

Too Small to be Noticed? Children Mummies Reveal Their Stories

Chryssi Bourbou

28th Ephorate of Byzantine and Post-Byzantine Antiquities, Arkadiou 214, Rethymno, Crete, Greece

KEY WORDS: children mummies, paleopathology, mortality patterns

Abstract

The study of sub-adult remains, either skeletal or mummified, has been always a fairly neglected subject of bioarchaeology. Regarding mummified subadult remains, it mainly seems that fascinating stories (i.e., mountain sacrifice mummies) are usually discussed in detail. However, whilst childhood is a biological stage of human development, it is also a social construct and many past and present societies assign different values and meanings (i.e., cultural beliefs, social tensions) to the dead child. This presentation addresses the biocultural context of children mummies based on a meticulous survey of up-dated published reports. In addition, paleopathological observations are discussed, as well as the future need for systematic studies of subadult mummies (i.e., mortality patterns, maternal mortality).

Introduction

Spontaneous or anthropogenic mummified human and animal remains have long ago attracted the interest of scientists. Mummies have been studied increasingly to answer questions about the health, social status and cultural beliefs of the population from whence they came. The classic works by Cockburn et al. (1998) and especially by Aufderheide (2003) present a thorough study of mummies around the world. However, in most publications the information on mummified children (below 18 years old) is limited (Fig. 1). The child is a complicated symbol and is born fully loaded with cultural meanings; respectively, childhood is a biological stage of human development but also a social construct. In many cultures the child was

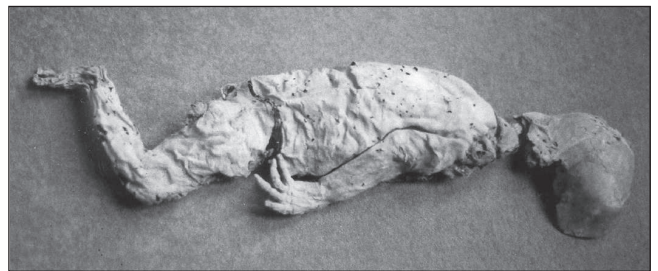


Fig. 1 - A mummified fetus of the Guanche culture. Tenerife (El Sauzal), Canary Islands. Courtesy of the Instituto Canario de Bioantropología and, Museo Arqueológico de Tenerife (OAMC-Cabildo de Tenerife, Islas Canarias).

treated differently from adults in both life and death, thus many past and present societies do assign different values and meanings to the dead child. Images of the child can be manipulated to make statements, to reflect cultural and religious beliefs, to affect existing ideological schemes and to articulate social and political tensions and concerns. Furthermore, the child was given special associations with ritual in life and in death, embodying a number of contradictory forces, which make it a powerful symbol within human culture. It is far beyond the scope of this paper to address all issues inherent in the study of mummified children; rather it is hoped to intrigue the interest of the specialists in a field where fruitful work remains to be done.

Mummified children: examples and interpretations

Mummified (spontaneous or anthropogenic) children are known from around the world. Did they follow the patterns of adult mummification? Did they serve as the ultimate link between the livings and the gods? Were they loaded with specific rituals and religious implications? What was the fate of a defective child in a small community? The following examples attempt to give a brief overview of some well-known cases in which mummified children reveal their stories.

When it comes to the anthropogenic mummification of children, the practice includes either elite members of the society, as in the case of Mummy 2, a child from St Domenico Maggiore Abbey in Naples, or is extended to a

large part of the population, as in the case of the Chincorros in north Chile (Aufderheide, 2003). One of the most interesting features of the Chinchorro mummy practice is that at least one-half of the bodies were of children and infants (Aufderheide, 2003). In addition to actual mummies prepared from whole bodies of children, the Chinchorros also made small figurines in the form of mummies. These figurines sometimes contained bones from infants or fetuses, or even animals. It may be that the small bodies of babies were too difficult to mummify using the normal techniques and that mummification of the smallest of the Chinchorros required special techniques (Arriaza, 1995).

Besides a well-defined cultural practice, in spontaneous mummified children it is also possible to detect religious and ritual implications. One of the most well known cases include the south American mountain sacrifice mummies, a large number of which include subadult individuals (Tab. 1).

Province Country	Mountain	Sex	Approx. age (yr)	Year found
Mendoza, Argentina	Aconcagua	M	7	1985
Salta, Argentina	Chañi	M?	6	1905
Salta, Argentina	Llullaillaco	M	8	1999
Salta, Argentina	Llullaillaco	F	14	1999
Salta, Argentina	Llullaillaco	F	8	1999
Salta, Argentina	Quehuar	M?	14	1974
Santiago, Chile	El Plomo	M	8	1954
Iquique, Chile	Esmeralda	F	9	1976
Arequipa, Peru	Pichu Pichu	F	15	1963
Arequipa, Peru	Pichu Pichu	F	10	1996
Arequipa, Peru	Pichu Pichu	M	8	1996
Arequipa, Peru	Ampato	M	13	1995
Arequipa, Peru	Ampato	F	11	1995
Arequipa, Peru	Ampato	F	11	1995
Arequipa, Peru	Ampato	?	subadult	1997
Ayacucho, Peru	Sara Sara	M	15	1996

Table 1 - South American mountain sacrifice mummies (modified after Aufderheide, 2003: table 4.3).

We don't know how the individual was chosen but the bodies of sacrificed individuals range from a 6-year-old child to young adults. The most common disposal seems to have been a somewhat superficial burial, while the recovery of artifacts suggests that they may have played a role in the ceremony. The cause of death can be attributed to skull fractures (although it is not certain that they occurred

before death), hypothermia, strangulation, or even live burial. It is also supposed prior alcoholic or drug sedation (Aufderheide, 2003).

Bog bodies reveal the mysterious spiritual side of Iron Age in Europe. Two subadult cases are known: the 16 years old Yde Girl from the Netherlands (van de Sanden, 1996) and the 14 years old Windeby Woman from Germany (Gebuehr, 1979). Their hair was shaved off at one side and evidence for a cruel death exist: the Yde Girl was strangled by a woolen belt still wrapped around her neck, although a stab wound at the base of her neck probably contributed to her death; the Windeby Woman, was led to the bog blindfolded and drowned. In general, possible explanations for the disposal of bodies into bogs include routine inhumation, accidents, murder victims, acts of punishments, and religious rituals that include human sacrifice. Influence from ancient customs can be suspected, in that watery places, such as bogs, held considerable significance in the Celtic tradition for leaving votive offerings to their deities (Aufderheide, 2003; for a possible association of bog bodies in Denmark with fertility festivals before the agricultural season see Briggs, 1995; Bennike et al., 1986).

One of the most interesting aspects on spontaneous mummified children is associated with economic restrictions and "social outcasts" as evidenced in the cases of Qilakitsoq Mummy 1 and Mummy 2 from Greenland. Mummy 1 was identified as an about six months old boy. The baby showed no sign of disease or trauma under external examination and radiographic analysis (Hart Hansen, 1989; Eiken, 1989). The child may have been killed by being buried alive with its deceased mother. This procedure was in fact not unusual in ancient Greenland. In the small, isolated arctic communities it was not always possible to save a child whose mother had died. Instead of letting the child gradually die of hunger because no other woman could be found to nurse it, the father would kill the child. Often it was suffocated and buried with the mother so they could travel together to the Land of the Dead. In other cases the child was buried alive with the dead mother (Hart Hansen, 1989). Mummy 2 was a boy of four years old. The radiographic analysis showed that most probably this child suffered from Legg-Calvé's-Perthes' disease, which must have caused pain and difficulty in walking normally. Moreover, the shape of the pelvis indicated that the child suffered from Down's syndrome (Eiken, 1989). A disabled child like this boy must have had great difficulty surviving in ancient Greenland. It is also well known that in ancient Greenland children and also adult invalids were sometimes killed, either violently by strangulation or drowning, or by exposure, given the limited recourses of a the small communities. This custom of killing disabled and sick persons when provisions and resources were low was not regarded as evil but rather as an act of compassion. Although the poor preservation of the mummy limited the extend of the investigation, it was not possible to find any sign of violent death or death from exposure and it is possible that the boy may have died from natural causes as a result of congenital or acquired disease and general low resistance. It cannot, however, be ruled out

that he was killed in one or another way (Hansen, 1989).

PALEOPATHOLOGY OF SUBADULT MUMMIES

Paleopathological observations on subadult mummies focus mainly on case studies. Some of the most known cases include hydrocephalic mummies from Spain (Carvajal et al., 1995) and Colombia (Herrmann and Meyer, 1993), smallpox from Italy (Fornaciari and Marchetti, 1986), tuberculosis (Allison and Pezzia, 1973), infectious meningitis (Dalton et al., 1976), dermatological neoplasms (angiokeratoma circumscripta) (Horne 1986), pneumonia (Aufderheide, 2003), all from Peru, Harris lines and periostitis suggestive of generalized infection from Mexico (Aufderheide, 2003), Harris lines, enamel hypoplasias and acute respiratory infection from Italy (Fornaciari et al., 1993), lung lesions possibly due to bacterial or fungal infections from Arizona, aspiration of a deciduous tooth resulting in atelectasis of the right lung with compensatory hyperexpansion of the left lung from Mexico (El Najjar et al., 1985), and a large mass in the left lower chest with no specific diagnosis, again from Mexico (Heinemann, 1974). Few references deal in depth with maternal mortality and complications associated with childbirth, mostly for south American mummies (i.e., Asworth et al., 1976; Owsley and Bradtmiller, 1983; Arriaza et al., 1984; Luibel-Hullen, 1985; Arriaza et al., 1988). Sporadic case-studies are also reported worldwide. Tyson and Elerick (1985) refer to a female mummy from Mexico, who possibly died from placenta hemorrhage following a traumatic injury; Fornaciari (1982) discuss on a young adult female from Italy with evidence of a cesarean section incision and a fetus in the uterus; Rodríguez-Martín and Rodríguez-Maffiote (1989) present a unique case of a mummified fetus (6-7 months of prenatal age) from Tenerife, Canary Islands, with multiple fractures.

Towards the future

The study of subadult burials and skeletal remains, potentially a fascinating subject of research, has been more or less a neglected area in the bioarchaeological literature. Mummified children are not the exception to this rule. It is true to say that outstanding cases (i.e., the Andean mountain sacrifice mummies), or pathological conditions of special interest (i.e., hydrocephalus) attract mostly the attention of the scientists. However, a most systematic approach and thorough investigation of the published material can tell us more about the role of the child within a society, as well as growth and mortality patterns. This is especially possible when mummified children consist a large part of the population under study, as in the case of the Chinchorros in Chile (see above), the Chiribaya, where 40% of the 134 recovered mummies were less than 15 years old (Aufderheide, 2003), the Chachapoya, or the Viceroy of "New Spain" where again 30% were children and infants, all from Peru (Aufderheide, 2003). An international network of collaboration among researchers will enhance the exchange of data and promote a holistic approach to the study of mummified children.

Acknowledgements

I deeply thank Dr. A. Aufderheide and C. Rodríguez-Martín, for their valuable help during the literature survey and their useful comments and suggestions for the format of this paper.

Literature Cited

- Allison MJ, Pezzia A. 1973. Preparation of the dead in pre-Columbian coastal Peru. *Paleopathol Assoc Newsletter* 4: 10-12.
- Arriaza B. 1995. *Beyond death: The Chincorro mummies of ancient Chile*. Washington: Smithsonian Institution Press.
- Arriaza B, Allison J, Focacci G, and Gerszten E. 1984. Mortalidad maternal y de la niñez en el área de Arica prehispanica y conceptos asociados. *Chungará* 12: 161-172.
- Arriaza B, Allison M, and Gerszten E. 1988. Maternal mortality in pre-Columbians Indians of Arica, Chile. *Am J Phys Anthropol* 77: 35-41.
- Asworth JT, Allison MJ, Gerszten E, and Pezzia A. 1976. The pubic scars of gestation and parturition in a group of pre-Columbian and colonial Peruvian mummies. *Am J Phys Anthropol* 45: 85-89.
- Aufderheide AC. 2003. *The scientific study of mummies*. Cambridge: Cambridge University Press.
- Bennike P, Ebbesen K, and Jorgensen LB. 1986. Early Neolithic skeletons from Bolkilde Bog, Denmark. *Antiquity* 60: 199-209.
- Briggs CS. 1995. Did they fall or were they pushed? Some unresolved questions about bog bodies. In: Turner RC, Scaife RG, editors. *Bog bodies*. London: British Museum Press, p. 168-182.
- Carvajal A, Martinez A, and Campillo D. 1995. Study of the internal structures by computerized tomography of a mummy dating from the beginning of the century. In: *Proceedings of the IX European Meeting of the Paleopathology Association*. Barcelona: Museo d' Arqueologia de Catalunya, p. 115-122.
- Cockburn A, Cockburn E, and Reyman TA (eds). 1998. *Mummies, diseases and ancient culture* (2nd ed). Cambridge: Cambridge University Press.
- Dalton HP, Allison MJ, and Pezzia A. 1976. The documentation of communicable disease in Peruvian mummies. *Med Col Virg Quart* 12: 43-48.
- Eiken, M. 1989. X-ray examination of the Eskimo mummies from Qilakitsoq. In: Hart Hansen JP, Gulløv HC, editors. *The mummies from Qilakitsoq-Eskimos in the 15th century*. Meddelesler om Grønland: Man and Society 12, p. 58-68.
- El Najjar M, Aufderheide AC and Ortner DJ. 1985. Preserved human remains from the southern region of the north American continent. Report of autopsy findings. *Human Pathol* 16: 273-276.
- Fornaciari G. 1982. Natural mummies in central Italy: A preliminary survey. *Paleopathol Assoc Newsletter* 40: 11-12.
- Fornaciari G, and Marchetti A. 1986. Intact smallpox virus particles in an Italian mummy of the XVI century: An immuno-electron microscopic study. *Paleopathol Assoc Newsletter* 56: 7-12.
- Fornaciari G, Castagna M, Naccarato G, Colletti P, Tognetti A, and Bevilacqua G. 1993. Adenocarcinoma in the mummy of Ferrante I of Aragon, King of Naples (AD 1431-1494). *Paleopathol Assoc Newsletter* 83: 5-8.
- Gebuehr M. 1979. Das Kindergrab von Windeby. *OFFA* 36: 75-107.
- Hart Hansen, JP. 1989. The mummies from Qilakitsoq-Paleopathological aspects. In: Hart Hansen JP, Gulløv HC,

- editors. The mummies from Qilakitsoq-Eskimos in the 15th century. *Meddelesler om Grønland: Man and Society* 12, p. 69-82.
- Heinemann, S. 1974. Xeroradiography of a pre-Columbian mummy. *J Am Med Assoc* 230: 1256.
- Herrmann B, and Meyer RD. 1993. Sudamerikanische Mumien aus vorspanischer Zeit: Eine radiologische Untersuchung. Berlin: Museums fuer Voelkerkunde.
- Horne P. 1986. Case no 23. Angiokeratoma circumscriptum. *Paleopathol Club Newsletter* 27: 1.
- Luibel-Hullen AM. 1985. Use of computer assisted tomography in the study of a female mummy from Chihuahua, Mexico. In: Tyson RA, Elerick VD, editors. *Two mummies from Chihuahua Mexico. A multidisciplinary study*. San Diego Museum Papers No. 19. San Diego Museum of Man, p. 35-46.
- Owsley DW, and Bradtmiller B. 1983. Mortality of pregnant females in Arikara villages: Osteological evidence. *Am J Phys Anthropol* 61: 331-336.
- Rodriguez-Martín C, and Rodríguez-Maffiote C. 1989. A mummified fetus from Tenerife (Canary Islands). In: Capasso L, editor. *Advances in paleopathology. Proceedings of the VIIIth European Meeting of the Paleopathology Association*. Chieti: Marino Solfanelli Ed., p. 157-162.
- Tyson RA, and Elerick DV. 1985. *Two mummies from Chihuahua, Mexico: A multidisciplinary study*. San Diego Museum Papers no. 19. San Diego: Museum of Man.
- Van de Sanden WAB. 1996. *Through nature to eternity: The bog bodies of northwest Europe*. Amsterdam: Batavian Lion International.