

PHILOSOPHY ΦΙΛΟΣΟΦΙΑ

Hippocrates' Aphorisms on nephrology and the application of his Spirit for caring renal patients

Nephrology is one of the newest medical specialties that developed during the previous century. The earliest scientific approach to clinical nephrology, however, is attributed to Hippocrates, granting him the title "Father of clinical nephrology". The principal essence of renal medicine is in fact hidden within the Hippocratic theory of the four humors, as it remarkably resembles the main kidney function, which is the preservation of fluid and electrolyte homeostasis. Hippocrates excelled in the art of uroscopy for the diagnosis of nephrological conditions. Moreover, within the Hippocratic corpus there are many references to renal problems, such as kidney stones, gout, nephrotic syndrome, haematuria, and acute tubular necrosis. The writer provided a detailed description of their symptoms, accompanied with prognostic and therapeutic guidance. Nowadays renal patients' care has progressed far beyond the Hippocratic writings. Renal replacement therapy, biological treatments and organ transplantation have altered the natural course of renal disease. The modern nephrologist must face several dilemmas associated with a chronic terminal condition, such as end-of-life treatment, palliative care and support to both patients and their families. At this time, the Hippocratic Spirit emerges as an ethical guide and constant reminder of the moral responsibilities linked to medical profession, in the Spirit of the Hippocratic saying "benefit or do no harm".

1. INTRODUCTION

Nephrology is one of the newest medical specialties of the previous century. Its recognition as a distinct specialty and not as part of urology, internal medicine or clinical physiology was only possible after several revolutionary scientific advances, such as the analysis of glomerular filtrate by micropuncture in 1924 by Wearn and Richard, or the first successful haemodialysis session in 1945 by Kolff. A search for the earliest scientific approach to clinical nephrology, however, leads to Hippocratic medicine, granting Hippocrates the title "Father of clinical nephrology".

2. NEPHROLOGY IN THE HIPPOCRATIC COLLECTION

The contribution of Hippocratic medicine to nephrology is significant and involves several aspects of clinical practice. First of all, Hippocrates used many nephrological terms such as *nephros*, *nephritis*, *hematuria*, *dysuria*, *lithos* that are still in use.¹ In antiquity, there was limited knowledge

of human anatomy and physiology. Despite that fact, he made correct observations regarding the shape and place of the kidneys as well as their relation to urine formation.² It is believed that Hippocrates was the first to conceive the fundamental principle of kidney function, which is preservation of volume and composition of the body fluids, or homeostasis.³ In the humoral theory, he proposed that the human body is made up of four substances, called the humors. Each of these humors, phlegm, blood, yellow bile and black bile, was linked to an element in the universe and to a temperament. Perfect balance of the four humors of the body ensured ideal health whereas imbalance, or dyscrasia, was the direct cause of all disease. Therefore, medical efforts should always focus on preserving or restoring that balance.⁴

As a treatment, Hippocrates recommended the practice of "purging", which means intentionally removing from the body substances that are abundant or disturbing and cannot be removed otherwise. The similarity to the principles of modern renal replacement therapy is astonishing.

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S. Provatopoulou,¹
P.N. Ziropoulos²

¹Department of Nephrology,
General Hospital of Lamia, Lamia

²Society for the Dissemination
of the Hippocratic Spirit, Athens, Greece

Οι Αφορισμοί του Ιπποκράτους
για τη Νεφρολογία και η εφαρμογή
του Πνεύματός του στη φροντίδα
των νεφροπαθών

Περίληψη στο τέλος του άρθρου

Key words

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Purging

"In purging we should bring away such matters from the body as it would be advantageous had they come away spontaneously; but those of an opposite character should be stopped." [Aphorism IV, 2].

"If the matters which are purged be such as should be purged, it is beneficial and well borne; but if the contrary, with difficulty." [Aphorism IV, 3].²

Hippocrates excelled in the art of uroscopy. He believed that no other organ or system of the human body can provide so much diagnostic or prognostic information by its excretion as does the urinary tract.⁵ In *Aphorism VII* (67), he stated that the urine must be observed to see how far it resembles that passed in health.

"We must look to the urinary evacuations, whether they resemble those of persons in health; if not at all so, they are particularly morbid, but if they are like those of healthy persons, they are not at all morbid."

For example,

"Bubbles appearing on the surface of the urine indicate disease of the kidneys and a prolonged illness." [Aphorism VII, 34]

refers to the classic description of proteinuria.

"When small fleshy substances like hairs are discharged along with thick urine, these substances come from the kidneys." [Aphorism IV, 76]

is correspondent to red blood cell casts.

In the Hippocratic corpus there are more than 30 aphorisms of nephrological interest which included diagnostic, prognostic and therapeutic observations.²

"When the urine is transparent and white, it is bad; it appears principally in cases of phrenitis." [Aphorism IV, 72]

probably refers to a case of advanced renal failure with uremic encephalopathy. Other examples are descriptions of renal papillary necrosis, acute pyelonephritis and postinfectious glomerulonephritis.

"In cases where there is a spontaneous discharge of bloody urine, it indicates rupture of a small vein in the kidneys." [Aphorism IV, 78]

"When there is a farinaceous sediment in the urine during fever, it indicates a protracted illness." [Aphorism VII, 31]

"In those cases, in which the urine is thin at first, and the sediments become bilious, an acute disease is indicated." [Aphorism VII, 32].^{2,6}

Gout, its epidemiology and its relation with sex hormones were described with surprising detail.

"Eunuchs do not take the gout, nor become bald" [Aphorism VI, 28].

"A woman does not take the gout, unless her menses be stopped" [Aphorism VI, 29].

"A young man [boy] does not take the gout until he indulges in coition" [Aphorism VI, 30].²

A significant contribution of Hippocrates is the pathophysiology of kidney stone formation and renal colic.

"Calculus forms in the bladder of those in whose urine sandy particles are deposited" [Aphorism IV, 79].

"When pure blood and clots are discharged with urine, strangury, pain at the bottom of the belly and in the perineum, likewise occurring, there exists disease in the bladder" [Aphorism IV, 80].

Moreover, he was the first to comment on the disease epidemiology and to address the importance of water quality. Many of his interpretations are considered accurate until today.⁵

The prognosis of renal disease in the Hippocratic writings is of great interest. Hippocrates observed that many of the disorders are long-standing and fatal.

"Diseases of the kidney and of the bladder are difficult to cure in the aged" [Aphorism VI, 6].³

"When cough and redness of the eyes succeed vomiting, the indication is bad" [Aphorism VII, 47]

referring to the uremic state.⁶

"When much urine is passed during the night, it indicates slight retreat of the disease" [Aphorism IV, 83].²

Therapeutically, Hippocrates believed that diet modifications and physical exercise are key elements for cure.^{6,7} The purpose of treatment was to achieve normalisation of the constitution of the body fluids.

"Bodies not properly cleansed, the more you feed them the more you injure" [Aphorism II, 10].

"Diseases which arise from depletion are cured by depletion; and those that arise from depletion are cured by repletion; and in general, diseases are cured by their contraries" [Aphorism II, 22].

He also recommended use of herbal extracts and other remedies.

"Strangury and dysuria are cured by drinking pure wine [drunkenness], and venesection; open the vein on the inside" [Aphorism VII, 48].²

Hippocrates recommended surgery only in cases where other treatments failed.

“What drugs will not cure, the knife will.” [Aphorism VII, 87].³

3. RENAL PATIENTS' CARE

Care of renal patients is particularly challenging due to the slow progression of chronic kidney disease, its debilitating nature, its inevitable outcome and the ethical issues that arise during its course. The modern nephrologist must face moral dilemmas that confound the life of a chronic patient, such as coping with everyday problems, dealing with end-of-life treatment, and providing support to patients and their families. During that time, the Hippocratic teachings can offer the struggling physician guidance, motivation and courage.

Hippocrates, as a physician-philosopher, suggested looking beyond the physical features of diseases and considering the patient as a unique psychosomatic entity, therefore treating the body and the soul.⁸ He advised respect for the power of nature and consciousness in the use of medical treatments, along with wisdom and rationalism when practicing the art of medicine. Moreover, the Hippocratic writings summarised all the ethical principles that accompany medical practice throughout the centuries. Hippocratic medicine taught physicians to behave with integrity, discretion and honesty towards their patients, consideration for their fears and feelings but also adherence to the rules of their profession.⁹ Many of the quotes of the Hippocratic collection, including the Oath, are dedicated

to the moral code of medicine and the sacredness of the physician-patient relationship, which are highly applicable in modern nephrological practice.

“Life is short, the Art long; opportunity fleeting, experiment treacherous, judgment difficult”.

“The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants and the externals cooperate”.

“The Medical Art has three actors: the physician, the patients and the disease. The physician and the patient must be allied against the disease in order to fight it”.

“To cure sometimes, to relieve often, and to comfort always”.

“The place of a physician is at the bedside of his patient”.

“It is more important to know what sort of person has a disease than to know what sort of disease a person has”.

“Science is the father of knowledge, but opinion breeds ignorance”.

4. CONCLUSIONS

At this difficult time for mankind, the Hippocratic Spirit emerges as an ethical guide and reminder of the moral responsibilities linked to the medical profession. Through the study of the Hippocratic Corpus, the modern physician can appreciate the true meaning of the Hippocratic saying “benefit or do no harm” and apply it in everyday medical practice against moral pressures, affirming that Medicine is the greatest and most humane of all sciences.

ΠΕΡΙΛΗΨΗ

Οι Αφορισμοί του Ιπποκράτους για τη Νεφρολογία και η εφαρμογή του Πνεύματός του στη φροντίδα των νεφροπαθών

Σ. ΠΡΟΒΑΤΟΠΟΥΛΟΥ,¹ Π.Ν. ΖΗΡΟΓΙΑΝΝΗΣ²

¹Νεφρολογική Κλινική, Γενικό Νοσοκομείο Λαμίας, Λαμία, ²Εταιρεία Διάδοσης Ιπποκρατείου Πνεύματος, Αθήνα

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Αν και η Νεφρολογία αποτελεί μια από τις νεότερες ιατρικές ειδικότητες, οι βάσεις της ανάγονται στην εποχή του Ιπποκράτη δίνοντάς του τον τίτλο του «Πατέρα της Κλινικής Νεφρολογίας». Η Ιπποκρατική θεωρία των 4 χυμών αντικατοπτρίζει τη θεμελιώδη αρχή της Νεφρολογίας που είναι η διατήρηση της ομοιοστασίας των υγρών και ηλεκτρολυτών στον οργανισμό. Ο Ιπποκράτης ανέπτυξε την τεχνική της ουροσκοπίας για τη διάγνωση νεφρικών παθήσεων. Επί πλέον, στο Ιπποκρατικό σώμα περιέχονται πολλές αναφορές σε νεφρικές διαταραχές, όπως λιθίαση, ποδάγρα, νεφρωσικό σύνδρομο, αιματουρία, οξεία σκληρωτική νέκρωση. Σε αυτές περιλαμβάνεται η αναλυτική περιγραφή των συμπτωμάτων, η πρόγνωση τους και θεραπευτικές συστάσεις. Στη σύγχρονη εποχή, η φροντίδα των ασθενών με νεφρική νόσο έχει γίνει ιδιαίτερα απαιτητική, καθώς οι σύγχρονες θεραπείες και εξελίξεις στη θεραπεία έχουν με-

ταβάλλει τη φυσική πορεία της πάθησης. Ο σύγχρονος νεφρολόγος έρχεται αντιμέτωπος με σοβαρά διλήμματα τα οποία σχετίζονται με μια χρόνια ανίατη νόσο, όπως τη διαχείριση του τέλους της ζωής, την παρηγορητική φροντίδα, την υποστήριξη του ασθενή και των οικείων του. Ακριβώς σε αυτή τη στιγμή, το Ιπποκρατικό πνεύμα αναδεικνύεται ως ο ηθικός οδηγός, σύμβουλος και υπενθυμιστής του υψηλού ιατρικού φρονήματος στο πνεύμα της Ιπποκρατικής ρήσης «Ωφελείν ή μη βλάπτειν».

Λέξεις ευρητηρίου: Αφορισμοί, Ιατρική ηθική, Ιπποκράτης, Ιστορία Νεφρολογίας, Υποκλυσμοί

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Corresponding author:

S. Provatopoulou, 1 Gkionas street, 351 00 Lamia, Greece
e-mail: simellap@gmail.com