LETTER TO THE EDITOR

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The Death of Alcathous in the *Iliad*: The First Verifiable Description of Penetrating Cardiac Trauma

(A comment on the paper: *Miloš Velinović†, Mile Vraneš**†, Biljana Obrenović-Kirćanski**‡, Svetozar Putnik**†, Aleksandar Mikić**†, Dragutin Savić**†, Radmila Karan§†, Nataša Kovačević-Kostić§†*. Penetrating wound of the heart manifested with peripheral embolism – case report. *Vojnosanit Pregl* 2012; 59(9): 803–5, and the author's response)**

Smrt Alkatoja u Ilijadi: Prvi verifikovani opis penetrantne trauma srca

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Comment

It is always important to expand knowledge related to the fascinating subject of thoracic trauma. In this regard, the case presented by Velinović and colleagues may be considered of great value, as it reports an unusual peripheral embolism at the level of the right common femoral artery resulting from a paradoxical embolism through an interatrial communication, secondary to an old penetrating thoracic trauma of the right hemithorax caused by a firearm [1].

However, in the aforementioned article, the authors state that "the first described cardiac trauma was reported by the Egyptians 5,000 years ago in the Edwin Smith Surgical Papyrus," a claim that is not entirely accurate. Although this document describes a total of 48 noteworthy cases demonstrating the medical and surgical knowledge of ancient Egyptian civilization, including both non-penetrating and penetrating thoracic injuries, none of them involves the heart as a directly affected organ [2].

Following a meticulous study of the historical origins of penetrating cardiac trauma (PCT), it can be concluded that Homer, in his epic poem The *Iliad*, was the first to describe this entity. In this classical Greek epic poem, dating to the 8th century BC and translated into multiple languages according to the interpretation and translational style of various authors, numerous thoracic injuries sustained in battle are described. After analyzing several of these translations and noting that they all coincide in their account of Book XIII, it may be argued that the death of Alcathous constitutes the first description of PCT in history [3]. This passage is rendered verbatim as follows: "*Λουπῆσεν δὲ πεσών, δόρυ δ' ἐν κραδίῃ ἐπεπήγει*" ("He fell with a dull thud, and the spear was driven into his heart"), in which the phrase "*ἐν κραδίῃ*" ("in the heart") is explicit [4].

Furthermore, it should be noted that many authors cite the death of Sarpedon, narrated in Book XVI, as the first historical event alluding to PCT–a claim that is likewise not entirely accurate. Some of the consulted translations mention the heart as the directly affected anatomical structure, whereas others describe different elements or fail to specify particular organs, referring instead to structures such as the mid-abdomen, the entrails, or simply the chest near the heart [3]. According to Friedrich [5], the translation derived from the interpretation of the Greek word *φρένες* does not provide an exact explanation that allows precise identification of the anatomical structure injured by the fatal wound sustained by Sarpedon in battle, which could be related to structures such as the heart, lung, diaphragm, liver, stomach, or spleen. In addition, Gutiérres notes that the term *φρένες* may be considered indeterminate or ambiguous and can be interpreted in various ways from an anatomical as well as physiological, psychological, and cognitive standpoint [6].

In conclusion, critical analysis of historical and philological sources allows us to affirm that the death of Alcathous, described in Book XIII of The *Iliad*, constitutes the first explicit and verifiable reference to penetrating cardiac trauma, as it unequivocally mentions direct involvement of the heart. This finding not only corrects historical inaccuracies frequently reproduced in medical literature but also underscores the value of classical texts as primary sources for understanding the early development of anatomical and traumatic knowledge, reinforcing the need for an interdisciplinary approach integrating medicine, history, and philology.

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Author's response

We thank the authors of the Letter to the Editor for their interest in our article and for contributing to the discussion on the historical origins of documented cardiac trauma. Scholarly debate on the foundations of medical knowledge is both welcome and necessary. However, we believe that the central argument presented in the Letter conflates literary narrative with scientific medical documentation, a distinction that requires clarification.

The Letter contends that Homer's *Iliad* contains the earliest reference to heart wounds and should therefore replace the source cited in our article. While this claim may be significant in a literary or cultural-historical context, it is methodologically unsound within the framework of medical historiography.

In epic literature–most notably in Homer's *Iliad*–descriptions of bodily injury function primarily as narrative devices serving poetic, symbolic, and dramatic purposes [1]. Although such passages refer to anatomical structures, including the heart, they lack diagnostic intent, systematic observation, therapeutic reasoning, and clinical applicability.

By contrast, the Edwin Smith Surgical Papyrus [2, 3] is a medical–surgical treatise. Its cases follow a structured format that includes examination, diagnosis, prognosis, and management, reflecting empirical clinical reasoning rather than metaphor or allegory.

This distinction between narrative descriptions of violence and analytical medical documentation of trauma is fundamental. As a scientific discipline, medical history does not establish historical "firsts" on the basis of mere narrative mention, but on methodology, intent, and epistemological framework [4-7].

Historians of medicine commonly apply several criteria when defining early scientific medical documents:

1. Systematic case presentation,
2. Anatomical specificity grounded in observation,
3. Prognostic reasoning based on outcomes,
4. Therapeutic or management intent,
5. Didactic purpose for medical practice.

The Edwin Smith Surgical Papyrus [2, 3] meets all of these criteria. Its trauma cases–particularly those involving the head, neck, and thorax–demonstrate an awareness of the lethality of chest injuries and implicitly recognize the heart as a vital organ whose damage is incompatible with survival.

The Homeric epics, by contrast, meet none of these standards [1]. Their anatomical references are incidental to narrative aims and cannot be retroactively classified as medical documentation without eroding the epistemological boundaries of medical science.

Our wording is also consistent with contemporary cardiology and trauma literature. Authoritative modern textbooks explicitly identify the Edwin Smith Surgical Papyrus [2] as the earliest medical description of traumatic cardiac injury. In the cardiac trauma chapter of Moss & Adams' Heart Disease in Infants, Children, and Adolescents [8], the papyrus is cited as the first description of penetrating cardiac wounds, whereas Homer's *Iliad* is mentioned only as a later literary source. Jagelavičius et al. [9], in a 28-year series of penetrating cardiac injuries, describe the papyrus as providing "the most ancient data about cardiac injuries". Major reviews of penetrating cardiac and thoracic trauma likewise begin their historical overviews with the Edwin Smith Surgical Papyrus as the earliest written description of cardiac or intrathoracic injury, even when they also mention Homeric passages, thereby treating the papyrus as the foundational medical source.

Coming from a cultural tradition rich in mythology and epic literature, we recognize the historical and symbolic importance of such works. From a scientific standpoint, however, we maintain that the Edwin Smith Surgical Papyrus remains the earliest extant medical–surgical document to address traumatic injuries of the chest–and, by implication, the heart–using empirical observation and clinical reasoning [3, 4]. Earlier literary texts, including Homer's *Iliad* [1], despite their vivid depictions of fatal chest wounds, remain literary rather than scientific and cannot be treated as medical sources within the discipline of medical history.

Accordingly, the source cited in our article remains appropriate, methodologically robust, and consistent with established historiographical standards.

Sincerely,
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