

## Medical malpractice cases in Hippocratic collection: a review and today's perspective

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### Abstract

**Aim:** The aim of the present paper is two-fold. First, it reviews the Hippocratic collection to identify instances related to the issue of medical malpractice and medical negligence. Second, it discusses the results viewed from today's perspective, in the context of contemporary theories of liability in malpractice cases.

**Method:** A careful review of the books of Hippocratic collection was performed, as well as a narrative review of the currently available academic literature, focusing on topics of contemporary theories of liability in malpractice cases, which correspond roughly to the medical malpractice instances identified in Hippocratic collection.

**Results:** The Hippocratic authors touch on some issues which are essential to the contemporary theory of medical error and negligence, which, however, cannot yet unquestionably address these issues. Among others, they refer to errors that contemporarily might be viewed as technical human errors, errors of omission, or errors which were unavoidable in the context of applied ancient Greek medicine as is the case of injuries that are not based on physician's fault, or situations where the diagnosis of the particular disease or causal link between the physician's breach of duty and the damage suffered, was difficult or even impossible. Interestingly, the Hippocratic authors underscore some errors which might not be based on physician's fault.

**Conclusion:** The passages mentioned in this paper, originating from the Hippocratic collection that refer to medical malpractice, imply an awareness of what is currently discussed as medical malpractice. This consideration may carry some weight, in particular when adopting a flexible traditionalist approach to the medical liability rules. HIPPOKRATIA 2019, 23(3): 99-105.

**Keywords:** Hippocratic collection, Corpus, medical error, malpractice, medical negligence, unpreventable, system error, causal link, complication, error disclosure

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### Introduction

The Hippocratic physician was mainly a healer and a craftsman above all else. He had to make his living from treating patients in his private practice or/and in different locations while traveling in search of patients; such a practice was quite usual in archaic and classical Greece. Nevertheless, today it seems somewhat incompatible with the professional integrity and dignity of a contemporary physician. In terms of social status, the physician was ranked equally with any other craftsman. A physician could practice medicine without any proof of medical education, skill, or experience. There was no normative framework to define the qualifications for becoming a physician. That is to say, physicians were not licensed; it was only their reputation that could differentiate physicians from other craftsmen.

Moreover, physicians were not generally liable for malpractice<sup>1</sup>. In light of Hippocratic Corpus, "the ethics of the medical craftsman was reshaped in accordance

with the various systems of philosophy" as Edelstein wisely notes<sup>2</sup>. Note, however, that of the approximately 70 works in the "Hippocratic Collection", many may not be by Hippocrates. Hence in this paper, we use the term "Hippocratic authors". We repeatedly quote the treatise *Affections*. Importantly, Galen says that *Affections* "is not writing worthy of the name of Hippocrates"<sup>3</sup>. However, elsewhere he "is not excluding the possibility that Hippocrates could be the author"<sup>3</sup>.

We carefully reviewed the Hippocratic collection to identify instances that are related to the topic of medical malpractice and medical negligence. The close study of the passages in the Hippocratic collection that refer to medical malpractice or negligence would be thought of as having some historical and ethical-normative importance, especially when considering these cases against the contemporary background of medical negligence.

The Hippocratic collection has mostly the form of guidance: it says what a physician must do and how to

do the right thing. Notwithstanding, it is interesting that the Hippocratic author of *Ancient Medicine* recognizes that physicians are most likely to make mistakes. “Him, the physician who makes only small mistakes, I would praise a lot”<sup>4</sup>.

We should bear in mind that not every adverse event is based on the physician’s fault. For instance, if a disease is described as acute, it may defeat the patient, and this is not physician’s fault. In *Affections*, we read the following statement: “But if the physician treats [the patient] either incorrectly or out of ignorance and the patient is overcome [by the disease], this is physician’s fault”<sup>5</sup>.

The aim of the present paper is two-fold. First, it reviews the Hippocratic collection to identify instances related to the issue of medical malpractice and medical negligence. Second, it discusses the results viewed from today’s perspective, in the context of contemporary theories of liability in malpractice cases.

### Methodological aspects

The review of the sources (works of the Hippocratic collection) was mainly performed by the first author. The sources were accessed in the original, translated in the Modern Greek language. The works were carefully reviewed and considered to indicate and cast a light on the passages referred to medical malpractice or negligence. We focused mainly on the works i) *Ancient Medicine*. *Airs, Waters, Places*, ii) *Epidemics I and III*, and iii) *Affections*. *Diseases I and II*. The review of the available contemporary literature about medical malpractice and liability was mainly performed by the second (corresponding) author. A focused narrative review was conducted. We reviewed the relevant literature in law and medicine to indicate the relevant items which would facilitate today’s perspective. The keywords used on Google scholar and PubMed Central were: “unpreventable medical error”, “system error”, “no-fault compensation system”, “complication”, “physicians’ liability”, “medical negligence”, “causal link”, “error disclosure”, and “medical malpractice”.

In our narrative review, we followed the so-called “best-evidence synthesis” approach put forth by Slavin<sup>6</sup>. Namely, we considered the evidence carefully and “put forth conclusions or hypotheses about where the weight of the evidence lies”.

It is noteworthy that the quotes from the sources (works of Hippocratic collection) we cite in the present paper do not minutely correspond to the exact words of the respective sources in our reference list. We attempted word for word translation of the indicated passages from the Modern Greek into English for the purpose of illustrating the topics for discussion from today’s perspective. Note, however, that while translating, we were placing the Greek passages side-by-side to the respective passages included in the English language editions of the sources (listed in the reference list of this paper) to inform our work better.

### Hippocratic references to medical malpractice

The Hippocratic authors clearly specify in *Diseases I* what they believed was correct or incorrect in medicine and surgery<sup>5</sup>. More particularly, as to the latter, the list is quite long: “not to recognize that there is pus in an ulcer or tubercle; not to recognize fractures or dislocations; not to recognize when probing the skull whether the bone is fractured; not to be able to succeed in inserting a tube into the bladder; not to recognize that there is a stone in the bladder; not to recognize pus by succession; when incising or cauterizing where there is not enough depth or width, or to incise or cauterize where you should not” and “in the administration of treatment to patients (...): if a person moistens when he should dry, or dries when he should moisten; if he should fatten, but it is not administered the treatment for doing so; if he does not attenuate when he should attenuate, or cooling does not cool, or heating does not heat, or promoting maturation of pus does not do so, and so on in like manner”. On the other hand, “correct is to recognize what diseases are and whence they come” and “which are long and which are short”. Likewise, “which are mortal and which are not”; “which are in the process of changing into others” and “which are increasing and which are diminishing; which things are major and which things are minor”. “To treat the diseases that are curable, but to recognize the incurable diseases, and to know why they are incurable; to treat patients with curable diseases, thus benefiting them by the provision of treatment, to the extent possible”<sup>5</sup>. Speaking in terms of modern medical malpractice theory, the Hippocratic authors indicate what constitutes the physician’s standard (and hence, the duty of medical care). They describe a number of essential skills needed for a physician to be able to practice the medical profession.

Furthermore, the Hippocratic authors discuss a factor believed to play a crucial role in errors: misfortune. They clearly state that bad results may be brought about by physicians under the profound influence of the factor “bad luck” on the events. We cite the following quotation as illustrative of this observation: “by giving a medication (considered appropriate for cleaning up bile or phlegm from the upper part of the human body) to a patient that previously had no obvious pain in his chest, they [may] have caused a vessel in his chest to become ruptured from vomiting, and [thus] a new disease to arise. If they have given a type of medication that has effects on the upper part of a pregnant woman’s body, it may evacuate the lower cavity [of her body] and result in a miscarriage of the fetus. If one observes that [in case of] a patient with internal suppuration, the cavity has a flux, it is fatal. It has happened to a physician to cure eyes by anointing them [but, notwithstanding this,] it may result in excruciating pain; if this is the case, the eye may become ruptured and blind, and [then] people hold the physician responsible, because of [the treatment with] the anointing [substance]. If a physician administers something to a woman in childbed for the pain in her abdomen, and [then] she gets worse or even dies, the physician is blamed [for the adverse outcome]”<sup>5</sup>.

Finally, the Hippocratic authors provide a kind of advocacy for physicians. They recognize that people find it easy to blame physicians, even for adverse outcomes resulting naturally during the course of a disease. The authors specify that adverse events may occur in cases where there is no physician's fault. In this perspective, they describe a condition where "[tissues around] ulcers become swollen, and in certain diseases, pains occur". In medical practice, some things are possible to be done while others are impossible to do. For instance, "if a cord (=peripheral nerve) is severed, it is impossible to link the fragments; this is also the case with the bladder, the intestine -if it is part of the thin one- a blood vessel, the narrow part of the jaw, or the skin of the genitalia"<sup>5</sup>. The physician thus, cannot fix everything. A fascinating point that Hippocratic authors raise is that patients blame physicians for an adverse event, while they do not praise them in case they get better, holding that the patient ended up being in a better state of health due to the natural course of the disease<sup>5</sup>.

Below, we specify some instances in the Hippocratic collection, where the authors admit malpractice. Specifically:

1. The case of The Man from Malia: a loaded cart ran over him, thus injuring him in the rib area, and broking some of his ribs. A collection of pus was gradually developed within the area below the ribs. Although it was cauterized below the spleen and treated with tampons, it continued for ten months and when the skin was incised, an opening into the peritoneum appeared, leading in two directions: there was a rotten channel running to the kidney and the bones. His body was in a bilious condition [jaundice], although none had observed it before. In his body generally and especially in the problematic [anatomic] area there was a great quantity of putridity arisen from the peritoneum and other flesh, which should be immediately removed, if possible, by using a drying drug, so long as the man had any strength; since he did not improve from the damp (drugs), but grew purulent. Since the tampons held the moisture, he had shivering and fever, and his suppuration was expanded. There was flowing forth a black and foul-smelling matter. Before starting any treatment, it was flowing out in considerable quantities every day. However, it was not flowing freely. It was recognized that the nature of the disease was much deeper than just below the skin. Even if he had been properly treated in respect of all the manifestations, it seems very unlikely that he would survive. He also experienced diarrhea (Epidemics 5, vol. 7, sect. 26: 177-179)<sup>7</sup>.

2. In Omilus, a young (roughly twelve-year-old) girl died in midsummer from a wound in the head, on the fourteenth day [of the healing process]. Someone hit her with a door and shattered her skull. The sutures [of the skull] were encompassed in the wound. This was properly considered a situation that needs trephination. The skull was trephined. However, the procedure was not carried out in a completely appropriate manner. As some [fragments of] bone was left, pus accumulated there. On the eighth day [of the healing process], she had shiver-

ing and fever. Then, although she was free from fever, she was not in a completely healthy state. Her situation was the same as the previous days. On the ninth day [of the healing process], she was trephined again, and a little quantity of pus appeared along with a little blood. The membrane was intact. She fell asleep. Nevertheless, the fever did not reduce again. Spasms happened in her left hand, despite the wound being on the right side (Epidemics 5, vol. 7, sect. 28: 179-181)<sup>7</sup>.

3. Autonomus in Omilus died on the 16<sup>th</sup> day [of his healing process] from a head wound in midsummer. A stone, thrown by hand, hit him on the sutures [of the skull] in the middle of the bregma (in the front of head). Was unaware of whether to trephine because I did not notice that the sutures were involved in the injury caused by the weapon. This became obvious only later. First, he had sharp pain towards the collarbone, and later towards both sides of the head. Besides, he had convulsions in both arms, because the wound was in the middle of the head and on the bregma. He was trephined on the fifteenth day, and some pus flowed out [through the hole]. Nevertheless, the membrane [dura] appeared intact (Epidemics 5, vol. 7, sect. 27: 179)<sup>7</sup>.

4. The Man from Cyrene in Omilus: a quantity of pus accumulated in his lower abdomen. However, there was a thirty days delay in cauterization. He was much better off, and the pus in his abdomen was dried up. In the hottest season, however, as he used to eat fruit and other food that he should not eat, he experienced fever and diarrhea, and died (Epidemics 5, vol. 7, sect. 29: 181)<sup>7</sup>.

5. The case of Hecason, in Omilus: there was also delay in cauterization like the case described in the Man from Cyrene. Although his abdomen became almost dried-up, he experienced dysentery. After having recovered from dysentery, he started eating everything until edema was developed in every part of his body. Then, the abscess burst and let out the pus, causing diarrhea and death (Epidemics 5, vol. 7, sect. 30: 181)<sup>7</sup>.

6. At the siege of Datum, Tychon was hit in the chest by a catapult. Shortly later, he recovered by raucous laughter. The patient and I got the impression that the physician who removed the wood left a part of the shaft in the diaphragm. Towards evening, the physician administered to him an enema and a medication taken by mouth. Then, he spent the first night in discomfort. At daybreak, the physician and others got the impression that he was better off. However, he died in midday (Epidemics 7, vol. 7, sect. 121: 413)<sup>7</sup>.

## Discussion

This review encouraged us to take a more in-depth look at the writings of the Hippocratic authors who specified cases related to medical negligence, thereby touching on issues that modern medical ethics and law cannot yet address unquestionably. It is important to bear in mind that even today, concepts like negligence, medical error, or complication are points of controversy.

*Physician and error*

Nowadays, the ever-growing risk of malpractice litigation causes physicians to report practicing medicine defensively. That is to say, they perform medical care primarily to reduce the risk of being sued. Hence, they either perform more tests or procedures than necessary (positive defensive medicine) or refuse to care for high-risk patients (negative defensive medicine). In jurisdictions with increasingly litigious environments, physicians are afraid of being accused of medical errors which, however, were unpreventable in reality. Interestingly, the Hippocratic authors already had argued that it is not easy for a physician to make only small mistakes, and that not every adverse event is based on the physician's fault.

Medical liability is, by its very nature, a matter of subjective attitude and behavior towards the events included in a healing procedure. Medical negligence is a decision-based failure to meet the required standards of care and prudence/diligence<sup>8</sup>. As exhibited above, the Hippocratic authors remark what situations a physician should be able to recognize or what a physician should do. These descriptions might be regarded as a primitive form of the medical standard of care. What matters is what a physician ought to do. If a physician was adequately prudent and in accordance with his duty of care, he should not be considered culpable for a medical error. According to the French theory (developed in the late 19<sup>th</sup> century), physicians are bound by "obligations of means", that is to say, an obligation to provide the necessary means with prudence and diligence to achieve a particular result. They are not bound by obligations to achieve a certain result. Physicians are healers, not builders or contactors. Due to the very nature of humans and diseases, several adverse events may occur in the course of medical treatment despite the fact that a physician has provided all the necessary means and showed the necessary prudence. These adverse events may prevent or impede the achievement of the pursued goal. This is the case with the controversial concept of complication.

Notwithstanding, in recent years, many jurisdictions follow a trend towards focusing on patient's harm rather than on physician when it comes to civil medical liability. Thus, the physician's liability tends to be viewed as a contractor's/builder's liability. In Greece, the party who bears the burden of proof in civil cases is regulated by rules concerning consumers of services (article 8, law No 2251/1994)<sup>9</sup>. All the claimant has to prove is that medical error is generally likely to cause the type of injury claimed. In establishing actual causality, therefore, the burden of proof is shifted to the physician. The physician is held liable unless he can raise a sufficient defense to rebut the claims.

Many medical negligence cases should not be based upon conceptions of fault because they are too complex and difficult, both during the actual events and in evaluating those events afterward. The so-called "no-fault" compensation system seems to be fair to be applied when it comes to injuries caused during super high-risk surgical procedures, where surgeon negligence is hard to ascer-

tain<sup>10</sup>. Indeed, in super high-risk surgical procedures (i.e., in endoscopic sinus surgery-ESS), even a minimal surgical maneuver may result in a serious complication. This may happen even if the surgeon is experienced, skillful, and prudent<sup>11-13</sup>.

Even if a physician is adequately prudent and committed to the standard of duty of care, an adverse event may happen because of the very nature of the medical procedure. Therefore, in the context of criminal medical liability, many jurisdictions limit criminal penalties to egregious cases of medical error. This is not the case with Greek jurisdiction. However, in Italy, according to the so-called "Balduzzi Decree" (Law Decree No 158/2012)<sup>14</sup> physicians who acted according to the available guidelines are not held criminally liable for simple negligence.

System errors are errors for which the responsibility is institutional rather than individual. A system error is one that is attributable to the healthcare system or bureaucracy. According to Sohn, negligence is a decision-based failure to meet required standards of care, whereas a system error is an "occasional", "simple", "unwitting", "unavoidable" human error<sup>8</sup>. Sohn remarks that negligence is not at the heart of most medical errors<sup>8</sup>. There may be errors that are inherent in the excellence of a medical specialty<sup>15</sup>.

#### *The concept of complication*

The Hippocratic authors remark that some medical errors may arise due to the factor "misfortune". Besides, they highlight that a physician should not be blamed for things that resulted from the nature of the disease and its course. In terms of modern medical malpractice theory, the Hippocratic authors refer to the concept complication. In the contemporary practice of addressing medical malpractices, there is a crucial point of controversy between physicians and lawyers. On the one hand, physicians often argue that a given adverse event constitutes unpreventable complication due to the very nature of humans and diseases. On the other hand, lawyers often argue that it constitutes preventable and hence culpable error based on medical negligence. Kim puts it best in saying that "complications refer to unexpected events that may occur even after adequate treatment and occur in relation to a given disease... However, in cases of malpractice, criminal and civil penalties are unavoidable if the medical staff's negligence is evident and results in a fatal outcome"<sup>16,17</sup>.

At any rate, the line of distinction between unpreventable complication and culpable error seems to be blurred. Furthermore, it may be epistemologically extremely difficult or unattainable to establish whether an adverse outcome in a given case was truly unpreventable.

#### *Classification of medical errors*

In modern medical malpractice theory, a variety of different types of medical errors has been developed. In principle, they are failures that are categorized as lapses,

slips, and mistakes. However, the need for tolerance to human performance led to the idea of human technical error, such as the error resulting from an erroneous medical handling (or maneuver) or a foreign object left in the patient's body. This might be the case with Tychon (who was hit at the Siege of Datum by a catapult) wherein all likelihood, a part of the wooden weapon was left in the patient's body. Nevertheless, it is not clear whether the physician who removed it was careless. Moreover, it is not clear whether it was extremely difficult or impossible to remove the wooden weapon from the wounded body completely despite the fact that he showed the required diligence. Much of the same holds for the case of the twelve-year-old girl in Omilus where "...the skull was trephined. However, the procedure was not carried out in a completely correct way. As some [fragments of] bone was left, pus accumulated there". However, in this case, the formulation of the statement implicates rather medical inadvertence (negligence). Noteworthy is that there are errors (technical errors or errors in judgment) that are inherent in practicing certain medical specialties. These errors may be regarded as compatible with the excellence of these specialties (i.e., in surgery) and, hence, might be thought of as being acceptable<sup>18</sup>.

Furthermore, medical errors may be categorized as diagnostic errors or errors in treatment. In case that there are not sufficient manifestations, the features or symptoms of a disease may go actually undetected. This may result in unwitting (acceptable) diagnostic medical error. This was the case with Autonomus in Omilus where the physician made the following statement: "Was unaware of whether to trephine because I did not notice that the sutures were involved in the injury caused by the weapon, due to the fact that this became obvious only later". The formulation of the statement reveals that the author accepts that *impossibile nulla est obligatio*. This principle was formulated many years later in the legal system of ancient Rome (Roman law). The Hippocratic authors mention some things that are impossible to be done under the holding at the time circumstances.

Moreover, medical errors may be categorized as errors of omission (where a physician failed to act when he should have) or errors of commission (where a physician acted though acted wrongly). Importantly, in the specified above cases of Hecason in Omilus and man from Cyrene in Omilus, the Hippocratic authors stress the omission that causes a medical error (i.e., state that there was a significant delay in cauterization).

#### *The causal link*

Medical malpractice is a complex phenomenon. At any rate, for the judicial evaluation of presumed medical malpractice, it is fundamental to ascertain the causal link between the ascertained adverse event and the suspected medical malpractice. However, such a causal link is not always easy to be recognized even when it comes to judicial autopsy cases<sup>19</sup>. Hence, it constitutes a major problem in addressing medical malpractice.

In the aforementioned cases of Hecason in Omilus and of the man from Cyrene in Omilus, the Hippocratic authors connect the omission with the serious adverse event of the patient's death, thus establishing a causal link between omission and death. The establishment of a causal link between injury and omission may be even nowadays much more problematic than the establishment of a causal link between injury and commission, given that it is not always easy to provide adequate evidence for it or to support such a linkage through the lens of legal theory or ethics.

Interestingly, in the Man from Malia, the Hippocratic authors go further into the concept of a causal link, namely, a crucial issue when addressing a case of medical negligence even nowadays. They state that "even if he had been properly treated in respect of all the manifestations, it seems very unlikely that he would survive". This refers to the contemporary rules for causal link mostly applied in medical negligence as the well-known *sine qua non* rule. According to this rule, a causal connection exists between a physician's particular act or omission and an adverse event (i.e., injury) when the adverse event would not have arisen but for the particular act or omission. If an injury would not have occurred but for a physician's act, this finding establishes that the particular act or omission is the proximate cause of the injury<sup>20</sup>.

Interestingly, Hippocratic authors stress the crucial role of misfortune in the occurrence of an adverse event. In terms of modern medical negligence theory, they (unwittingly) highlight the role of a causal link in establishing a physician's responsibility for a particular occurrence.

#### *The disclosure of errors*

The Hippocratic authors disclose medical errors. This probably is due to the fact that physicians were given immunity from medical liability. In ancient Greece, the practice of medicine was a paternalistic affair. There was a full privilege of being a physician. Only the middle of 19<sup>th</sup> century marked the beginning of the decline of this privilege. Then, the rise of bioethics gave priority to patient's autonomy. However, the disclosure of medical errors secures better relationships between physician and patient, reducing the risk of litigation and promoting the in-depth investigation of the erroneous events, thus reducing the risk of repeating errors in the future. The negligence-based medical liability system (tort liability system) discourages physicians disclosing errors to patients because they constantly feel under legal threat, as opposed to the so-called "no-fault compensation system". Importantly, the so-called "system errors" would be more fairly addressed through the no-fault compensation system<sup>20</sup>.

Given that the "no-fault compensation system" is thought of as having advantages and disadvantages, its implementation is a point of controversy. However, it is reliably argued in the literature that the "no-fault" system has a number of advantages as compared to the negligence-based model<sup>10,21-27</sup>.

Importantly, the “no-fault” compensation system helps sustain open disclosure policies. It facilitates the disclosure of erroneous events by physicians because they have less fear that disclosing adverse events increases litigation risk. According to Tsimitsiou et al, in Greece, the patients’ desire for open and timely disclosure is very robust, and “exceeds their expectations for financial compensation”<sup>28</sup>. Such disclosure of medical error is likely to reduce the likelihood of developing litigious intention noticeably. Besides, under the “no-fault system”, some injured patients may seek nonmonetary types of redress<sup>29</sup>. Not surprisingly, the “no-fault” system seems to be fair to be applied when it comes to injuries caused during super high-risk surgical procedures, even though the surgeon is experienced, skillful, and prudent<sup>12,20,30</sup>.

In Greece, the “no-fault” compensation system found advocates in the legal theory, because of how the Greek medical liability system works<sup>31</sup>.

#### *Medical responsibility*

The above-mentioned passages identified in Hippocratic collection (related to medical malpractice) imply an awareness of what is currently discussed as medical malpractice. In our opinion, this expresses the commitment of Hippocratic physicians to the value of professional responsibility (and accountability) as one of the professional values at that time. Unsurprisingly, modern clinical practice is imbued with Hippocratic professional values, especially from a traditionalist perspective. Somerville puts it best in writing that physicians’ intuitions about what they understand to be the core purpose of medicine is related to “professional values going back to the Hippocratic tradition which long preceded any notion of patient autonomy or rights”<sup>32</sup>. The physicians’ sense of accountability should be reckoned with when considering the theories of liability in medical malpractice cases, especially from a flexible traditionalist perspective.

#### *Hippocratic collection and the Code of Hammurabi*

It is noteworthy that, according to the Code of Hammurabi that was a compilation of laws on every aspect of life, medical malpractice was recognized and was punishable by law. “Carelessness and neglect were severely punished, as in the case of the unskillful physician...”<sup>33</sup>. Furthermore, the Code recognized the importance of intention<sup>35</sup>. It is argued that “the Code of Hammurabi can be considered the genesis of the current concepts of healthcare”<sup>34</sup>. However, it is beyond criticism that Hippocratic collection (particularly The Hippocratic Oath) sets out the ethical standards in medical practice (and requires high ethical standards from physicians) as opposed to the Code of Hammurabi that focuses on the legal consequences of medical malpractice. In this ethical context, Hippocratic authors do not place a high weight on punishment in cases of medical malpractice. Importantly, the Hippocratic authors highlight that some errors may not be based on the physician’s fault.

The ethical-legal “spirit” of Hippocratic collection

goes beyond the Hippocratic author(s) viewpoint and reflects a specific professional culture of commitment to the medical profession’s ethical principles and values.

#### *Conclusion*

The Hippocratic authors touch on some issues essential to the contemporary theory of medical error and negligence. Medical ethics and law cannot yet unquestionably address these controversial issues. Among others, they refer to errors that temporarily might be viewed as technical human errors, errors of omission, or errors which were unavoidable in the context of applied ancient Greek medicine, as is the case with injuries that are not based on physician’s fault. That may happen, if for instance, it is exceedingly difficult to diagnose a disease or to establish a causal link between the physician’s breach of duty and the damage suffered. Interestingly, the Hippocratic authors highlight that some errors may not be based on the physician’s fault.

We conclude that the identified malpractice-related passages in Hippocratic collection imply an awareness of what is currently discussed as medical malpractice.

#### **Conflict of interest**

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