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Heart Treatment in Ancient Egyptian Mummification

Andrew D. Wade  
*The University of Western Ontario, awade4@uwo.ca*

Andrew J. Nelson  
*The University of Western Ontario, anelson@uwo.ca*

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Heart Treatment in Ancient Egyptian Mummification

Andrew D Wade & Andrew J Nelson
Department of Anthropology, University of Western Ontario

Introduction

Descriptions in the popular and academic literature, of the treatment of the heart as part of the Egyptian mummification tradition, are derived from accounts by classical authors.

Our reliance on these normative descriptions, in the absence of Egyptian accounts, has obscured the wide range of mummification practices and the intrasocietal changes occurring in ancient Egypt. It has impeded the study of geographic, chronological, and socio-political variations in ancient Egyptian mortuary practice and ideology.

The goals of this study were to demonstrate:
- patterns of heart retention, removal, and replacement between time periods
- sex
- social status
- the relationship between classical descriptions and the patterns apparent in the empirical data

This study focuses on computed tomography (CT) as a non-destructive gold standard for mummies studies, and in the examination of heart treatment indications and variations with time, sex, and status.

Ancient Sources:

...vs. Classical Norms

Heart Treatment Trends...

The heart was noted as intact in only 21 of the 80 individuals where this organ’s disposition was recorded. In barely more than a quarter of the individuals in this sample was the heart retained. The heart was noted as intact in only 21 of the 80 individuals where this organ’s disposition was recorded.

By a slip of the scalpel; more so when such accidents would have to occur in nearly seven of every ten cases.

Intermediate Period (Fig. 4).

The incidence of heart retention increased initially followed by the loss of the organ in more than 98% of those cases.

Male retention and absence of the heart preceded female heart retention and absence, respectively.

Middle Kingdom, in this sample.

The treatment of the viscera are discussed by Herodotus, Porphyry, and Plutarch without specific mention of the heart. The Ptolemaic Period Greek historian, Diodorus Siculus, is the only authour to make explicit mention of the treatment of the heart. It is evident from his account that ancient stereotypy of heart treatment are formed; that is, the heart was always retained or replaced if accidentally removed.

When they have gathered to heal the body after it has been slit open, one of them thrusts his hand through the opening in the corpse into the trunk and extracts everything but the kidneys and heart; and another one cleans each of the viscera, washing them in palm wine and spices. [1]

Radiological Appearance:

Among the structures present in the body cavity, the heart is among the most readily identifiable by its position. The heart, when it is retained in the chest, appears as a dense mass suspended in the pericardium (Fig. 1, left) [2,3,4]. The pericardium itself appears as a linear opacity; “a tent lattened between the aterium...thoracic s piracy” [5] and diaphragm (Fig. 2). The diaphragm and/or pericardium may remain in the heart’s absence (Fig. 3, right).

Conclusions

The stereotype of universal heart retention, or replacement on accidental removal, is far from the truth. The heart was uncommonly retained in situ, and rarely returned or replaced by a heart scarab. The hypothesis constructed from the stereotyped account by Diodorus is, therefore, falsified by these data. This supports previous work [6] refuting the normative brain treatment accounts of Herodotus.

The classical descriptions should only be considered as, at best, a possible snapshot of mummification performed by one particular workshop; a snapshot that does not express the full range of variation in the practice throughout the entirety of Egypt over the course of three millennia, nor necessarily even the period in which the account was written.

IMPACT Mummy dBase

Currently, an international, collaborative radiographic mummy database, is being established by the authors at Western to undertake large-scale radiological studies of variability in patterns of health and disease and in mummification practices in Egyptian and other mummies.

Samples

A sample of 150 dated mummies adequately described in the literature:
- 21 intact hearts
- 59 absent hearts
- 70 indeterminate/missing data

A sample of 7 mummies observed directly using computed tomography:
- 1: Reduapt-RM2718 – New Kingdom
- 2: ROM 910.5.3 – 21st Dynasty
- 3: Djamaisankh – 22nd Dynasty
- 4: Hotep-Isiaset – 26th Dynasty
- 5: Pe-b – Late Period
- 6: Sultan Mummy – Ptolemaic Period
- 7: Lady Hudson – Roman Period

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