

# The “periodical head-achs” of Thomas Jefferson<sup>1</sup>

John D. Battle, Jr., M.D.<sup>1</sup>

The “Sage of Monticello” was plagued with periodic attacks of severe and prolonged headaches that occurred from 1776 to 1808. In letters to members of his family and intimate friends, he referred to these as “periodical head-achs.” In the biographies of Jefferson published since 1930, these have usually been called migraine headaches. After a study encompassing 40 years, Dumas Malone completed the definitive biography of Jefferson. He called the headaches “probably migraine.”<sup>1</sup> Evidence will be presented to suggest a better diagnosis: nervous tension or muscular contraction headaches. The most reliable information is recorded in the letters Jefferson wrote to the members of his immediate family. It is unfortunate that specific descriptions of the headache, such as the location of the pain, prodromal symptoms, and vomiting were not included in his letters. Jefferson wrote that the minimum duration of the headache was about one week and the maximum about eight weeks. Concomitant symptoms such as chills, fever, and nausea were rarely mentioned in the letters. Premonitory scotomata or blurring of vision were not recorded. He noted, however, that on several occasions the headache was so severe that he was scarcely able to read or write. No records have been found to indicate that Jefferson consulted any physicians for advice about the diagnosis or

the treatment of his headaches. Several physicians were close friends: Dr. George Gilmer and Dr. James Currie of Virginia and the famous Dr. Benjamin Rush. Jefferson valued their friendship, but rarely sought their professional advice. He was reluctant to request medical opinions because he deplored the prevalent unscientific theories and practices of doctors.

Many physicians concur that classifying the type of headache may be difficult in spite of ideal conditions, such as a face-to-face consultation. The single most important diagnostic aid is a comprehensive history obtained from the patient. In addition to all the pertinent details about the headache, such factors as personality, health habits, and heredity are essential. Many experienced physicians find it more important to know what kind of patient suffers with a headache rather than what type of headache the patient has.

## Personality

Jefferson was tense and intense. Of a quiet temperament, he was shy and often ill at ease with strangers. He was a poor orator, but a superb writer. He had a brilliant intellect and an abiding capacity for hard work. He deplored indolence and “idle chatter” and welcomed periods of solitude. He guarded his private life as much as possible. Violent outbursts of temper were rare, and his daughter could recall only two.

## Health habits

Jefferson’s health habits were good to excellent. For exercise, he preferred walking, but in his later years, enjoyed riding a trotting horse,

<sup>1</sup> Resident Emeritus Consultant, Department of Hematology and Medical Oncology, The Cleveland Clinic Foundation. Submitted for publication July 1983; revision accepted Aug 1983. lp

0009-8787/84/03/531/09/\$3.25/0

Copyright © 1984, The Cleveland Clinic Foundation

which he called “half exercise.” His diet consisted chiefly of fruits, vegetables, and dairy products. Beef, pork, and other meats were eaten in small amounts. A love of French cuisine and French wine was acquired during his five-year tour of duty in France. He refrained from strong spirits, but enjoyed cider and malt liquor (beer). He raised tobacco for a cash crop, but did not use tobacco in any form. Jefferson retired early and started each day with the sunrise, usually obtaining six to seven hours of sleep. For over 50 years, he bathed his feet in cold water each morning, which he thought reduced the frequency of his head colds.

### **Heredity**

The family records and letters reveal no mention of headaches occurring in Jefferson’s parents, six siblings who lived to maturity, nor in his 12 grandchildren. His older daughter, Martha (Patsy), had several attacks of headache. At the age of 15, when a student in Paris, she wrote to her father, “I have not been able to do more, having been confined some time to my bed with a violent head-ach, and a pain in my side, which afterward blistered up and made me suffer a great deal.”<sup>2</sup> Another record of a headache is found in the unpublished manuscript, “Memoirs of Martha J. Randolph,” which was probably written by one of Martha’s daughters. The excerpt is quoted in full. “At another time she missed an opportunity of seeing Marie Antoinette and being in company with her, which she said was a great disappointment. She received an invitation to pass an evening at the Duke of Dorset’s. The queen was to be there incognito. This invitation she was prevented from accepting by an ill-timed attack of sick headache.”<sup>3</sup>

In 1877, Sarah H. Randolph wrote recollections about her grandmother, Martha.<sup>3</sup> She described the terminal events. “The fatigue caused by the preparation for her departure gave Mrs. Randolph a severe headache; but being subject to such attacks, the apprehensions of the family were not excited about her. At sunrise the next morning, the alarm was given that she had suddenly grown worse.”<sup>4</sup> Martha died shortly thereafter of “apoplexy.” She was 64 years old.

### **Jefferson writes about his headaches**

Jefferson first wrote about a headache at age 21 in a letter to his close college friend, William Flemming. “Your letter I will endeavor to answer

the hour of night and violent headach with which I have been afflicted these two days . . . my head aches, my candle is just going out and must bid you, adieu.”<sup>5(p16)</sup> In the body of this letter, young Thomas reconciles his feelings for the loss of Rebecca Burwell to another suitor. Jefferson was infatuated with this attractive girl whom he met when he was 19 and she was 16. A few months before his headache, he had proposed to Rebecca and wrote that he was tongue-tied, inept, and stammering. In this two-year period of romance and melancholia, Jefferson mentioned just one headache of two days’ duration. At that time, he was immersed in studying law and helping his widowed mother run the plantation.

The records and letters of Jefferson during the period 1764 to 1776 do not refer to or describe headaches. He was a prolific writer, but no letters between him and his mother, or his wife, have been found. He probably destroyed them. In this 11-year period, he was never indolent. Between 1767 to 1771, he was busy with his general law practice and building his library. In February 1770, a devastating fire destroyed his mother’s home and Jefferson lost about 1,200 books, including many priceless legal volumes. Such a tragedy to a bibliophile might be expected to cause a headache, but his letters fail to mention one.

His bachelor years ended happily in January 1772 when he married the young and beautiful Martha Wayles Skelton. From 1772 to 1776, he was a member of the House of Burgesses, a delegate to the Continental Congress, and an architect (he built Monticello). One of his most severe attacks of headache occurred after the sudden death of his mother of apoplexy on 31 March 1776. Jefferson made a brief and unemotional note of this event in his Memorandum Book. He was “ill and incapacitated” for five to six weeks. Later, information leaked out that a severe and prolonged headache was the major symptom of this illness. In early May, he rode to Philadelphia and from there on 16 May 1776 he wrote to his friend, Thomas Nelson, “I arrived here last Tuesday after being detained hence six weeks longer than I intended by a malady of which Dr. Gilmer can inform you.” Dr. George Gilmer left no records about this malady, and his letters of this period are missing. Gilmer’s Commonplace Book contains no reference to Jefferson’s health.<sup>6</sup> On 24 May 1776, Edmund Pendleton wrote to Jefferson from Virginia, “I am sorry

to hear your pleasure at home was interrupted by an inveterate headach. I don't remember the hard name for it which I hope you have travelled off."<sup>5(p296)</sup> What was the hard name his friend could not remember? Dr. Gilmer may have called it hemicrania, megrim (Old English), migraine (French), or even cephalgia. The faulty memory of Pendleton has deprived us of a potential clue.

While convalescing from a fall from his horse in the summer of 1781, Jefferson wrote his *Notes on the State of Virginia*. In this scholarly book, he described the Natural Bridge of Virginia. "It is the most sublime of natures work . . . you involuntarily fall on your hands and feet, creep to the parapet and peer over it. Looking down from this height about a minute gave me a violent head-ach."<sup>7</sup> To most physicians, such an abrupt onset suggests a stress or tension headache, not migraine.

Life at Monticello seemed tranquil until the spring of 1782. In the postpartum period of her sixth pregnancy, Jefferson's wife became seriously ill with an infection. She was bedfast for several months and died in September 1782. His grief was profound and bordered on the pathological. A servant reported that he fainted and had to be carried to his cot. For three weeks, he paced endlessly in his study. Recovery was slow, but hastened by long solitary rides through the countryside. In his Memorandum Book is recorded, "My dear wife died this day at 11:45 a.m."<sup>8(p542)</sup> He wrote to his friend, Chastellux, on 26 November 1782 that he had recovered from "a stupor of mind," which caused him to be "as dead to the world as she was whose loss occasioned it."<sup>9</sup> It is reasonable to suspect that such severe grief and depression would cause a severe headache. The records never mentioned the occurrence of a headache during this time.

Jefferson was happily rescued by his appointment in late 1782 as a member of the commission to negotiate a peace treaty with Great Britain. His voyage was planned for the fall of 1782, but was delayed by red tape and the aggressive British Navy. In the interim, he was elected delegate to the Congress of the Confederation and was pleased with a return to Philadelphia. The Congress was forced out of Philadelphia and convened in Annapolis in November 1783. Jefferson described his general poor health and the recurrence of his headaches during the winter in Annapolis. His letters suggest that this was the first recurrence of his headaches since 1776. On 1

January 1784, he wrote to his intimate friend, James Madison (later to become President), "I have had very ill health since I have been here and am getting rather lower than otherwise."<sup>2(p23)</sup> On 15 January, he wrote to his daughter, Martha, the same news, but added, "I have been just able to attend my duty in the state house, but not to go out on any other occasion." The nature of his illness is obscure, but on 18 February, he wrote to Francis Hopkinson, "I have been in a state of health permitting me neither to read or think. I take advantage of a small remission in a fever to write you a line of thanks . . . you write in a gout and I answer in a fever."<sup>8(p542)</sup> On 1 March 1784, he wrote to William Short. "Having to my habitual ill health had lately added an attack of my *periodical headach*, I am obliged to avoid reading, writing, and almost thinking."<sup>8(p570)</sup> The fever may have been the result of malarial infection. If he took cinchona bark (quinine), it was not mentioned in his letters at that time.

The first time Jefferson wrote the words "periodical headach" in this way was in his letter to Short. It is probable that Jefferson found this term and spelling when he prepared a catalog of the 2,640 volumes in his library in the preceding summer, that is, 1783. This inquisitive man must surely have read the references to headache in his many medical texts. Jefferson was inclined to blame his ill health on the damp and gloomy weather of winter. It is difficult to reconcile his statements about his ill health with his writing 31 legislative papers and serving on all the important committees. A young friend, G. K. Hogendorp, noted that Jefferson had "retired" from social life and appeared to be unhappy and bored. Jefferson confessed he was distressed with the petty and endless bickering of the delegates. Although he was a lawyer, he asked, in a body of 100 lawyers, "whose trade it is to question everything, yield nothing, and talk by the hour, what else could be expected?" He described one colleague as "afflicted with the morbid rage of debate" and heard with impatience any logic that was not his own.<sup>10</sup> For one who hated "idle chatter" and "indolence," there was ample cause for nervous tension headaches. The advent of spring brought improvement in his health. In May 1784, his recovery was rapid when he was appointed minister plenipotentiary to France. He was eager and happy to anticipate joining the venerable Dr. Benjamin Franklin and his feisty old friend John Adams who were already abroad.

Shortly after arrival in Paris in August 1784, Jefferson became ill, depressed, and homesick. Abigail Adams wrote to a friend in December 1784 that he was confined to his house for six weeks, and though improved, was still feeble. Jefferson confirmed this report in a letter to Hogendorp on 20 November 1784. "I relapsed into that state of ill health in which you saw me in Annapolis but more severe. I've had few hours where I could do anything."<sup>11</sup> In spite of his ill health, Jefferson wrote at least 16 letters in his own hand on 11 November. These included long official reports and personal letters. He wrote of his ill health, but did not mention headaches. In the spring of 1785, he recovered completely from his cryptic illness, which he attributed to the sun, "my almighty physician." Jefferson's many letters to America in the years 1785 to 1789 confirm his good health and happiness. In France, he found intellectual stimulation, romance, and the joys of travel. In none of his letters does he mention attacks of headaches.

### From Secretary of State to the Presidency

Jefferson was appointed Secretary of State and assumed his duties in New York City in March 1790. On or about 1 May, his headaches recurred and persisted until 4 July. On 9 May 1790, Jefferson wrote to his son-in-law, Thomas M. Randolph, Jr., "an attack of my periodical head-ach, which came on me about a week ago rendering me unable to write or read without great pain. It has been abating for some days, and has been so slight today that I have strong hope of missing the fit tomorrow."<sup>12(p416)</sup> On 16 May, he wrote to Martha, "I hoped to have been soon rid of the periodical headach which had attacked me. It has indeed been remarkably slight since that, but I am not yet quite clear of it. I expect every fit to be the last . . . my head does not permit me to add more than the affectionate love to you and all of yours."<sup>2(p305)</sup> James Monroe wrote to his ailing friend from Virginia on 20 May 1790. "Your friends have been made uneasy by a report of your indisposition, but flatter themselves it has been remov'd ere this, as they hear it was a periodical complaint you have had before and which was never accompanied with any dangerous symptoms."<sup>12(p432)</sup> On 21 May, his neighbor and physician, Dr. Gilmer, wrote a postscript to his letter, "was distressed to hear of your periodical headach attended you. . . . Hope the BARK (cinchona) and rest from business and all

attentions will restore you speedily to perfect health."<sup>12(p433)</sup> Jefferson wrote to his son-in-law again on 23 May. "Having taken the bark till it ceased to produce any effect, I discontinued for some days. I shall resume it today, and hope it will remove the small and feeble returns which still keep me from business. My eyes are too weak to add anything more."<sup>12(p436)</sup>

The news of the illness of the Secretary of State must have been widely known. A physician in Baltimore, Dr. George Buchanan, wrote to Jefferson on 28 May 1790 and offered professional advice. He reported that he had found a treatment that was effective when the bark fails. He enclosed a prescription containing volatile ammonia and opium with specific instructions. Jefferson replied on 13 June. "Sir, I am to return you thanks for your kind favor of 28 May which found me so far recovered as to have no further occasion for medicine. It was the first time the bark had ever failed to remove my complaint very speedily. Some future attack may perhaps oblige me to profit of your kind counsel."<sup>12(p487)</sup> It is difficult to reconcile Jefferson's statement about the rapid efficacy of the bark with the apparent failure of this drug during the winter of 1784 to 1785 in Annapolis and in Paris in late 1784. If Jefferson had fever with his headaches and prompt relief with bark, the probability of malarial infection would be almost certain. In the letters of Jefferson about his headaches, there is rarely a mention of fever or any indication that he recorded his temperature.

In a letter to his daughter, Martha, on 6 June 1790, he wrote, "I had an attack of my periodical head-ach, very violent for a few days. It soon subsided so as to be very slight. I am not quite clear of it now, though I have been able to resume business for this week past. It can hardly be called a pain now, but only a disagreeable sensation of the head every morning."<sup>2(p58)</sup> To his son-in-law on 30 May, he wrote, "Tomorrow I go sailing, in hopes of being relieved entirely by the sickness I shall probably encounter."<sup>12(p448)</sup> The three-day fishing trip off Sandy Hook with President Washington failed to relieve his headache.

The time period of this prolonged headache coincided with one of his greatest scientific reports, namely the proposal for "Uniformity in the Weights, Measures, and Coins of the U.S." This effort required skill in mathematics and tolerance for tedious details. Years later, he explained that his headache came on at sunrise and lasted till



sunset. He said, "what had been ruminated in the day under a paroxysm of the most excruciating pain, was committed to paper by candle light, and then the calculations were made."<sup>13</sup>

The remainder of the summer in Philadelphia found him hard at work and apparently free of headaches. He spent September and October at Monticello and returned to Philadelphia in November 1790. Congress was in session until 3 March 1791. He worked day and night. No specific records of his health during this winter season were recorded at the time.

In the spring of 1791, Jefferson and Madison took a pleasant journey of 920 miles through New York and New England. On 23 June 1791, he wrote to Martha that he had shortly returned from his trip and "enjoyed thro' the whole of it with very perfect health. . . . I am in hopes the relaxation it gave me from business has freed me from the *almost constant headache* with which I have been persecuted through the whole winter and spring. Having been entirely clear of it while traveling proves it to have been occasioned by the *drudgery of business*."<sup>2(p85)</sup>

The long and severe siege of headache during the winter of 1790 to 1791 was followed by a decade of apparent freedom from headache. Jefferson resigned as Secretary of State in December 1793 and spent the tranquil years 1794 through 1796 in virtual retirement at Monticello. He served as Vice President to John Adams from 1797 to 1801 and his first term as President from 1801 to 1805. In the years 1791 to 1807, Jefferson described several episodes of conjunctivitis, rheumatism, arthritis, and head colds to his family, but did not mention headaches in this 15-year period. The records suggest the absence of severe stress during this period. The exception was the death of his younger daughter, Maria, in April 1804. The remission ended with a severe headache during most of March 1807. This marked the end of his second year of his second term of office, which is historically a troubled period for a president. On 16 March 1807, he wrote to his daughter, "The remains of a bad cold hang on me and for a day or two past some symptoms of a periodical head-ach."<sup>2(p302)</sup> Four days later, he again wrote to Martha, "I am now in the 7th day of a periodical head-ach, and I write this in the morning before the fit has come on. The fits are by no means as severe as I have felt in former times, but they hold me very long, from nine or ten in the morning till dark. Neither

Calomel nor bark have as yet made the least impression on them."<sup>2(p304)</sup> On 23 March, another letter to Martha reported, "My fits of head-ach have shortened from nine hours to five but they have stuck some days at 5 hours, and when they will give further way cannot be divined." Four days later, he again wrote to Martha, "My fit of yesterday was so mild that I have some hope of missing it today. I write this in the morning but will keep it open till the evening to add the result of the day. . . . P.S. Afternoon, I have scarcely had any sensation of a fit today: So that I consider it as missed." The faithful correspondent wrote again three days later, "I have no actual head-ach, yet about nine o'clock every morning I have a very quickened pulse come on, a disturbed head and tender eyes, not amounting to absolute pain. It goes off about noon, and is doubtless an obstinate remnant of the head-ach, keeping up a possibility of return. I am not very confident of its passing off."<sup>2(p305)</sup> Jefferson also wrote to Albert Gallatin, Secretary of the Treasury, on 20 March 1807. "Indeed I have but a little moment in the morning in which I can either read, write, or think. Being obliged to be shut up in a dark room from early in the forenoon until night with a periodical headach."<sup>2(p302)</sup>

Jefferson faced several stressful situations in March 1807. His son-in-law, Thomas Mann Randolph, Jr., was seriously ill and under treatment in the White House. The Monroe-Pinckney treaty with Great Britain was a profound disappointment. The Aaron Burr conspiracy trial was scheduled to start on 30 March with Chief Justice Marshall (an avowed enemy) presiding.

The last headache described in Jefferson's letters occurred in March 1808 when he was nearly 65 years of age. He wrote to his granddaughter, Eleanora (Ellen) Wayles Randolph, from Washington on 29 March 1808, "I must here close, being under an attack of periodical head-ach. It began on Friday last. Sunday it was severe. Yesterday more moderate so I hope it is on the wane. About an hour in the morning is all the time I have to write in the day."<sup>2(p338)</sup> To Ellen's sister, Cornelia Jefferson, he wrote on 3 April, "I mentioned in my letter of last week that I was under an attack of periodical head-ach. This is the tenth day. It has been very moderate and yesterday did not last more than three hours." On 12 April, he wrote to Ellen that he was "entirely recovered of my head-ach."<sup>2(p340)</sup> It is difficult to assess the severity of the stress under which Jefferson con-

ducted the *drudgery of business*. Several difficult political problems were presented to him: Napoleon's Milan decree, the embargo controversy, and the Leopold-Chesapeake affair. All of these were tedious, frustrating, and beyond his control. In the spring of 1809, he could hardly restrain his joy at leaving the White House and retiring to Monticello. The great burdens in the political arena were the scurrilous personal attacks and the bitter hatred of his political enemies. At Monticello, he found tranquility. He devoted his talent and energy to founding the University of Virginia, finishing Monticello, and pursuing his many interests.

### Medical books in Jefferson's library

The superb catalog of Jefferson's library by E. Millicent Sowerby included 99 medical texts, 11 anatomy books, and 7 surgical texts.<sup>14</sup> Jefferson's letter to Dr. Caspar Wistar on 21 June 1807 suggests that he had read the works of many of the doctors he mentions:

I have lived myself to see the disciples of Hoffman, Boerhave, Staalt, Cullen, Brown, succeed one another like the shifting figures of a magic lantern, and their fancies, like the dresses of the annual Doll-babies from Paris becoming, from their novelty, the vogue of the day, and yielding to the next novelty, their ephemeral favor. The patient treated on the fashionable theory sometimes gets well in spite of the medicine . . . the only sure foundations of medicines are an intimate knowledge of the human body, and observation on the effects of medicinal substances on that.<sup>14(p395)</sup>

Two letters, one to Henry Fry on 17 June 1804 and the other to Judge Spencer Roane on 18 July 1822, indicate that he had read the works of Dr. Thomas Sydenham. In 1801, Dr. Eustis of Boston advised Jefferson to purchase the book of the "sagacious Sydenham" and heed his suggestion for the treatment of his chronic diarrhea. The "cure" was "riding a trotting horse" several hours a day. Jefferson found this therapy helpful and recommended it to his friends, Fry and Roane.<sup>14(p411)</sup> If Jefferson had searched the works of Dr. Sydenham for curative or preventive advice about his headaches, he would have been disappointed. A brief reference to headache is included in the section on nervous and hysteric diseases.

Jefferson's library catalog in 1783 included the works of Hippocrates, Aretaeus, Buchan, Boerhaave, Brooke, Shaw, Baynard, Celsus, Salmon, and Quincey.

There is a strong probability that Jefferson read *Baynard on Cold Bathing* which recommended bathing the feet in cold water each day to prevent head colds. In his late years, Jefferson wrote that he had followed this advice for 60 years with a "salutory" effect. Baynard also concurred with the ancient Greek physician, Auerlianus, who cured hemicrania with cold baths, especially "old or chronic headaches." Baynard also reported the case history of one of his patients afflicted with "*periodical headach*." After bleeding failed to cure the headache, treatment with cold baths proved effective.<sup>15</sup>

Hippocrates, the father of the scientific age of medicine, wrote in about 460 BC, "He seemed to see something shining before him like a light, . . . at the end of a moment, a violent pain supervened in the right temple . . . vomiting."<sup>16</sup> Thus are described several of the criteria of migraine headache, i.e., the visual aura, the unilateral location, and vomiting.

Jefferson was a classical scholar who preferred to read texts in the original Greek or Latin. He owned a translation of the works of Aretaeus, a famous Greek physician born in Cappadocia in about AD 81. How could Jefferson fail to read the chapter on headache by this learned doctor? Aretaeus is credited with the first report of the clearly defined syndrome, later called migraine headache. He described the periodicity of the attacks, the unilateral pain, the nausea and vomiting, and the soothing effect of darkness. He classified headache into three types: cephealea for all headaches, hemicrania for migraine, and cephalalgia for the rest.<sup>17</sup>

The absence of the works of Galen (131–200) in the library of Jefferson is not readily explained. This famous physician of antiquity classified headache into three types: cephealea for all headaches, hemicrania for migraine, and cephalalgia for the rest. He is credited with introducing the term "hemicrania" to denote periodic unilateral headache.<sup>18</sup> Hemicrania is the source of the Old English word *megrin*; the French *migraine*; the Spanish *migrana*; and the Italian *magrana*. If Jefferson had searched the works of Galen, he might have been confused or enlightened about his "periodical headachs."

Dr. William Buchan's book, *Domestic Medicine*, was on Jefferson's shelf in 1783. One chapter, entitled "of the Headach," is a long dissertation stating that hemicrania is a common symptom in hypochondriac and hysteric patients. Buchan wrote that hemicrania proceeded from "crudites

or fullness of the stomach." Many treatments were suggested, including bleeding, purges of rhubarb, bitters, and laudanum.<sup>19</sup>

One of the outstanding books in Jefferson's library was *Zoonomia* by Dr. Erasmus Darwin (1731–1802). The grandfather of the naturalist wrote a comprehensive section on hemicrania or megrim. He described the triad of periodicity, unilateral pain, and vomiting in this disorder. He mentioned that a few of these patients were benefited by the removal of an infected tooth. In 1796, this inquisitive physician speculated on the effect of centrifugal force on headache, that is, "whirling a person with his head next to the center of motion, so as to force the blood from the brain."<sup>20</sup> It is unfortunate that no evidence indicates that Jefferson read Dr. Darwin's observations about headaches. His scientific curiosity would have been aroused; he might even have preceded Dr. Harold Wolff and built a centrifuge for humans and experimented with it. About 150 years later, Dr. Wolff conducted experiments involving patients with the centrifuge at Wright Field in Dayton, Ohio. In several patients, the headaches were improved or completely eliminated when the peak g force of 2 or 3 was reached. Caffeine-withdrawal headaches in two subjects responded to a centrifugal force of 2.0 g. Dr. Wolff also recorded the experiences of many pilots, that is, the induction of an intense headache while doing an outside loop.<sup>21</sup>

It is tempting to believe that Jefferson read Dr. Darwin's famous text for other reasons. The first volume of the American edition was edited by Samuel Latham Mitchill (1764–1831), a New York physician, United States Senator, and a personal and political friend of Jefferson.

Lazarus Riverius, M.D., (1589–1655) was physician to the King of France. He wrote a huge text, *The Practise of Physic*, which devoted a chapter to "Of the Headach." This text was in Jefferson's library. If he read the complex dissertation on hemicrania and headache, he would have been confused about all the theories of etiology and the infinite number of treatments and drugs that were reported to be successful. Riverius pronounced an "external headach" to be less dangerous and easier to cure than an "internal" one. He failed to explain, however, how to differentiate the two types.<sup>22</sup>

Jefferson owned several volumes of the works of Dr. S. A. Tissot of Lausanne, Switzerland. This astute physician has been given credit as the first to record the hereditary aspect of migraine

headaches.<sup>23</sup> There is no evidence that Jefferson read Tissot's observations about headaches.

It is incredible, however, to find that Jefferson's library did not contain the works of such distinguished physicians as William Heberden (1710–1801) and John Fothergill (1712–1780), or Robert Whytt's *Treatise on Nervous Disorders*. These three authors wrote comprehensive dissertations about headaches. Fothergill is credited with introducing the term, "sick headache," that was later used as a synonym for migraine headache.

### The migraine tradition

In the vast literature about Thomas Jefferson, specific opinions about the nature and type of his headaches have been brief. With rare exception, the historians and biographers have been content with the diagnosis of migraine or probably migraine. The comprehensive biography by H. S. Randall in 1858 mentioned "inveterate head-achs" a few times, but the terms hemicrania, megrim, and migraine were not used.<sup>24</sup> Pierson<sup>25</sup> published details of the private life of Jefferson in 1862, but expressed no opinion about his headaches; his informant was Bacon who was Jefferson's overseer for many years. In 1874, Parton discussed the health and illnesses of Jefferson, but ventured no opinions about the cause or type of his headaches.<sup>26</sup> Other biographers such as Peterson,<sup>27</sup> Bowers,<sup>28</sup> and Adams<sup>29</sup> were apparently satisfied with the diagnosis of migraine. Sarah Randolph, a great granddaughter, wrote *The Domestic Life of Thomas Jefferson*, discussing details of his personal life. She reported the severe headaches, but did not use such terms as migraine, megrim, or sick headaches.<sup>30</sup> An intimate biography by Brodie<sup>31</sup> in 1974 contained specific reasons to support the diagnosis of migraine headaches. She used the techniques of psychohistory (called psychobaloney by cynics) to reinforce her opinions. Brodie relied chiefly on the medical books of Wolff<sup>21</sup> and Beeson and McDermott.<sup>32</sup> Brodie inferred that Jefferson fit the criteria for a migraine personality. The specificity of a migraine personality was refuted by the statistical data of Ziegler.<sup>33,34</sup> Brodie stressed the occurrence of headaches in Jefferson and his older daughter as confirmatory evidence of migraine. As mentioned before, Martha wrote to her father about one headache when she was 14 years old. In the many letters to her father, she wrote specific details of her various illnesses and symptoms, but did not mention headaches in her



adult life. Even if both father and daughter had headaches, such an occurrence is not sufficient to establish a diagnosis of migraine headaches. Martha bore a remarkable physical and emotional similarity to her father. She was highly intelligent and had a fine education. Like her father, she was subject to profound emotional stresses. Her husband was mentally unstable. She had 12 children, 11 of whom lived to maturity. Jefferson and his daughter probably reacted to stress with nervous tension headaches. The report that Martha died of apoplexy suggests that she may have had hypertension.

### Medical writers

Physicians, including specialists in internal medicine, neurology, and psychiatry, have generally accepted the diagnosis of migraine without reservations or specific reasons for the diagnosis. In 1967 and 1970, Dr. Carl Binger, psychiatrist and historian, published psychoanalytical studies of Jefferson.<sup>35,36</sup> He cited the tragic losses, depressive reactions, and the physical illnesses of this "patient" and his superb ability to recover his psychic health. Binger inferred that his recovery from emotional trauma was the result of his immersion in hard work. He thought that emotional stress induced attacks of migraine headache.

In 1972, Dr. Friedman<sup>37</sup> reported on the history, the literature, and the legends of headache. Many famous persons who were considered to have migraine are discussed, including Jefferson. The author noted the stress preceding the headache, the long duration of the attacks, and the absence of attacks upon retirement.

After many years' study of the health of the presidents, Dr. Marx expressed a vigorous dissenting opinion.<sup>38</sup> He presented positive and negative evidence against the popular diagnosis of migraine. He thought nervous tension or muscular contraction headaches was a better diagnosis for the following reasons:

1. Long duration of the headaches, i.e., seven days to several weeks.
2. Prolonged period of frustrating work and stress preceding the headaches.
3. More severe headache during the day than during the night.
4. Negative factors, i.e., Jefferson never mentioned associated symptoms so common in migraine such as premonitory visual aura, unilateral location of headache, or nausea and vomiting.

### Discussion

The available evidence suggests that our third President had tension headaches rather than migraine headaches. In such a highly educated and avid bibliophile, why did he call them periodical headaches rather than megrim or migraine headaches? Jefferson read, wrote, and spoke French with ease. He was well versed in French literature and must have recognized the French word *migraine*. This term, and 30 other spelling variations, was in use for over 300 years. The *Oxford English Dictionary*<sup>39</sup> lists the first in 1420, "a fervent mygreyn was in the right side of hurre hedde." Horace Walpole in 1770 wrote, "Mme de Jarnac had a migraine."<sup>40</sup> It is regrettable that Edmund Pendleton forgot the "hard name" for the headache that Dr. Gilmer told him.

Could Jefferson have had attacks of cluster headaches? All the evidence indicates that the answer is no. The term "cluster" has replaced the older ones of histaminic cephalgia and Horton's headache. This type of headache usually starts between midnight and two in the morning. The pain is severe and unilateral. The patient often jumps out of bed and paces the room. The attack usually lasts less than an hour, only to recur several times in a 24-hour period in brief clusters. On the affected side, there is tearing of the eye, rhinorrhea, and nasal obstruction. Jefferson often described how his headaches subsided during the night; however, no mention was made about tearing of an eye with his headache.

Could Jefferson have had both migraine and nervous tension headaches? Such a combination is possible, but not likely. Jefferson's descriptions of his headaches are remarkably consistent and suggest that he recognized only one type of headache.

Several writers have concluded that the remission of his headaches in his later years proves the diagnosis of migraine. A valid argument can be made for the diagnosis of stress headaches if the headaches subside when stress is no longer present. One cannot deny that Jefferson had some stressful problems in his retirement; however, on the top of his own mountain with his devoted daughters and 12 grandchildren nearby, he could cope with his problems.

Finally, as experienced physicians know, the patient's opinion regarding diagnosis should be given great respect. Jefferson was certain that his headaches were due to the "drudgery of business."



## Acknowledgments

I thank Glen Jenkins, Rare Book Curator of the Allen Memorial Medical Library in Cleveland; Silvio A. Bedini of the Museum of American History (Smithsonian) for his valuable suggestions; James A. Bear, Jr., Resident Director of the Jefferson Memorial Foundation, Monticello, Va, who provided valuable data; Diane Crouse, Linda Sands, and Marie Keaton for secretarial assistance; and the librarians of the Library of Congress, the Cleveland Public Library, the Western Reserve Historical Society, the Massachusetts Historical Society, and the Alderman Library of the University of Virginia for their cordial assistance.

Department of Hematology and Medical Oncology  
The Cleveland Clinic Foundation  
9500 Euclid Ave.  
Cleveland OH 44106

## References

- Malone D. Jefferson and His Time: Jefferson the Virginian. Boston, Little, Brown and Co, 1948, vol 1, p 216.
- Betts EM, Bear JA, eds. Family Letters of Thomas Jefferson. Columbia, University of Missouri Press, 1966.
- Memoirs of Martha J. Randolph. Edgehill-Randolph Papers, Alderman Library, Collection #1397. Charlottesville, University of Virginia.
- Wister SB, Irwin A, eds. Worthy Women of Our First Century. Philadelphia, Lippincott, 1877.
- Boyd J, et al, eds. The Papers of Thomas Jefferson. New Jersey, Princeton University Press, vol 1, 1950.
- Canby C. Virginia Magazine of History. Oct 1948, p 382.
- Peden W, ed. Thomas Jefferson, Notes on the State of Virginia. Chapel Hill, University of North Carolina Press, 1955, pp 24-25.
- Boyd J, et al, eds. The Papers of Thomas Jefferson. New Jersey, Princeton University Press, vol 6, 1952.
- Ford PL. Writings of Thomas Jefferson: NY (1892-1899) (Letterpress ed) vol 3, p 109.
- Autobiography of Thomas Jefferson. New York, GP Putnam's Sons, 1959, pp 70-71.
- Boyd J, et al, eds. The Papers of Thomas Jefferson. New Jersey, Princeton University Press, vol 7, 1953, p 545.
- Boyd J, et al, eds. The Papers of Thomas Jefferson. New Jersey, Princeton University Press, vol 16, 1961.
- Malone D. Jefferson and the Rights of Man. Boston, Little, Brown and Co, vol 2, 1951, p 276.
- Sowerby EM. Catalogue of the Library of Thomas Jefferson (1943-1952).
- Baynard E. Baynard on Cold Bathing. 2 ed. London, Sir John Floyer, 1706.
- Hippocrates Opera Omnia. [Gr, Lat] Amsterdam, Van der Linden, ca 1635.
- Aretaeus/Aretaci Opera cum Commentaria Henischii, 1603.
- Siegel RE. Galen on Psychology, Psychopathology and Function and Disease of the Nervous System; an Analysis of His Doctrines, Observations and Experiments. Basel, S Karger, 1973, pp 248-249.
- Buchan W. Domestic Medicine. 9 ed. London, Strahan and T. Cadell, 1786, p 390.
- Darwin E. Zoonomia, or Laws of Organic Life. Philadelphia, T. Dobson, 1797.
- Wolff H. Headache and Other Head Pain. 3 ed. New York, Oxford University Press, 1948, p 249.
- Riverius L. Practise of Physic. Culpeper N, Cole A, Rowland W, trans. London, John Streeter for George Strawbridge, 1674, chap 16.
- Tissot SA. Oeuvres de Monsieur Tissot. Lausanne, Grassel, vol 13, 1790.
- Randall HS. The Life of Thomas Jefferson. Philadelphia, Lippincott, vol 3, 1858.
- Pierson HW. Jefferson at Monticello, the Private Life of Thomas Jefferson. New York, Scribner, 1862.
- Parton J. Life of Thomas Jefferson. Boston, Osgood, 1874.
- Peterson MD. Thomas Jefferson and the New Nation, a Biography. New York, Oxford University Press, 1970.
- Bowers CG. Jefferson in Power. New York, Houghton, Mifflin, 1936.
- Adams JT. The Living Thomas Jefferson. New York, Scribner, 1936.
- Randolph SN. The Domestic Life of Thomas Jefferson. Charlottesville, University Press of Virginia, 1979.
- Norton F. Thomas Jefferson; an Intimate History. New York, Norton, 1974.
- Beeson PB, McDermott W. Cecil Textbook of Medicine. Philadelphia, Saunders, 1963.
- Ziegler DK. The epidemiology and genetics of migraine. Res Clin North Am 1978; 5: 21-33.
- Ziegler DK. Tension headache. Med Clin North Am 1978; 62: 495-505.
- Binger C. Conflicts in the life of Thomas Jefferson. Am J Psychiatry 1969; 125: 1098-1107.
- Binger C. Thomas Jefferson, a Well-tempered Man. New York, Norton, 1970.
- Friedman AP. The headache in history, literature, and legend. Bull NY Acad Med 1972; 48: 661-681.
- Marx R. Health of the Presidents. New York, GP Putnam's Sons, 1960.
- Oxford English Dictionary, vol 6, Oxford, England, Oxford University Press, 1908, pp 310, 432.
- Dallessio DJ, ed. Wolff's Headache and Other Head Pain. 4 ed. New York, Oxford University Press, 1980.