in their approximate anatomical positions. The lower extremities (pelvis, femora and crura) are preserved and in their anatomical positions; the right foot is present, the left foot is missing. The preservation of skeletal elements is illustrated in [Fig. 1]. The current distribution of skeletal remains is depicted in [Pl. 1]. Despite some shifts in the anatomical position of the present bones, it is apparent that the individual was buried in a flexed position, with the right arm extended.

No traumas or severe pathologies were observed. Both tibiae and fibulae show thin calcification lines in their distal ends.

Age was estimated using three different methods based on the diaphyseal length of the long bones and the presence or absence of respective epiphyses. The results are compared in Table 1. The individual was an infant aged less than six months at the time of death.

Table 1. Comparison of results of age estimation based on three different methods.

Method	Estimated age (months)
Maresh 1970	± 3
Ubelaker 1989	< 6
Baker – Dupras – Tocheri 2014	< 6
Final age estimate	< 6

Discussion

The report from the 2009 examination concludes that the remains belong to a 1–4 months old infant of uncertain sex, with no additional findings or information (Urbanová – Mořkovský – Králík – Čuta 2010: 12). After the new scanning and analysis, the age at death was re-estimated as less than 6 months.

No immediate cause of death was identified from the preserved remains. The calcified lines in the distal ends of the bones of the lower legs may be growth arrest lines or Harris lines [Pl. 2]. These are associated with non-specific stress, such as malnutrition or disease (Aufderheide – Rodríguez-Martín 2011: 422–423). The stress probably weakened the organism, but whether it is in any way related to the cause of death is entirely speculative.

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The suggested dating to 1100–1200 CE places the individual to the Maitas Chiribaya Culture (1100–1300 CE) of the Azapa Valley. The recovered burials of this group show spontaneously mummified individuals interred in a flexed position (Aufderheide 2010: 149). This corresponds to the conclusions of the studied mummy bundle. The individual was buried in a flexed position with one arm extended (cf. Aufderheide 2010: 153, Fig. 4.76). The poor and unsystematic preservation of soft tissues suggest that their mummification was not artificially induced, but it was rather a spontaneous and unintentional process. Unfortunately, no recordings of the funerary context or possible funerary offerings are available that could be compared to the known findings of the Chiribaya burial sites (Jessup 1991).

Conclusion

The studied mummy bundle contains remains of an infant that died of unknown causes. The possible presence of Harris lines suggests that the individual suffered from stress during their life. The mummification process was in all probability spontaneous, as was common with Maitas Chiribaya, the likely culture of origin.

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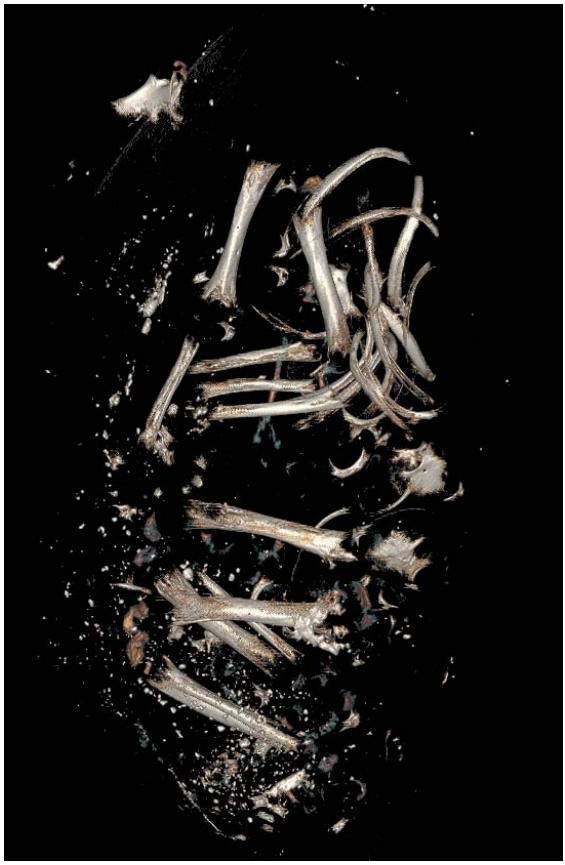
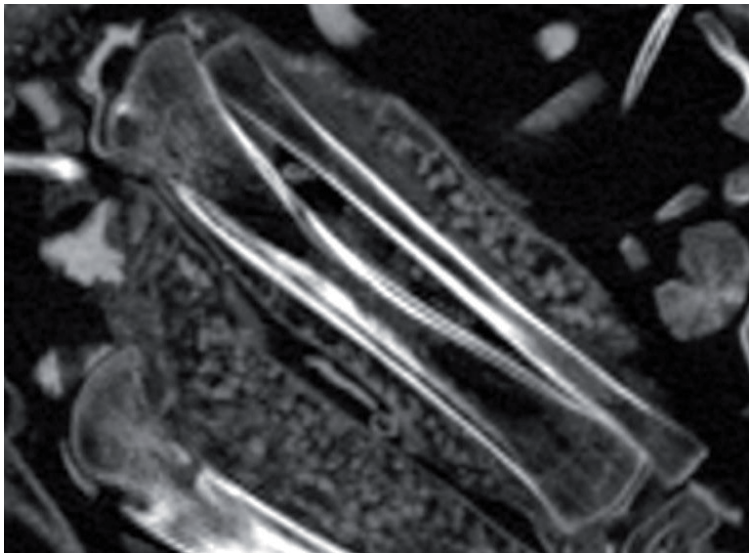


Pl. 1 Current distribution of skeletal elements in the mummy bundle (Illustration: Jakub Pečený).



Pl. 2 Calcified lines in the distal ends of the right tibia and fibula (Illustration: Jakub Pečený).

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