Journal of Medical Ethics and History of Medicine

Rhazes viewpoints about causes,diagnosis,treatment and prognosis of gout

Seyed Mahmoud Tabatabaei[1], Seyed Mohammad Ali Tabatabaei[2] , Mohammad Mahdi Zamani[3] , Nastaran Sabetkish[3] and Farnaz Roshani[4]

[1] Professor of Psychiatry, Medical Ethics and History of Medicine Research Center, Tehran University of Medical Sciences, Tehran, Iran
[2] Dentist, Yazd, Iran.
[3] Scientific Students of Pediatric Urology Research Center, Tehran University of Medical Sciences, Tehran, Iran
[4] Master of Psychology, Mashhad, Iran.

Corresponding author:
Dr. Seyed Mahmoud Tabatabaei
E-mail: smtabataba_md@yahoo.com

Received: 15 Jan 2012
Accepted: 18 Feb 2012
Published: 03 Mar 2012

J Med Ethics Hist Med, 2012, 5:3
http://journals.tums.ac.ir/abs/20744

Abstract

Gout, a medical condition of acute inflammatory joint disorders, has been recognized from the antiquity. However, the name of Rhazes, a Persian historic physician who has described the etiology, signs, symptoms, epidemiology, treatment and prevention of this malady more than a thousand year ago, hasn't been taken into consideration appropriately. In this article, we studied and reported several chapters of Alhawi which is considered the most important Rhazes's medical textbook, focussing on his hypotheses because he has described this disease more manifestly. His original manuscripts are originally written in Arabic and they hadn't been translated to Persian until 1998. We intend to compare Rhazes opinions about gout with those of the literature in the area of rheumatology. According to our findings, Rhazes documented the symptoms of gout and categorized them scientifically. His insights about the treatment of gout, side effects of pharmacotherapy and management of the patients are so interesting and wonderful. Generally most of Rhazes viewpoints about gout are correct and compatible with recent findings. More investigation on Rhazes' viewpoints can guide us to propose more reliable hypothesis and schematize cost effective studies by delving into past medical records.

Keywords: *Gout, Rhazes, History of medicine, Iranian traditional medicine*

Introduction

Rhazes in his medical encyclopedia (Alhawi) has explained about most of diseases and illnesses which are well-known today. We have published Rhazes' statements about ophthalmology [1], Bell's palsy [2] and cancer [3] in previous articles. In this article, we study his viewpoints about gout.

Gout is one of the most common inflammatory joint disorders in which patients experiences recurrent attacks. These patients may have more co-morbid conditions such as cardiovascular and kidney problems [4]. Hyperuricemia, which is known as the classic feature of gout, is an inde-

pendent risk factor that can cause hypertension [5]. Nowadays, this malady is treated with non steroidal anti-inflammatory drugs (NSAIDs), steroids, colchicine and some urate-lowering agents such as allopurinol and probenecid [6].

The history of gout comes across with the annals of scientific knowledge. The first documentation of it dates back to 2600 BC when Egiptians described the arthritis of the big toe which is known as podagra today [6]. The second documentation of the disease dates 400 BC when Hippocrates noted its absence in eunuchs and premenopausal women in his aphorisms. Aulus Cornelius Celsus, around 30 AD described its linkage with the use of alcohol and its later onset in women. Around 200 AD, Galen described tophi [6]. However, it seems that we have missed an important name in the history of gout; a physician who has described it in details [7].

Ancient scientists have proposed numerous interesting and even wonderful methods for diagnosing, differential diagnosis and treatment of gout but unfortunately they have been neglected because of the usage of archaic words, abundant mistakes in scripts, non-current and unclear expressions, unfamiliarity of the contemporary intellectuals with their method of writing and heedlessness of sages to this precious heritage.

Rhazes is one of the most famous Iranian traditional physicians (865 - 925 AD) whose compilations such as his great medical encyclopedia [8], Alhawi, written in 25 volumes, are amongst our most invaluable medical heritages. He has discussed medical subjects in Alhawi in which he has described the majority of known diseases in that period of time, one of the most important of them being gout. He has described its diagnostic criteria, treatment and several ways to soothe the pain [9].

In this article, we aim to familiarize readers with his opinions and suggestions by comparing his points of view with recent studies.

Description of Gout

Rhazes described the disease as a condition in which a joint is affected and he proposed to cure the disease as soon as possible in order to prevent the ensuing chronic arthritis, in which more than one joint is affected, in acute form [10]. Nowadays we know that without an effective treatment in the primary stages in which the patient suffers from monoarthritis, the disease turns from acute chronic form that means that other joints may also be affected [11].

Epidemiology

Rhazes pointed out that gout is less common in women and children in comparison with men [10]. It is written in different literatures that the age of its onset in women is later than men [12] which can be defined by the role of estradiol in lowering the level of serum urate in females [13].

He also alluded that the incidence of this disease in rich people is considerably higher than other socioeconomic classes [9].

Etiology

Rhazes claims that the cause of this malady is a kind of abnormal humor that reaches the joints via blood circulation [9]. Today, reliable researches confirmed that the main cause and the classic feature of gout is hyperuricemia [6]. Recent studies indicate that high levels of uric acid, especially levels higher than 7 mg/dl (416 mmol/L), tend to significantly increase the risk of bouts and tophi formation [14].

Lifestyle

Rhazes indicated that some lifestyles and habits like gluttony, hyperactivity and drinking wine can aggravate the pain [9]. Recent studies have confirmed his claim by demonstrating its strong association with dietary regimens which contain high levels of purine [15] and consumption of alcohol [16].

He emphasized that consumption of any kind of meat can be prejudicial [9]. Results of several studies have demonstrated that increased intake of meat and seafood is associated with hyperuricemia [17, 18].

He has also observed that the disease becomes more severe in some seasons such as spring and autumn [10]. Some studies have corroborated his findings. However, this has been ascribed to personal changes in diet and physical activity in different seasons [19].

Presentations

It was written in Alhawi that the affected joints gradually become rigid and turn to a stony structure at times [9]. Current studies indicate that the final metabolite of purine is crystallized in synovial fluid in the form of monosodium urate [20]. These tophaceous deposits provide the best diagnostic criteria. Computed tomography (CT) scan is now employed to evaluate the size of these deposits [21].

Rhazes has illustrated that the state of swelling, edema and pain which is often commenced from the big toe is one of the most common presentations of gout [9]. There are many studies and articles that validate his conviction [22].

He mentioned that the affected patient may feel a twinge in his leg, knee and testis [9].

Treatment

Rhazes mentioned that gout is a chronic and complicated disease which needs long term treatment and holistic approach [10]. He has proposed that one of the best medications for this disease is Suranjan [9] which is the traditional

name of *Colchicum automnale* [23]. This herb is known as Colchicum in most of herbal medicine text books [24].

Rhazes claimed that Suranjan can cause a wide array of gastrointestinal and general side effects [9]. A considerable number of articles have acknowledged his opinion by declaring that the renal and gastrointestinal complications of the medicine, limit its usage [25]. As supported by European League Against Rheumatism (EULAR), its intense regimens have dramatically fallen out of use [26].

He especially recommended that in order to reduce the gastrointestinal side effects of the medication, it is better to consume it with ginger, pepper or cumin [9].

He asserted that the use of Suranjan can soothe the pain and it is effective for prevention of the attacks [9]. There is evidence indicating that this suggestion is justified [27].

Rhazes suggested another treatment option instead of Colchicum automnale with benefits similar to Suranjan but without the side effects [9, 9].

Discussion

Rhazes started his medical education in Rey, a suburb of modern Tehran (the capital of Iran) [28]. He has demonstrated significant points about gout in his main manuscript. By comparing them with today knowledge, we conclude that he recorded the symptoms and categorized them scientifically. He also provided detailed information about its epidemiology and etiology which is principally in accordance with the findings of modern medicine. It can be suggested that generally, his viewpoints are compatible with the recent scientific findings. This should motivate us to give more notification of the rest of his points of view. Therefore, further investigation into Rhazes' viewpoints can lead us to propose more reliable hypotheses and conduct cost effective studies by delving into past medical records.

Acknowledgement

While appreciating honest cooperation of heads , managers and nurses of the three mentioned hospitals and also each of the participants in the present research, I seize the opportunity to express my sincere thanks to Dr. Fariba Asghari and Dr. Pooneh Salari for their critical review, Ms. Heidarian for performing interviews, Ms. Karimi for carrying out typing affairs and pagination and also Ms. Aqaii for following up necessary measures for realization of objectives of the present research paper.

References

1. Tabatabaei SM, Kalantar-Hormozi AJ, Sedaghat MR. Ophthalmology in Al-Hawi of Rhazes, comparing to modern medical literature. Pajouhesh dar pezeshki 2009; 33(2): 59-63. [Persian].
2. Tabatabaei SM, Kalantar Hormozi A, Asadi M. Razi's description and treatment of facial paralysis. Arch Iran Med 2011; 14(1): 73-5.
3. Tabatabaei SM, Kalantar-Hormozi AJ. Viewpoints of Rhazes, Avicenna and other prominent Iranian traditional physicians about cancer. Pajouhesh dar pezeshki 2010; 34(3): 147- 51.[Persian].
4. Ahern MJ, Reid C, Gordon TP, McCredie M, Brooks PM, Jones M. Does colchicine work? The results of the first controlled study in acute gout. Aust N Z J Med 1987; 17(3): 301-4.
5. Chen LX, Schumacher HR. Gout: an evidence-based review. J Clin Rheumatol 2008; 14(5 Suppl): S55-62.
6. Choi HK, Liu S, Curhan G. Intake of purine-rich foods, protein, and dairy products and relationship to serum levels of uric acid: the Third National Health and Nutrition Examination Survey. Arthritis Rheum 2005; 52(1): 283-9.
7. Choi HK, Atkinson K, Karlson EW, Willett W, Curhan G. Alcohol intake and risk of incident gout in men: a prospective study. Lancet 2004; 363(9417): 1277-81.
8. Choi HK, Atkinson K, Karlson EW, Willett W, Curhan G. Purine-rich foods, dairy and protein intake, and the risk of gout in men. N Engl J Med 2004; 350(11): 1093-103.
9. Rhazes (Mohamad Bin Zakarya al Razi). Alhawi Fitteb, vol. 11. India, Hyderabad: Osmania University; 1962.
10. Rhazes (Mohamad Bin Zakarya al Razi). Alhawi Fitteb, vol. 11, chapter 4th. Beyrouth: Dar Ehia Altorath Alarabi; 2002, p. 450-6.
11. Cronstein BN, Terkeltaub R. The inflammatory process of gout and its treatment. Arthritis Res Ther 2006; 8: 3.
12. Fam AG. What is new about crystals other than monosodium urate? Curr Opin Rheumatol 2000; 12(3): 228-34.
13. Handa R. Approach to seronegative arthritis. JIACM 2003; 4(3): 190-2.
14. Martinon F, Pétrilli V, Mayor A, Tardivel A, Tschopp J. Gout-associated uric acid crystals activate the NALP3 inflammasome. Nature 2006; 440(7081): 237-41.
15. Perez-Ruiz F, Naredo E. Imaging modalities and monitoring measures of gout. Curr Opin Rheumatol 2007; 19(2): 128-

33.
16. Pillinger MH, Keenan RT. Update on the management of hyperuricemia and gout. Bull NYU Hosp Jt Dis 2008; 66: 231.
17. Rammes A, Roth J, Goebeler M, Klempt M, Hartmann M, Sorg C. Myeloid-related protein (MRP) 8 and MRP14, calcium-binding proteins of the S100 family, are secreted by activated monocytes via a novel, tubulin-dependent pathway. J Biol Chem 1997; 272(14): 9496-502.
18. Mikuls TR, Farrar JT, Bilker WB, Fernandes S, Schumacher HR, Saag KG. Gout epidemiology: results from the UK General Practice Research Database, 1990–1999. Ann Rheum Dis 2005; 64(2): 267-72.
19. Reinders MK, Jansen TL. Management of hyperuricemia in gout: focus on febuxostat. Clin Interv Aging 2010; 5: 7-18.
20. Roddy E, Zhang W, Doherty M. Gout and nodal osteoarthritis: a case–control study. Rheumatology(Oxforf) 2008; 47(5): 732-3.
21. Schlesinger N, Detry MA, Holland BK, et al. Local ice therapy during bouts of acute gouty arthritis. J Rheumatol 2002; 29(2): 331-4.
22. Snaith M. A (very) short history of diets for gout. Rheumatology (Oxford) 2004; 43(8): 1054.
23. Tausche AK, Jansen TL, Schr♀der HE, Bornstein SR, Aringer M, Müller-Ladner U. Gout--current diagnosis and treatment. Dtsch Arztebl Int 2009; 106(34-35):549-55.
24. Heber D. PDR for Herbal Medicines, 4th ed. New York: Thomson; 2004, p. 217-8.
25. Tubbs RS, Shoja MM, Loukas M, Oakes WJ. Abubakr Muhammad Ibn Zakaria Razi, Rhazes (865–925 AD:). Childs Nerv Syst 2007; 23(11): 1225-6.
26. Wortmann RL. The management of gout: it should be crystal clear. J Rheumatol 2006; 33(10): 1921-2.
27. Zhang W, Doherty M, Pascual E, et al. EULAR evidence based recommendations for gout. Part I: Diagnosis. Report of a task force of the Standing Committee for International Clinical Studies Including Therapeutics (ESCISIT). Ann Rheum Dis 2006; 65(10): 1301-11.
28. Tabatabaei SM. Synopsis of Rhazes Alhawi, " Continens of Rhazes", Encyclopedia of Medicine. Vol 1. Mashhad: Mashhad University of Medical Sciences; p. 39-48.