Aretaeus of Cappadocia and His Treatises on Diseases

Kapadokyalı Aretaeus ve Hastalıklar Üzerine Yazdığı Eseri

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ABSTRACT

Aretaeus of Cappadocia is considered as one of the greatest medical scholars of Greco-Roman antiquity after Hippocrates. He presumably was a native or at least a citizen of Cappadocia, a Roman province in Asia Minor (Turkey), and most likely lived around the middle of the second century (AD). His eight-volume treatise, written in Ionic Greek, entitled On the Causes, Symptoms and Cure of Acute and Chronic Diseases remained unknown until the middle of the 16th century when, in 1552, the first Latin edition was published. In this work, Aretaeus offered clinical descriptions of a number of diseases among which he gave classic accounts of asthma, epilepsy, pneumonia, tetanus, uterus cancer and different kinds of insanity. He differentiated nervous diseases and mental disorders and described hysteria, headaches, mania and melancholia. He also rendered the earliest clear accounts on coeliac disease, diphtheria and heart murmur, and gave diabetes its name.

KEYWORDS: Biography, Diagnosis, Disease, History of medicine

ÖZ


ANAHTAR SÖZÇÜKLER: Biyografi, Tanı, Hastalık, Tip tarihi

INTRODUCTION

Aretaeus of Cappadocia (Αρεταίος ο Καππαδόκης) - generally styled Aretaeus, the Cappadocian - is considered one of the greatest medical scholars of Greco-Roman antiquity after Hippocrates. His extant work, entitled On the Causes, Symptoms and Cure of Diseases is of immense significance in the history of medicine. In this eight-book treatise, Aretaeus offered clinical descriptions of many diseases with great accuracy.

ARETAEUS of CAPPADOCIA

Our knowledge of Aretaeus' biography is very limited and is mostly derived from circumstantial comments in his own writings as well as those in other medical texts from the succeeding centuries. As his epithet indicates, Aretaeus presumably was a native or at least a citizen of Cappadocia, a Roman province in Asia Minor, near the modern city of Kayseri, Turkey (2, 21). He was born between the time of Cornelius Celsus (30 BC-30 AD) and Galen of Pergamon (131-c. 200 AD) (4). It is also generally believed that Aretaeus studied in Alexandria and spent some time in Egypt, then practiced medicine in Rome, although there is no real evidence for these assumptions (2, 22).

In terms of his medical approach, in principle Aretaeus adhered to the Pneumatic School which held that health depended on bodily eukrasia, a harmonious balance between the basic elements (hot, cold, wet, and dry), and pneuma (refined airy element or spirit), a vital power which bound the elements (17, 28). Although the Doctrine of Pneuma goes back to Hippocrates, it did not become the basis of a school until Athenaeus of Sicily founded one in the first century AD.

Hippocrates, Thucydides and Homer are among the earlier authors who influenced Aretaeus (4). In fact, Aretaeus demonstrated his admiration of Hippocrates (fourth century BC) not only by writing in the dialect of Ionic Greek, which bears a considerable resemblance to the language of Hippocrates, but also in sometimes illustrating his theories with Hippocratic aphorisms and quotations taken from the Corpus Hippocraticum (22). Although he does not mention the name of the Greek historian Thucydides (fifth century BC), Aretaeus refers to the suspicion of the poisoning of the wells in Piraeus, which the historian mentions in his description of the 430 BC plague of Athens (4). Aretaeus also quotes Homer (eighth century BC) to embellish his writings and acclaims his name in the chapter on melancholy in the first book of his treatises (2).
Although Aretaeus wrote prolifically on a great variety of subjects, his only work that has reached us is his famous treatise, entitled *On the Causes, Symptoms, and Cure of Diseases*, to be discussed later in this paper. Aretaeus himself mentions the titles of four other works that are no longer extant: *On Fevers, On Diseases of Women, On Drugs*, and *On Surgery*.

**His Influence in the Early Middle Ages**

In terms of Aretaeus’ influence on other medical scholars, there is a lack of reference to his name in medical texts for several centuries. It is, indeed, a matter of curiosity that even though there is a considerable similarity to be found between Aretaeus’ and Galen’s writings and recommended therapies; Galen omits mention of Aretaeus’ name in his writings. This should, however, not be interpreted as evidence that they were unknown to one another (11, 21). Two possible reasons may be behind this: Aretaeus and Galen may have been rival practitioners, as rivalry among medical scholars of that period was quite common. Second, in accordance with the established usage of living authors by one another, the one may have avoided mentioning the other by name in order not to form a biased opinion of his own works (2, 21).

The first report of Aretaeus’ works occurs in the writings of Aëtius of Amida (sixth century AD), a medical writer and a chief physician in the court of Byzantine Emperor Justinian I. Aëtius adopts Galen’s theories and provides information from Aretaeus on diseases (14). Alexander of Tralles (sixth century AD) and Paul of Aegina (seventh century AD) also quoted Aretaeus by name in their writings (2, 21). Aretaeus then remained unnoticed for nearly a thousand years. Arab physicians of medieval times who followed the Latin writings of authors such as Oribasius, Caelius Aurelianus, and Alexander of Tralles, were unaware of him (8). It was in the middle of the 16th century that Aretaeus was again recognized when an original Greek manuscript of his celebrated treatise was discovered (2, 17).

**His Famous Work: On the Causes, Symptoms, and Cure of Diseases**

Aretaeus’ treatises are the only extant works produced by a member of the Pneumatic School. These treatises, written in Ionic Greek, include four texts divided into eight books as follows: i) *On the Causes and Symptoms of Acute Diseases*, ii) *On the Causes and Symptoms of Chronic Diseases*, iii) *On the Cure of Acute Diseases*, and iv) *On the Cure of Chronic Diseases*. The first five chapters of the first book as well as some parts of the third and fourth books have been lost (2) (Table I).

In parallel with the earliest printings in the 16th century of other authors of antiquity, the first edition of Aretaeus’ treatises was the Latin translation of Julius Paulus Crassus, a professor of medicine at Padua University. This translation was printed in 1552 in Venice, then reprinted in 1554 in Paris where the first Greek edition was also issued by Jacobus Goupylus in the same year (22, 27) (Figure 1).

These translations received such high praise from medical scholars in Europe that soon after, in 1574, an engraved portrait of Aretaeus was included in a book by Johannes Sambucus (1531-1584), a Hungarian physician and a humanist scholar, which compiled icons of ancient and modern physicians and philosophers (Figure 2). Many subsequent editions and commentaries in Latin and original Greek, as well as translations into several European languages, appeared later, even until the 21st century (27). Among them, the original Greek version and its English translation by Francis Adams (1796-1861), published by the Sydenham Society in 1856, has been one of the most cited primary references on Aretaeus’ writings (5, 19).

**Aretaeus’ Contributions to Medicine**

What makes Aretaeus so unique and significant for medical history is his remarkable ability to make keen observations.
Aretaeus of Cappadocia

Indeed, his work, *On the Causes, Symptoms, and Cure of Acute and Chronic Diseases*, was perspicuously written with picturesque accuracy. Aretaeus offered clinical descriptions of a number of diseases among which he gave the classic accounts of asthma, elephantiasis, epilepsy, pneumonia, tetanus, uterus cancer and different kinds of insanity (4, 10, 12, 20, 22, 25, 26). He differentiated nervous diseases and mental disorders, described hysteria, headaches, mania and melancholia (1). He also rendered the earliest clear accounts on coeliac disease, diabetes, diptheria and heart murmur as well as the first clear differentiation between cerebral and spinal paralysis (7, 9, 21).

Here are some major examples of his contributions to diagnostic medicine:

**Coeliac Disease**

Long before Samuel Gee's (1839-1911) description of coeliac disease in 1887, Aretaeus renders one of the earliest clinical accounts on this disease. He claims that it is more common among the aged and particularly in women, perhaps because these patients are believed more deficient in natural heat (6, 19). He draws a clear distinction between the chronic coeliac state and a continuous diarrhea that occurs in children through transitory intemperance of food (2, 5).

**Diabetes**

Aretaeus' text on diabetes exemplifies his breadth of knowledge. He describes diabetes as a dreadful, chronic disease that develops over a long period of time, most commonly in women (3, 15). The following is a clinical description by him, with certain portions omitted (2): "Diabetes is a wonderful affection, not very frequent among men, being a melting down of the flesh and limbs into urine.
Headaches
Aretaeus makes a distinction between three different types of headache: i) *cephalalgia*, by which he indicates a short-lasting, mild headache; ii) *cephalea*, referring to a chronic type of headache; and iii) *heterocrania*, a paroxysmal headache on one side of the head. According to Koehler and Wiel (2001), in the later, Aretaeus described not only what is called a migraine in modern understanding; most probably he classified symptomatic headache and facial neuralgia as *heterocrania* as well (13).

Heart Murmur
In his discussion of syncope, Aretaeus describes a feeble pulse, palpitations and also heart murmur as follows (2): “[t]hose dying in such cases have symptoms of heart affections, namely, pulse, small and feeble, *bruit* of the heart, with violent palpitation, vertigo, fainting, torpor, loss of tone in their limbs, sweating copious and unrestrainable, coldness of the whole body, insensibility, loss of utterance.”

Tetanus
Aretaeus gives the first elaborate description of a condition characterized by exceedingly painful spasms starting in the jaws and spreading to the rest of the body (16). According to him, the causes of these complaints include wounds, abortion, spasm owing to a severe blow in the neck and severe cold. Food is regurgitated through the nose, and suffocation sets in, with the face red and the eyes fixed. Although recovery is possible, the patient normally dies in agony within a short time (2).

Aretaeus’ writings clearly indicate that he gave importance to a careful regulation of diet, muscular exercises, massage, and mild drugs (15, 24). He also attached great importance to practical experience, suggesting that a physician should be familiar with certain drugs or treatments by experience (4). The Pneumatic School also influenced his drug therapy which was characterized by a small number of simple remedies. The first of his routine therapeutic measures was bleeding, including scarification and the use of leeches, and then purging. These may extend for a period of up to ten days. When the patient’s health allowed, he was encouraged to exercise; this was combined with a dietary regime consisting essentially of foods having diuretic properties and those which were easily digested and nourishing such as milk or wine. He also followed the conventional way of administering drugs in several different forms such as aqueous or vinous decoctions, cataplasms, and clysters (24).

Throughout the centuries following his work’s discovery, among European physicians, Aretaeus was considered second only to Hippocrates in his wisdom and scientific acumen (16).
Father of modern pathologic anatomy, the 18th century Italian physician Giambattista Morgagni (1682-1771) recognized that Aretaeus had performed dissections and drew inspiration from his writings (27). A renowned French physician and the inventor of the stethoscope, René Laennec (1781-1826) was one of the admirers of Aretaeus as well, placing him with Hippocrates as the outstanding authority of antiquity on the classification and description of diseases (21, 22). Interestingly enough, an unpublished Aretaeus translation by Laennec, which had been preserved at the library of the University of Nantes for more than 150 years, was edited with a commentary by Mirko D. Grmek and published in 2000 (23). Sir William Osler (1849-1919), a famous Canadian physician who has been described as the Father of Modern Medicine, writes critically that the art of observation had come to a standstill in modern times as compared with the work of Aretaeus (18).

**CONCLUSION**

Aretaeus of Cappadocia’s work is not only an outstanding example that reveals the scientific acumen of antique medicine, but is also a milestone in the history of diagnostic medicine. His eight-book treatise greatly influenced European physicians from the 16th century on. This is proof positive that the history of medicine is not only important for the content it provides, but also because it brings a fresh way of critical thinking about a variety of subjects linked to modern medical practice.

**REFERENCES**