Osler on Migraine
Christopher J. Boes

ABSTRACT: William Osler’s 1892 textbook The Principles and Practice of Medicine became the dominant medical text in the English-speaking world. Osler was labeled a therapeutic nihilist by some. The topic of migraine, including treatment, was succinctly covered in his text. The objectives of this study were to review Osler’s thoughts on migraine, and outline his therapeutic recommendations. Preventively Osler mentioned bromides, iron, arsenic, nitroglycerin, and cannabis. Acutely he recommended coffee, chloroform, cannabis, antipyrin, antifebrin, phenacetin, caffeine citrate, nux vomica, or ergot. He thought cannabis was the most satisfactory remedy. Osler was not a therapeutic nihilist when it came to migraine, and his treatment recommendations were similar to other writers of his time. Osler did not draw upon his personal experience to contribute new knowledge about migraine. Regardless, given the popularity and clarity of his text, Osler’s well-summarized migraine chapter had a great influence on practicing physicians.

METHODS
The author reviewed the migraine chapters of the nine editions of The Principles and Practice of Medicine that Osler contributed to, as well as his publications. Biographies of Osler by Bliss and Cushing, and Bibliotheca Osleriana were reviewed. The Osler Library Archive Collections at McGill University were searched for material on migraine. Osler published no articles on migraine, and no unpublished manuscripts by Osler on migraine exist in the Osler Library Archives at McGill University.

RESULTS
In the first edition of his book, Osler divided the three-page migraine chapter into definition, etiology, symptoms, and treatment. He mentioned the following authors in the chapter: George Airy, Edward Liveing, Wharton Sinkler, T. Lauder Brunton, William Gowers, Richard Thoma, Möllendorff, Peter Wallwork Latham, and Edward Seguin. Osler noted that “Edward Liveing’s work is the standard authority upon which most of the subsequent articles have been based.”

Symptoms
In addition to describing the cardinal features of migraine in his chapter, Osler commented that “remarkable prodromata have been described, particularly in connection with vision... apparitions may appear—visions of animals, such as mice, dogs, etc.”

Pathophysiology
Osler stated that the nature of the disease was unknown. He mentioned both the neurogenic (Liveing) and vaso-motor (Möllendorff, Latham) theories in the first seven editions of his text but focused more on the vascular hypothesis by emphasizing ipsilateral temporal artery atherosclerosis in migraine. Osler commented that...
Osler’s treatment recommendations included avoidance of excitement, regularity in the meals, moderation in diet, and trigger avoidance. Preventively he mentioned bromides, iron and arsenic (if anemia was present), and nitroglycerin (if arterial tension was increased) but he noted that “not too much, however, should be expected of the preventive treatment of migraine... It must be confessed that in a very large proportion of cases the headaches recur in spite of all we can do.”

In the eighth edition Osler recommended bed rest in a quiet room, as well as a small cup of strong coffee, chloroform, Cannabis indica (also used preventively), antipyrin (phenazone; an analgesic and antipyretic), antifebrin (acetanilide), phenacetin (acetophenetidin), caffeine citrate, nux vomica (created from the seeds of the strychnine tree), or ergot. He thought cannabis was the most satisfactory remedy, and reported that antipyrin and similar drugs worked best when used at the very outset of the paroxysm. He warned against overdosing acute headache medication like antifebrin or antipyrin, noting in a patient with migraine “unpleasant collapse symptoms following a twenty-five-grain dose of antipyrin.” Osler ended the treatment section in the first edition of his book by stating that “electricity does not appear to be of much service.” In the third edition of his text, he mentioned washing out the stomach with water at 105 degrees and giving a brisk saline cathartic early in a migraine attack. In the fourth edition of his text he added the following treatment:

“...and, in obstinate cases, an ordinary tape seton may be implanted through the skin at the back of the neck, to be worn for three months, a plan of treatment which has the strongest possible recommendation from Mr. Whitehead, of Manchester.”

In the eighth edition Osler recommended irrigation of the colon with hot saline, and alkaline water by mouth.

**DISCUSSION**

Osler gave credit to Edward Liveing at the beginning of his chapter, underlining the importance of his 1873 book On Megrim, Sick-headache, and Some Allied Disorders: A Contribution to the Pathology of Nerve-Storms. Möllendorff and Peter Wallwork Latham were mentioned because they helped describe the vaso-motor hypothesis of migraine, and Osler emphasized the vascular theory of migraine in his chapters over the years. Overall, he summarized the thoughts of others regarding pathophysiology, rather than hypothesizing anew.

Osler was well aware of the cardinal features of migraine, and mentioned unusual manifestations such as formed visual hallucinations. The apparitions mentioned by Osler likely refer to a paper by Silas Weir Mitchell on that topic, given the similar clinical descriptions. In 1887, Weir Mitchell published a paper entitled “Neuralgic Headaches With Apparitions of Unusual Character.” In that paper, he described unusual “visual prodromes” in four patients with migraine. One patient saw a “large black and very hairy dog”, followed by a severe unilateral headache. Other apparitions included a dead sister, a blood-covered living relative, a spider, and white-robed veiled figures. Weir Mitchell later stated that “this paper called out an interesting series of such cases...”
Osler dedicated his book *On Chorea and Choreiform Affections* to Gowers, addressing himself as Gowers’ sincere friend. Gowers wrote Osler a letter of recommendation when Osler was being considered for a job at the University of Pennsylvania, commenting that “no English physician of the same standing had achieved a wider or higher reputation.” Two warm letters between Osler and Gowers exist in the Osler Library Archives, highlighting their strong friendship. Osler’s well-summarized migraine chapter had a great influence on practicing physicians. The author owns a copy of Bayard Horton’s Osler text (the 9th edition of *The Principles and Practice of Medicine*), and the migraine section is well underlined by Horton. Horton was to go on to be an expert in the area of headache at the Mayo Clinic.

**DISCLOSURES**

CB has nothing to disclose. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

**REFERENCES**