

Aretaeus of Cappadocia: the forgotten physician

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Aretaeus of Cappadocia (probably first century AD) is one of the least known physicians of antiquity. Not quoted by contemporary medical writers, he was unknown to Arabic physicians of medieval times. His very significant contributions to medicine only became known when a manuscript was discovered and published in Latin in the sixteenth century. He was clearly a sound clinician and gifted medical author, responsible for the first recorded descriptions of steatorrhea (coeliac disease), diabetes mellitus and diphtheria. In addition, his descriptions of leprosy, asthma, tetanus, acute pneumonia and epilepsy (diseases already recognised in his day) were significantly superior to those of his predecessors. He was the first to describe a heart murmur (*bruit*).

Aretaeus van Kappadosië: die vergete geneesheer

Aretaeus van Kappadosië (waarskynlik eerste eeu nC) was een van die mins bekende geneeshere van die antieke tyd. Hy is selde deur tydgenootlike mediese skrywers aangehaal, en was ook by die middeleeuse Arabiese geneeshere onbekend. Sy besonder treffende geneeskunde bydraes het eers aan die lig gekom toe van sy manuskripte in die sestiende eeu ontdek en in Latyn vertaal is. Hy was klaarblyklik 'n puik geneesheer en begaafde skrywer, verantwoordelik vir die eerste aangetekende beskrywing van steattoree (seliak siekte), diabetes mellitus en difterie. Hierbenevens was sy beskrywings van melaatsheid, asma, tetanus, akute longontsteking en epilepsie beduidend beter as dié van sy voorgangers. Hy was die eerste persoon wat 'n hartgeruis (*bruii*) beskryf het.

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Aretaeus of Cappadocia is indeed a forgotten physician of antiquity. In modern times he is one of the least known medical authors of the Classical era. Galen of Pergamon, the most prominent physician in the Roman Empire, never mentioned him, and only three subsequent medical writers (Dioscorides of Anazarbus, Aëtius of Amida and Paul of Aegina) quoted him. He was ignored by the majority of Latin writers and unknown to the Arabic physicians of medieval times. Laennec (1781-1826) was one of the first to admire Aretaeus, placing him with Hippocrates as the outstanding authority of antiquity on the classification and description of disease. Currently he is recognised as a remarkably lucid and informed author, responsible for the original descriptions of various common diseases – often being the first to identify the pathology. This article reviews his life and contributions to medicine.

1. His life

We know remarkably little about Aretaeus. His name indicates that he presumably came from Cappadocia, a Roman province in eastern Asia Minor (modern Turkey). Based on circumstantial comments in his writings, authors have suggested that he probably travelled (and presumably studied) widely, *inter alia* in Egypt and Rome (Adams 1856: v-xiii). However, there is no real evidence for this. The date of his birth poses a problem. The respected German scholar, Max Wellmann (1895: 24), whose negative view of Aretaeus has influenced many generations of scholars, placed the date of his birth in the second century AD. Various subsequent scholars have refuted this in favour of a date in the first century AD, for instance in a monograph by Kudlien (1964: 6-31), and recently in an extensively argued overview of existing evidence by Oberhelman (1994: 904, 951, 958-9) who makes a convincing case for the view that Aretaeus was born in the mid-first century AD. Both scholars mention a reference in the pharmacological work of Dioscorides in which a medical recipe by Aretaeus is quoted; this work was dedicated to Andromachus, court physician of the emperor Nero (who reigned from 54 to 68 AD), which places Dioscorides – and Aretaeus – as contemporaries in the mid-first century AD.

A close similarity between the clinical writings of Aretaeus and those of a prominent fellow-Pneumatist, Archigenes has been noted. While Archigenes was recognised and quoted by Galen and other physicians of the era, it appears that Aretaeus was not well-known during the early empire – apart from Dioscorides, he is first quoted again in the late empire by authors such as Philagrius, Aëtius, Pseudo-Alexander of Aphrodisias and Paul of Aegina (Oberhelman 1994: 904, 951). The Arab physicians of medieval times, following the Latin writings of authors such as Oribasius, Caelius Aurelianus, and Alexander of Tralles, were unaware of Aretaeus (Adams 1856: ix). Present-day knowledge of his contributions stem from the Latin transcription of an original Greek manuscript which in 1552 came into the possession of Junius Crassus in Venice (Adams 1856: xiv-xv).

The reason why Aretaeus's work was apparently unknown in his own time remains a mystery. Various explanations have been given. Wellmann (1895: 24) bases his view on that of Aetius of Amida, the sometimes trustable sixth-century court physician of emperor Justinian (Kudlien 1964: 25), and suggests that Aretaeus plagiarised Archigenes' works (rejecting the chronologically inconvenient Dioscorides reference as a gloss); he believes that this was recognised by Galen and others at the time, who then ignored Aretaeus (1895: 24). In addition, Archigenes wrote in contemporary *koine* or Attic Greek whereas Aretaeus used Ionic (old Attic) Greek (Deichgräber 1971: 18-28). The latter Greek was less easily understood in the first and second centuries AD. However, Oberhelman (1994: 954-9) strongly argued that Archigenes in fact copied Aretaeus' work, and not *vice versa*. He also suggests that Archigenes was the more immediate predecessor of Galen and other authors of the time (second century AD) and therefore better known to contemporary opinion-makers. Aretaeus may never have left his distant homeland of Cappadocia, or returned to it early in life, and thus remained unknown in the western Roman Empire.

From his medical writings it is clear that Aretaeus was an orthodox follower of the Pneumatic school (Kudlien 1964: 32-41, Oberhelman 1994: 959-66), which held that health depended on bodily *eukrasia* – a harmonious balance between the basic elements (hot, cold, wet and dry) and *pneuma*, a vital power which bound the elements. The heart,

with innate heat, was the central organ of the body. Aretaeus was an admirer of Hippocrates, but as Pneumatist his concept of physiology and pathology differed widely – for example, the theory of the four humours is ignored and the role of *pneuma* exaggerated (Oberhelman 1994: 961-6). Aretaeus was one of the first to accept the concept of contagion as cause of disease (Major 1959: 182). Apart from evidently being a sound clinician, the Cappadocian doctor was also a sympathetic physician: in his description of various diseases (for instance, epilepsy and tetanus) his empathy for human suffering can be noted, an unusual characteristic among those who were not influenced by a Christian ethos (Deichgräber 1971: 39-42).

Aretaeus was a prolific writer and produced excellent descriptions of disease. Six of his books (on the causes, signs and treatment of acute and chronic diseases) have survived; four further books (on fevers, surgery, drugs, and diseases of women) are no longer extant (Oberhelman 1994: 959-61). Unlike Galen, he was never verbose, “striking a happy balance between feeble timidity and reckless audacity” (Adams 1856: xii). His style was unusual – apart from writing in Ionic Greek as the Hippocratic writers did, he also imitated their style and illustrated his theories with quotations from Hippocrates and Homer, for literary effect rather than for scientific confirmation (Deichgräber 1971: 26, Couch 1935: 556-9).

Aretaeus is credited with the original descriptions of various major diseases. These conditions, as well as those for which he contributed major clarifying (though not strictly original) descriptions, will now be reviewed. In this article the references to Aretaeus are to the Greek text with an English translation by Francis Adams printed in 1856 (reprinted in 1974).

2. Significant descriptions of diseases

2.1 Steatorrhoea (sprue, coeliac disease)

Steatorrhoea is currently known as a condition in which the diseased intestines lose the ability to absorb nutrients adequately, leading to chronic diarrhoea (large offensive stools) and progressive evidence of malnutrition (McDonald 1999: 596-8).

2.1.1 Aretaeus' description

In his contribution on coeliac affection, Aretaeus presents the first recognisable description of steatorrhoea (Adams 1856: 350-1). The Greek word *coelia* refers to the stomach and the abdominal cavity in a wider sense (Drabkin 1950: 826-7). Celsus described a “coeliac disease” characterised by constipation, abdominal pain and distension which he evidently associated with pyloric stenosis (*De medicina* IV.19). This is not what is currently understood under coeliac disease (McDonald 1999: 596-8).

2.1.2 Disease identification

Aretaeus described a condition characterised by diarrhoea and flatulence which he attributed to defective digestion. The stools were large, fetid, watery and had a white (clay-like) colour. It was a chronic disease with periodic recurrence of abdominal pain, flatulence and diarrhoea (occasionally, blood *per rectum*), and the patient became progressively emaciated, pale and weak. This conforms to the characteristic description of steatorrhoea which leads to nutritional anaemias, weight loss and general malnutrition.

2.1.3 Comments

Aretaeus was correct in attributing this disease to defective digestion, but his complicated therapy, aimed at relieving the stomach of its digestive responsibilities, was quite inappropriate (Adams 1856: 350-1, 491-2).

2.2 Diabetes mellitus

Diabetes mellitus is an endocrine disorder clinically characterised *inter alia* by excessive urination (polyuria), excessive thirst (polydipsia), weakness or fatigue, and sugar in the urine (Karam 1999: 1118-60).

Hippocrates did not know this disease (Grmek 1983: 12). Caelius Aurelianus (probably fifth century AD) stated that diabetes was first described and named by Demetrius of Apameia (approximately 100 BC), but there is no confirmatory record of this (Drabkin 1950: 777). In the first century Celsus described a condition in which the urine output exceeded fluid intake, and which gave rise to wasting (*De*

medicina IV.27). The word “diabetes” is derived from the Greek word for a siphon, reflecting the polyuria.

2.2.1 Aretaeus’ description

Aretaeus described a chronic condition, most common in women, characterised by unquenchable thirst and excessive urination, which he likened to water emerging from the openings of aqueducts. Emaciation developed, which he claimed was due to the body tissues melting away and then being passed as urine. He considered it a variant of dropsy (fluid accumulation), where the body evacuates its excessive fluids by way of the kidneys. His treatment resembled his treatment of dropsy – including purges, the drinking of water boiled with autumn fruit, milk, cereals and a variety of medicines, including the “universal cure”, Mithridate (Adams 1856: 338-340, 485-6).

2.2.2 Disease identification

This clinical description fits diabetes mellitus except that wasting only occurs in young diabetics (Karam 1999: 1118-24). It is said that the Indian physician, Susruta (perhaps a contemporary of Aretaeus) described the association between excessive thirst and “honey urine” (Drabkin 1950: 777). This would then differentiate diabetes mellitus from diabetes insipidus (a pituitary disease also causing polyuria, but without sugar in the urine) (Fitzgerald 1999: 1302-3).

2.3 Diphtheria

Diphtheria is a serious epidemic infection (*Corynebacterium diphtheria*) of the tonsils and upper throat, in which a toxin is produced which affects the heart and nerves (for instance, those responsible for swallowing and talking). Death often follows suffocation due to the slough of the infection separating and blocking the airways (Chambers 1999: 1302-3).

The *Corpus Hippocraticum* contains various disease descriptions which might refer to diphtheria (*Diseases* II, 16; III.10), including that in *Dentition* 24.25 which describes tonsillar ulceration associated with a spider-web membrane voice abnormality. Grmek (1983: 321-39) is of the opinion that the “cough of Perinthus” and the condition *kunangkhe* (upper respiratory obstructive diseases) might re-

present diphtheria. Angina (acute throat infection) described by Celsus possibly included cases of diphtheria (*De medicina* IV.7.1-2).

2.3.1 Aretaeus' description

Aretaeus mentions a pestilential affection of the tonsils where broad, foul ulcers are covered with prominent (white, even black) concretions resembling carbuncles. The ulceration may spread to the mouth and throat, and within days may cause sudden death by suffocation. The disease usually affects children before puberty, and is common in Egypt and Syria (thus called the Egyptian or Syriac ulcers). It causes extreme pain, and acute fever is accompanied by a smell of putrefaction. The patient remains thirsty, but cannot swallow properly and loss of voice is common (Adams 1856: 253-5, 409-10).

2.3.2 Disease identification

Grmek (1983: 338) confirms that this represents the first clearly recognisable description of diphtheria. It describes the typical lesion in the fauces, suggests diphtheric paralysis of swallowing and speaking, and sudden death due to suffocation.

2.4 Leprosy

Leprosy is a chronic infective disease (*Mycobacterium leprae*), which typically causes progressive thickening and later ulceration of the skin. Affection and thickening of peripheral nerves result in paralysis, loss of sensation and atrophic destruction of the extremities (Chambers 1999: 1328-9). Facial deformities produce a lion-like appearance.

Although leprosy is mentioned in the Bible and Septuagint, the condition described in that case was not leprosy as it is currently known. Hippocrates also mentions *lepra*, but again it does not represent modern leprosy, which was almost certainly first briefly described in Egypt (as *cacochymia*, elephantiasis) by Strato, in approximately 250 BC. This disease was probably first recognised in Greece and Rome during the late second century BC (Wasserman 1997: 17-23, Grmek 1983:168-71).

2.4.1 Aretaeus' description

Aretaeus left the first clear and remarkably complete description of *elephantiasis* (leprosy) in which he compared the skin lesions to the skin of an elephant. He found it an extremely chronic affection, often initially missed by the doctor. The disease usually started as small discrete, dry scaly skin tumours, but gradually the intervening skin became thickened, rough and showed cracks. First the face was affected with thickening of the nose and eyebrows and flattening of the ears; the skin often had a white discolouration. Hair became unhealthy and thin, with premature baldness. The disfigured face developed a red, sometimes blackish discolouration resembling that of an angry lion. Veins were thickened (nerves were probably mistaken for veins). Gradually itchy *lichen*s (papular skin lesions) appeared, and generalised ulceration set in, discharging *ictior* (a watery secretion). In time parts of the extremities (nose, fingers, feet and genitalia) started dropping off. The appetite remained good, and libidinous sexual desires were common. Gradually the patient became a dreadful sight, offensive to all. Although it was recognised that fully-fledged cases could not be cured, venesection and an extensive array of liniments, fomentations and ointments were recommended, in addition to scarification of the skin, various diets, an array of medicines (including shavings from an elephant tusk), exercises and healing baths (Adams 1856: 366-73, 494-8).

2.4.2 Comments

Over the next five centuries the name *elephantiasis* was replaced by the Biblical term *lepra* (leprosy). Largely under the influence of the Church, Scriptural management (including the rigid social ostracism of lepers) replaced medical therapy, like that described above (Grmek 1983: 171-2). Present-day infectious elephantiasis is a totally different disease, caused by filarial parasites (Goldsmith 1999: 1406-7).

2.5 Asthma

Asthma is defined as episodic airflow obstruction usually associated with bronchospasm, shortness of breath and characteristic wheezing on expiration. It may be a disease in its own right or complication of respiratory infection or heart disease (Chestnut *et al* 1999: 264-75).

The word “asthma” occurs in the Homeric literature where it means “difficult breathing” (Grmek 1983: 34). In the *Corpus Hippocraticum* the word retains this association, but it also begins to indicate a specific disease of the lungs. It was common in young children, accompanied by an expiratory wheeze which was alleviated by the expectoration of viscid sputum, and could be associated with palpitations and a hump-back (Hipp. *Aphorisms* III.26, *Sacred Disease* 9, *Regimen in Acute Disease* 17). Celsus graded the condition of “difficulty in breathing”: when moderate it was called “dyspnoea”, when more severe, “asthma”, and when extreme, “orthopnoea”. In all three conditions the airways were narrowed and air escaped with a whistle (*De medicina* IV.8).

2.5.1 Aretaeus’ description

Aretaeus very clearly described a specific disease of the lungs called “asthma”, where acute breathlessness was *inter alia* precipitated by exercise. When breathlessness became very severe, forcing the patient to remain in the upright position, the variant was called “orthopnoea”. The disease, associated with hoarseness and much coughing productive of little foamy sputum, caused great restlessness, and *rhogmoi* (breathing noises) were heard in the chest. The cheeks were ruddy, the eyes prominent, and through an open mouth the patient gasped for cold, fresh air, fearing suffocation. The pulse was feeble. When the heart became affected the condition turned very serious. Improvement was characterised by expectoration of more sputum, a clearer voice, a bowel discharge and the ability to sleep better. During a remission the patient “bears the traces of the affection”. It was most common in women, most lethal in men, and children recovered more easily (Adams 1856: 316-9).

2.5.2 Disease identification

This is a vivid description of the respiratory distress typical of an acute attack of bronchial asthma. It has a tendency to recur – in remission patients “bear the traces of the affection”, according to Aretaeus. Hippocrates and Celsus also remarked on the characteristic asthmatic wheeze on expiration. Left ventricular heart failure may present with acute (cardiac) asthma – Aretaeus states that the association between asthma and heart disease is serious. Orthopnoea, the ability to breathe

comfortably only in the upright position, is now usually considered as indicative of advanced heart failure (Massie *et al* 1999: 403-14).

2.6 Tetanus

Tetanus, an infective disease with high mortality, is caused by *Clostridium tetani* which contaminates existing wounds (including septic abortions) and produces a toxin responsible for violent muscular spasms (Chambers 1999: 1299-301).

The name is derived from the Greek word *teino* (to stretch, Liddell & Scott 1961: 1779 s v *tetanos*), with reference to the muscular spasms of tetanus. Hippocrates very briefly mentions an illness which presented with tetanic spasms, could follow on wounds and burns, and had a bad prognosis – death usually occurred within four days (*Aphorisms* V.6 and 17; IV.57; VII.13). It was also briefly mentioned by Diocles, Praxagoras and Herophilus (Nutton 2004:124). Celsus further elaborated on the nature of the spasms, which could force the head backwards, or forward, on to the chest (*De medicina* IV.6).

2.6.1 Aretaeus' description

Aretaeus, however, gives the first elaborate description of a condition characterised by very painful spasms starting in the jaws and spreading to the rest of the body. The body may then be bent over backwards (*opisthotonos* position), forwards, or remain in a straight position. Tetanus followed on wounds, abortions, a severe blow to the neck, and was also thought to be caused by cold. Food was regurgitated through the nose, and suffocation set in, with the face red and the eyes fixed. Although recovery was possible, the patient normally died in agony within days. Aretaeus suggested that, in spite of the near hopeless situation, the patient should still be placed on a comfortable, soft bed and treated with venesection and cupping, hot fomentations and a wide variety of medicines (Adams 1856: 246-9, 400-4).

2.6.2 Comments

This is a remarkably accurate description of tetanus, except that it is normally not caused by a blow to the neck. Trauma to the back of the head with subsequent meningitis may, however, cause spastic neck retraction.

2.7 Acute pneumonia

In modern terminology pneumonia (infection of the lung) is divided into lobar pneumonia (whole lobes of the lung infected) or bronchopneumonia (patchy infective infiltration). Both are characterised by acute disease of the lungs. In pre-antibiotic times lobar pneumonia had a high mortality (20-40%) and cure often occurred on the seventh-tenth days by “crisis”: a sudden disappearance of fever and other symptoms (Osler 1904: 108-40).

In the *Corpus Hippocraticum* the word “pneumonia” (or “peripneumonia”, from *pneuma* meaning “breath”) appears often but without a description of the disease. An association with pleurisy, lung abscess, even brain infection is recorded (*Ancient medicine* 17 and 19, *Regimen* 5, *Prognosis* 18, *Aphorisms* VII.12). Grmek (1983: 121) is of the opinion that the Greek writers of antiquity knew the disease. An Egyptian mummy of the twelfth century BC shows lobar pneumonia in the phase of grey hepatisation (the final phase of the disease). Herophilus stated that pneumonia was inflammation which affected the entire lung; Diocles, Erasistratus, Praxagoras and Demetrius of Apamea briefly mentioned pneumonia in their writings (Von Staden 1994: 378, 506). Celsus gave a vague description of acute lung disease (*peripleumoniacum*) characterised by fever, cough, chest pain, breathlessness, wasting and lethargy (*De medicina* III.20).

2.7.1 Aretaeus’ description

Aretaeus first recorded a clear picture of what would currently be recognised as acute pneumonia (in pre-antibiotic times) (Osler 1904: 116-24). Describing the lungs as the organs essential for breathing, its inflammation caused acute distress and suffocation, fever and often death. There was no pain until the chest membranes (pleura) were affected. The patient sat upright with a red face, eyes very bright and with a dry cough productive of minimal frothy sputum (sometimes bloodstained, which carried a bad prognosis). There was prominent thirst and no appetite. Death mostly occurred on the seventh day, and imminent signs included sleeplessness, a wandering state of mind but no serious delirium. Generally not aware of the seriousness of the disease, the patient had cold extremities, curved fingernails and a failing,

weak pulse. A nosebleed and bilious bowel discharge were good signs. The disease could be complicated by lung abscesses which might drain through the lung passages to the mouth, or evacuate through the chest wall (*empyema*). The latter carried a relatively good prognosis. Treatment included immediate venesection, cupping, clysters to clear the bowels, hot fomentations on the chest wall and a variety of medications (Adams 1856: 261-3, 410-21).

2.7.2 Disease identification

Major (1959: 562-3) suggests that Aretaeus described acute lobar pneumonia, but his description could also fit bronchopneumonia. The mention of curved, so-called “drumstick nails” suggests an underlying chronic condition such as bronchiectasis, even carcinoma – which is usually associated with bronchopneumonia. The absence of early chest pain would be atypical of lobar pneumonia, and Aretaeus did not describe cure by “crisis” (characteristic of lobar pneumonia). It is interesting to note that Aretaeus’ patients sat upright, whereas Osler’s (1904: 116-24) patients preferred to lie flat in bed.

2.8 Other

Aretaeus’ works also contain other striking descriptions of well-known diseases of his day. Talbot (1970: 16) suggests that Aretaeus was indeed the first to give definitive descriptions of lead colic, gout (*podagra*), epileptic seizures, and a functional classification of mental aberrations (including hysteria):

2.8.1

Nikander possibly first described lead poisoning in the second century BC (Major 1959: 312). Aretaeus’ description of *colic* is that of a vague disease characterised by heaviness in the abdomen, loss of appetite, flatulence, weakness, and symptoms of bladder and kidney disease – even dropsy and abscess formation (Adams 1856: 352). The abdominal manifestations of lead poisoning typically include severe colicky pains and obstinate constipation (Olson 1999: 1515-6). This cannot be read into Aretaeus’s disease.

2.8.2

Epilepsy is described by Hippocrates (*Sacred disease* 10-15, *Epidemics* VII.46). He points out that it is not a demoniacal visitation (as then commonly believed) but a physical disease caused by a phlegmatic affectation of the head. Apollonius of Citium also wrote on it (Von Staden 1994: 550-1), and Celsus described a typical epileptic fit under the name *morbis comitialis* (the rationale being that its occurrence on the day of a comitia (or meeting) was regarded as ominous, and led to abandonment of the meeting) (*De medicina* III.23). However, the excellent, very graphic description of Aretaeus far surpasses that of his predecessors. In detail he mentions the warning aura (visual, auditory, olfactory or psychological sensations), the acute attack (with frequent biting of the tongue, and other injuries) often ending in evacuation of urine, faeces or even sperm. A fatal termination was very unusual. Epilepsy often first occurred in young people; it could disappear in later years, but more usually persisted for life. Aretaeus wrote that persons with chronic epilepsy tended to become unsociable, spiritless, fatuous and slow at learning (Adams 1856: 296-9, 243-6).

2.8.3

The authors of antiquity wrote much on mental aberrations. The Hippocratic differentiation of these conditions into either mania (madness) or melancholy (diseases caused by black bile) was accepted by most (*Aphorisms* III.20, 22, V.40, VI.11, 21, 56, *Epidemics* III.1.4; III.12.14, III.17.3, *Sacred disease* 17, *Regimen* IV.89, *Airs, water & places* 10). Plato mentioned that mania either resulted from bodily diseases or divine inspiration, often due to visitations from the Muses, or gods such as Bacchus (*Phaedrus* 265B). Themison suggested that mania and melancholy referred the same disease (Drabkin 1950: 561-3). Hysteria was not classified under mental abnormalities but viewed as “suffocation” of the internal organs by a wandering womb (Temkin 1991: 149-50). Aretaeus wrote extensively on this subject (Adams 1856: 285-7, 298-304, 473-8). Unlike Talbot (1970: 16) there is little evidence of a useful new disease classification.

2.8.4

Classical gout represents an abnormality of uric acid metabolism, presenting as intermittent polyarthritis with a tendency to affect mainly the big toe and surrounding foot. It is typically found in men older than 35 years and (only very rarely) in postmenopausal women (Hellmann 1999: 789-93). Hippocrates did not elaborate on symptoms, but simply stated that gout did not occur in young men, pre-menopausal women or eunuchs (*Aphorisms* VI.28-30, 55, V.25). Erasistratus wrote a book on podagra, which is lost to us (Von Staden 1994: 469). Celsus described gout as a joint disease which could affect the feet (*podagra*) or hands (*cheiragra*), and was seldom seen in eunuchs, young men (before coition) or women (*De medicina* IV.31). Aretaeus then revisited the disease, already known for six centuries, confirming that it affected the feet, in particular the big toes (*podagra*), but also the hands (*cheiragra*) and hip joint (*sciatica*). His more extensive discussion of the disease (which almost certainly overlaps with non-gouty arthritis) included its absence in eunuchs, young men and women, and its intermittent nature (according to him, a gouty patient could win the Olympic Games if the disease happened to go into prolonged remission). He stressed the extremely painful joint swellings which could lead to fainting when carelessly touched (Adams 1856: 362-5, 492-3).

2.8.5

In his wide-ranging discussion of syncope, which Aretaeus viewed as an often fatal disease of the heart, he *inter alia* described a feeble pulse, palpitations and also a “*bruit*” over the heart (Adams 1856: 271). This is the first mention of a heart murmur on record, and suggests that he probably practised heart auscultation by placing his ear against the chest wall.

3. Discussion

This article summarised those medical contributions by Aretaeus which represent original disease descriptions, as well as descriptions which in view of their clarity represent undoubted advances in the understanding of clinical medicine. Truly original descriptions

included those of steatorrhoea, diabetes and diphtheria. Although conditions such as asthma, leprosy, tetanus, epilepsy and acute pneumonia were already known entities in his day, Aretaeus produced superior descriptions which are currently recognised as classical. He was also the first to describe a heart murmur (*bruit*). However, the authors disagree with Talbot that his descriptions of mental disorders and gout are exceptional or that he described lead colic.

Assuming that Aretaeus lived in the first century AD, only earlier medical writings were considered when deciding on the originality of his work. Celsus, probably a contemporary of Aretaeus, is mentioned, but the prolific contributions of Galen (second century) were not considered, nor were the works of Rufus of Ephesus or Soranus which were later reproduced by Caelius Aurelianus in the fifth century. Aretaeus' relative obscurity among modern students of medicine stems to a large extent from his minimal impact on contemporaries in the early Roman Empire. The ill-understood reasons for this surprising fact (in the light of his obvious excellence in clinical medicine as judged from surviving manuscripts) have been discussed above.

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