

# Arthur Conan Doyle, Sherlock Holmes, and gout

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## SUMMARY

Arthur Conan Doyle, the creator of Sherlock Holmes, was an experienced physician who treated gouty patients. A gouty character appears in *The Adventure of the Missing Three-Quarter*, a Sherlock Holmes novel. This offers the possibility of discussing gout from the peculiar perspective of a medical writer in light of the historical-medical context of the time.

This study was conducted using Conan Doyle's autobiographical, scientific, and literary primary sources, as well as past and current medical literature.

*The Adventure of the Missing Three-Quarter* was autobiographical. Conan Doyle himself was a rugby player and his wife died of tuberculosis. Furthermore, in 1884, in *The Lancet*, he described the hereditary case of a female gouty patient, presenting with ocular manifestations. In agreement with the concept of rich man's gout, the gouty patient of Sherlock Holmes' story, Lord Mount James, was a rich irascible noble but he was not addicted to the pleasures of food and sex. Following the usual funny representation of gouty patients, Conan Doyle made fun of Lord Mount James, but he misquoted a true case of gout cited in the literature.

In his scientific and literary production on gout, Conan Doyle stuck to the most updated medical concepts of the time, demonstrating an uncommon knowledge of scientific literature.

**Key words:** Arthur Conan Doyle, gout, Sherlock Holmes, the adventure of the missing three quarter.

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## ■ INTRODUCTION

Sir Arthur Conan Doyle (1859-1930), the father of Sherlock Holmes, was an experienced physician. He was a graduate of the Medical Faculty of Edinburgh (Bachelor of Medicine and Master of Surgery in 1881; MD in 1885), and he worked as a general practitioner in Southsea from 1882 to 1890, year in which, in the wake of the literary success of the Sherlock Holmes stories, he gave up the medical career. Moreover, Conan Doyle had his own scientific production, publishing in *The Lancet* and the *British Medical Journal*. He said: "there are few phases of medical life of which I have not had a personal experience" (1). This relevant expertise explains why his huge literary production contains references of all kinds to medicine.

As far as rheumatologic diseases are concerned, rheumatic valvulopathy and gout were the most used as literary cues by Conan

Doyle. This is not surprising, as both diseases were fairly common in 19th-century England. He himself had the opportunity to treat gouty patients during his medical profession. This offers the opportunity to discuss the etiology, pathogenesis, and therapy of gout from the point of view of a medical writer with reference to the historical-medical context of the time.

## ■ MATERIALS AND METHODS

The autobiographical context of Conan Doyle has been investigated based on primary sources such as memoirs, letters, and scientific and literary writings. The medical context was studied based on the scientific literature of the time and the current ones.

## ■ RESULTS AND DISCUSSION

Gout appears in the Sherlock Holmes story *The Adventure of the Missing Three-Quarter*.

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It was published in 1904 (2), as part of a new set of 13 stories that made revive Sherlock Holmes and that were later collected in *The Return of Sherlock Holmes* (1905). Conan Doyle was very pleased with these stories. He defined the year 1903 as his “greatest year so far” (3, p. 522).

The novel was rather peculiar, since it was a “crimeless story”, as he defined it in a letter to Herbert Greenhough Smith (1855-1935), the editor of *The Strand Magazine* (3, p. 515). In fact, the plot revolves around the mysterious disappearance of Godfrey Staunton, the star player of the Trinity College Cambridge rugby team, who suddenly disappeared without a trace before an important test match. As requested by the team coach, Holmes and Watson investigated and found out that the young man left spontaneously to go to the bedside of his young wife, dying from tuberculosis. In fact, Staunton had married secretly, as the marriage was opposed by his uncle, Lord Mount-James, very rich and suffering from gout.

The story is based on numerous autobiographical cues. Conan Doyle was a keen sportsman and a player on the Edinburgh Medical School rugby team. In the novel, Sherlock Holmes defined “amateur sport as the best and soundest thing in England”. These words clearly echoed those written by Conan Doyle in his memories: “I think that rugby football is the best collective sport. Strength, courage, speed, and resource are great qualities to include in a single game” (4). Furthermore, Conan Doyle actually knew an outstanding rugby player, Arthur James Budd (1853-1899), the brother of one of his classmates at Edinburgh, George Turnavine Budd. Like Godfrey Staunton, Arthur Budd had been a student at Cambridge (Pembroke College). The reference in the title of the story to the three-quarter could also be an indirect allusion to Budd. In fact, the years in which Budd was a player (1878-1888) and then President of the Rugby Union (1888-1889) were also those of a fervent controversy between two game systems that used a different number of three-quarters, three or four (5). Budd, formerly a warm supporter of the

old-fashioned system with three three-quarters, later become an ardent advocate for playing four three-quarters (6).

The reference to tuberculosis is also autobiographical as it refers to the sad case of Louisa Hawkins (1857-1906), Doyle’s first wife. The woman was the sister of the young Jack Hawkins, a patient followed by Conan Doyle when practicing at Southsea in 1885. Like in the novel, the young Jack died in a few days of “consumption of the most virulent kind”. In 1893, Louisa herself fell ill with tuberculosis and died on July 4, 1906, a couple of years after the publication of the novel. In a letter dated June 8, 1906, addressed to his mother, Conan Doyle recalled how the final stage of the disease, characterized by the rapid deterioration of Louise’s health conditions, had begun in 1904: “Touie [the nickname of Conan Doyle’s wife] has lost heavily considerably—indeed for the two years there has been a steady drop” (3, pp. 532-533). Depicting the young Staunton “at the foot of the bed, half sitting, half kneeling, his face buried in the clothes” of his dying wife, Conan Doyle foreshadowed himself sitting by the bedside of his dying wife Louisa, “the tears coursing down his rugged face, and her small white hand enfolded in his huge grasp” (3, p. 534).

Concerning gout, at the very beginning of his medical career Conan Doyle had described in *The Lancet* the peculiar case of a woman presenting with ocular manifestations (7). In 19<sup>th</sup> century medicine, the notion of a different prevalence of gout between men and women of childbearing age was widely accepted. In the words of the British physician John Milner Fothergill (1841-1888): “sex also is not without its influence. Men are more liable to gout than women” (8). Today, we can give a mechanistic explanation for this observation. The lower prevalence of gout in premenopausal women is likely due to the uricosuric action of estrogens (9). Furthermore, the female patient described by Conan Doyle might have been affected by a hereditary form of gout. In fact, she belonged to a family tree extending over three generations (grandfather, father, and daughter). Therefore, Conan

Doyle's observation strongly corroborated the concept that "gout is without question a hereditary disease" (10). Today, genome-wide association studies support the role of gene polymorphisms in the pathogenesis of primary gout from impaired renal or intestinal excretion (11). Gene polymorphisms of the renal and intestinal urate transporter *ABCG2* appear to be particularly important. In *The Lancet* note, Conan Doyle further commented on the "protean character" of gout, which could manifest itself in different forms. This concept is also widely accepted in the current medical literature (8). The ocular manifestations presented by the young woman were and still are rather uncharacteristic of gout (12). However, it is possible that the multifaceted presentation of the disease was, at least in part, the consequence of diagnostic errors. In fact, we now know that many diseases such as rheumatoid arthritis, pseudogout (calcium pyrophosphate deposition), and stress fractures involving the big toe can mimic gout. Conversely, gout itself can be a great simu-

lator (13). Such diagnostic errors were much more likely in the 19<sup>th</sup> century.

In *The Adventure of the Missing Three-Quarter*, Conan Doyle conforms to the stereotype of gout as the disease of the rich. Indeed, Lord Mount-James is one of the richest men in England. However, he is described as "a queer little old man, dressed in rusty black, with a very broad brimmed top-hat and a loose white necktie - the whole effect being that of a very rustic parson, an absolute miser" who travels by bus to save money. This depiction is somewhat surprising since in the 19<sup>th</sup> century it was "a matter of universal belief that over-feeding, and especially the ingestion of a too large a quantity of albuminoids, is strongly provocative of the disease. The same opinion has been held with regard to persistent over-indulgence in alcoholic beverages" (14). Therefore, Conan Doyle's characterization of Lord Mount James does not correspond to the typical representation of the gout sufferer as an elderly nobleman, gorging himself on rich food and drink, as given by the



**Figure 1** - A self-indulgent man afflicted by gout. The pain is represented by a demon burning his foot. Colored lithograph by George Cruikshank (1792-1878), 1818, after Captain Hehl. Wellcome Library n. 10506i. Available from: <https://www.jstor.org/stable/community.24835314>.



satirical designer Simon Hehl (active between 1814-1832) (Figure 1).

Conan Doyle was very familiar with these caricature representations, as his paternal grandfather, John Doyle (1797-1869), had been a political cartoonist and caricaturist who often depicted wealthy gouty politicians in his satirical drawings. Conan Doyle's awareness of the humorous potential of the gouty patient can be deduced from the toast he delivered "before the Prince of Wales and 400 medicos" (3, p. 526), at a banquet for the Centenary of the Royal Medical and Surgical Society in 1905: "we do not fly to extremes in our literary ailments. The only example which I know to the contrary is gout, which in all our pages only occurs in the ball of the big toe. For some reason it is usually treated as a semi-comic disease, which tends to prove that the novelist has not himself suffered from it. The gouty, irascible gourmand is one of our necessary puppets (15).

Therefore, it is noteworthy that Conan Doyle portrayed Lord Mount James more as an unpleasant representative of the Salvation Army than a gourmand.

In the story, the humorous cue used by Conan Doyle concerns the hands of Lord Mount-James, whose knuckles were deformed by gouty tophi. Cyril Overton, the Cambridge rugby team coach, reports to Holmes the rumor that the elderly nobleman could have used his gouty knuckles to chalk the tip of his billiard cue: "they say he could chalk his billiard-cue with your knuckles". Indeed, being composed of uric acid crystals, tophi have a chalky appearance, and reference to tophi as "chalk stones" is constant throughout the 19<sup>th</sup> century medical literature. However, the joke was not an original invention of Conan Doyle, but it derived from a real case report published in 1784 by Henry Watson (1702-1793), professor of anatomy and surgeon at Westminster Hospital, in the first issue of the English journal *Medical Communications* (16). Watson reported on the autopsy of the unfortunate Mr. Whig-Middleton, who died of gout at the age of 50, writing that "the joints of the fingers were also swelled and knotty, every knot being a lump of chalk; and I was

told, that when he played at cards, he used frequently to score up the game with his knuckles". Using the knuckles to count on tables or dashboards was not impossible because the cuticle eventually gives way and the chalky matter of which the tophi are formed remains exposed. The autopsy report was republished in 1805 by James Parkinson (1755-1824) (17), who considered it particularly important, and again in 1811 by the English surgeon John Ring (1752-1821), who defined it as one of the most notable examples of arthritic concretions (18). Since then, the report was only briefly cited in 1833 by Charles Scudamore (1779-1849) (19), in 1844 by Sir Thomas Watson in his famous *Lectures on the Principle and Practice of Physic* (20), and finally by Alfred Baring Garrod (1819-1907) in 1859 (21).

Since then, the memory of this case described by Watson has been lost until it reappeared in a textbook written in 1898 by the American physician Alfred Lebbeus Loomis (1831-1895), who mentioned the joke about gouty knuckles as if it were pure invention: "there is an old joke about a gouty man being able to chalk a billiard cue with his knuckles, and in some cases this is literally true" (22). It is interesting to note that in 1904 the German explorer Carl Peters (1856-1918) used the same joke in his book *England and the English*, describing social life and customs of British subjects, as an example of the "dry and drastic humor" of Englishmen: "I may mention a joke lately heard: «The poor devil is so gouty that he chinks his billiard cue with his own knuckles»" (23, p. 304). In this book, Peters also cited Conan Doyle as an example of a quality writer who published articles in popular English periodicals: "now and then men like Sir Conan Doyle, Rudyard Kipling, or H. G. Wells, write a good story" (23, p. 188). The fact that Conan Doyle referred to the game of billiard and not to playing cards demonstrates that he did not borrow the joke from the original work of Henry Watson but either from Loomis' medical textbook or from Peters' book.

Over time, the lack of control of the primary sources has paradoxically reported

the case originally described by Henry Watson in the field of medical literature, but in the form of the joke created by Loomis and disseminated by Conan Doyle. In 1975, the English surgeon Thomas L. Cleave (1906-1983) simply wrote that “our forefathers used to chalk their billiard cues with the knuckles of their fingers” (24). Finally, in 1997 the Scottish rheumatologist William Watson Buchanan (1930-2006) presented Loomis’ joke as a clinical case described by Conan Doyle: “when tophi ulcerate through the skin, they exude a white chalky material... Sir Arthur Conan Doyle recorded in one of his Sherlock Holmes’ stories how Lord Mount James, one of the richest men in England... could chalk his billiard cue with his knuckles” (25).

## ■ CONCLUSIONS

In conclusion, in the story as well as in his collateral scientific production, Conan Doyle adhered to the most up-to-date medical concepts of the time on gout, demonstrating an uncommon knowledge of the scientific literature.

## Conflict of interest

The author declares no potential conflict of interest.

## Availability of data and materials

Data and materials are available from the corresponding author upon request.

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