SECOND THOUGHTS

Did Weir Mitchell anticipate important concepts in ambulatory care and clinical epidemiology?

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Abstract

During the decade from 1977 to 1986, four models of care pertaining to ambulatory medicine and certain aspects of clinical epidemiology were proposed [1–4]. All were concerned with the frequently heard accusation that medicine was becoming dehumanized by being overly dependent on powerful new technologies. Some of the authors went so far as to suggest that the view, according to which medical science must restrict itself to “hard” data of the kind provided by the serum multichannel analyzer, should be considered outdated and, in fact, unscientific [1,2]. Their plan was to develop a science of the clinical encounter that would shift the emphasis from explication to prediction and management, the latter term being virtually synonymous with decision making. For this change to come about, they wrote, it would be necessary to collect “soft” data on such subjects as family relationships, psychic traits and states, perceptions of life quality, patient expectations and many others.

We believe that some of these subjects as well as the models themselves were anticipated in the writings, both medical and fictional, of Weir Mitchell, nearly a century earlier. This paper, after presenting a brief overview of the career of a colorful and commanding figure from the annals of American medicine, will seek to illustrate his extraordinary foresightfulness as a practitioner of primary care and his relevance for some aspects of clinical epidemiology. Because the attempts to link his ideas to modern concepts are ours, we accept the possibility that, here and there, we may have read things into his writings that he did not intend.

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1. Introduction

In 1895, Dr. Silas Weir Mitchell, then regarded as America’s greatest neurologist, received an honorary degree from the University of Edinburgh alluding to him as “... The chief ornament of medical science in the new world” [5]. He was born in Philadelphia, his life being a long and enviable one, spanning the years 1829 to 1914. He lived, for the most part, in material comfort and in personal acquaintance with many of the great physicians, statesmen, scientists, authors and poets of his day. They included Sir James Paget, Sir William Osler, Presidents William McKinley and Theodore Roosevelt, Claude Bernard, Hideyo Noguchi, Sir Ronald Ross, William and Henry James, Alfred Lord Tennyson and Oliver Wendell Holmes.

Mitchell was a distinguished physiologist who had to give up laboratory work early in his career because of the pressure of a large general practice, which he required as a livelihood, since he was weighed down with dependents [5].

One of his theoretical breakthroughs in physiology was made when he considered the possibility that a single snake venom can contain more than one toxin [6]. He was a brilliant clinical scientist who was accorded primacy in giving modern delineations of sleep paralysis [7], erythromelalgia [8], and phantom limb pain [9]. It has been said of him that, for the last three decades of the nineteenth century, he was America’s leading psychiatrist [10] and his famous regimen for treating patients suffering from nervous exhaustion, presented in detail in a treatise entitled “Fat and Blood” [11], was employed by Freud [12]. He is also thought to have been the first physician to introduce psychology into everyday practice [13]. He wrote best-selling novels and poems and there were those who believed that, as a writer of historical fiction, he exceeded Thackeray [5]. Most of the novels were published after 1890, when his son, John Kearsky Mitchell, had taken over the main responsibility for the practice. Finally, he was active in public life and is known to have been consulted on matters of state by at least two American presidents [14]. His first biographer said of him that he was Philadelphia’s first citizen as no one had been since Benjamin Franklin [5].
2. A Farsighted Primary Care Physician

2.1. The Patient-Centered Model

A biographer who emphasizes Mitchell as a doctor rather than a novelist and public figure wrote of how much he was in advance of his time as follows: "His sermons were on subjects far beyond the then all too limited boundary of conventional medicine" [15]. In his paper on erythroblast analysis (a bilateral, paroxysmal vasodilatory disorder characterized by burning pain in the extremities, often with reddening, cyanosis and heat [16]), Mitchell describes the condition in a veteran of the Civil War to which the following casual note is appended: "The indirect cause of his indisposition, he thinks, was army life and the direct cause prolonged continence" [8]. Here the subject's explanatory model has been elicited much as we, today, are enjoined to ask: "What do you think has caused your problem?" [17]. Taken together with an exploration of the fears, expectations and illness attribution attendant on the chief complaint, this question lies at the heart of patient-centered practice and can lead to the application of clinicians, relatively new basic science as fundamental to epidemiology as it is to medicine [18].

2.2. Prevention and Health Promotion

The little book, "Wear and Tear", appeared in 1871 and represented an attempt by Mitchell to educate the public in matters of prevention [19]. Its thesis was that Americans take life too seriously and play too little, both propensities giving rise to stress, which might account for the increasing prevalence of nervous conditions the author noted on every hand. Admirable as was his attempt to ward off disease by promoting a healthier lifestyle, it fell foul of prevailing American attitudes. The profession was concerned with illness rather than the conditions predisposing to it: "A doctor's business was to cure the sick, not to assist the healthy to remain so" [5].

Mitchell's enthusiasm for promoting health was tempered by a fine understanding of how thin the line is between such activity and charlatantry. This is particularly evident in his novella, "The Autobiography of a Quack", which serves as a cautionary tale concerning what can happen when genuine medical skills are put entirely at the disposal of pecuniary interests [20]: "I thought at times of traveling as a physiological lecturer, combining with it the business of a practitioner: scare the audience at night with an enumeration of symptoms which belong to 10 out of every dozen healthy people and then doctor such of them as are gulls enough to consult me next day. The bigger the fright the better the pay." Some of our present day excesses in giving advice about lifestyle seem lampooned prophetically in these lines.

2.3. The Biopsychosocial Model

In 1977, George Engel deplored the reductionism implicit in the biomedical model that seeks common denominators between cases, not allowing for the patient's individuality and implying that disease is always defined by a biochemical defect: "Thus, while the diagnosis of diabetes is first suggested by certain core clinical manifestations, for example, polyuria, polydipsia, polyphagia and weight loss, and is then confirmed by laboratory documentation of absolute insulin deficiency, how these are experienced and how reported by any one individual, and how they affect him, all require consideration of psychological, social and cultural factors, not to mention other concurrent or complicating biological factors" [1]. In his novel "Circumstance", published some 75 years earlier, Mitchell had written, "If one could go from bed to bed, and simply be the engineer of human machines, it would be easy; but these machines have mothers and wives, and notions. One has to listen and prescribe for anxieties and splint broken hopes" [21]. In "Constance Trescott", considered by many to be his most perceptive work, he speaks of "...the physician's vast explanatory knowledge of the lives of men and women, which accepts heredity, education and environment as matters not to be left out of the consideration of disease or the manners of men's actions" [22]. These messages, deriving from Mitchell's fiction, where he was known to test hypotheses he could not prove in his science, anticipate Engel's formulation of the biopsychosocial model by three-quarters of a century. They also foreshadow the idea of rehumanizing important bedside phenomena by forcing the physician to pay attention to the patient's comments [16].

2.4. Placebo Effect

In his book, "Fat and Blood", which appeared in 1877, Mitchell laid down the principles of treating functional nervous disorders [11]. It was called "therapeutically important" as recently as the 1860s [23] and had the additional virtue of helping put an end to the indiscriminate use of purging and bleeding. Regarding its recommendations, a contemporary wrote, "The part played by suggestion and tact, a knowledge of human nature and a dominant will... must not be overlooked" [5]. These are all components of placebo effect that, in Mitchell's day, had not yet been studied. The following lines suggest that he was familiar with it: "But we all know well enough the personal value of certain doctors for certain cases. Mere hygienic advice will win a victory in the hands of one man and obtain no good result in the hands of another, for we are, after all, artists who all use the same means to an end but fail or succeed according to our method of using them" [11]. Elsewhere in the book, speaking of the applicability of his rest cure to patients suffering from "nervous exhaustion", he states, "If I succeed in first altering the moral atmosphere which has been to the patient like the very breathing of evil...I am usually sure of giving general relief to a host of aches, pains, and varied disabilities" [11]. Here there is more than a hint of an understanding of secondary gain, a subject with which he deals in more detail elsewhere. Whatever the virtues of the regimen put forward by Mitchell (comprising rest, massage, electric stimulation and overfeeding) "Fat and Blood" evinces a clear understanding of another phenomenon much discussed today by primary physicians: burnout on the part of caretakers at home.
2.5. Diagnosis

Weir Mitchell, in his general practice, appeared to grasp the tentativeness of the diagnostic process, no small thing at a time when treatment options were limited and there was little room for the therapeutic trials by means of which primary care physicians often make retrospective diagnoses today. “There is always a little fog around all our medical conclusions. We can rarely be certain. The power to act with decision within the limits of the medially attainable, with the attendant knowledge that uncertainty is with us ever, is valuable in medicine” [5]. This idea, that the “search” has to be stopped somewhere, and a decision for action or inaction taken, would not be out of place in a modern textbook of ambulatory medicine [4].

Mitchell’s sense of relativism regarding nosology was well expressed when, in 1875, he wrote of hysteria that it is “... the nosological limbo of all unnamned female maladies. It were as well called myfria for all its name teaches us of the host of morbid states which are crowded within its fuzzy boundaries” [24]. On one occasion, when asked, regarding a certain patient, what the diagnosis was, he is reported to have replied, “I don’t know. It is very often not only the best policy, but more honest to make an agnosia than a diagnosis” [14]. Moreover, “Do not be in too great a hurry to label a case, for if you do, you are likely to put it on a shelf and forget it, while if you do not, you continue to study it” [14]. Not only are these dicta eminently applicable to modern practice but they also raise questions concerning the picture usually drawn of Mitchell as being without a sense of humor.

2.6. Evidence-Based Medicine?

In 1894, Mitchell was invited to address the American Medical Psychological Association at a conference marking its fiftieth anniversary. Most of its members were superintendents of large institutions for mental patients and the body might be looked upon as the late nineteenth century equivalent of the colleges that represent specialties in the United States today. He was asked to speak boldly and without regard to persons on the state of psychiatry: “You were the first of the specialists and you have never come back into line. It is easy to see how this came about. You soon began to live apart and still do so. Your hospitals are not their hospitals; your ways are not their ways. You live out of range of critical shot; you are not preceded or followed in your word walk by clever rivals, or watched by able residents fresh with the learning of the school” [25].

He then went on: “Where... are your careful scientific reports?... You live alone, unreviewed, unquestioned, out of the healthy conflicts and honest rivalries which keep us (neurologists) up to mark of the fullest possible competence” [26]. It is difficult to know, more than a century after these words were spoken, what Mitchell’s intent was, but they sound, from today’s vantage point, like a call for evidence-based practice.

3. Conclusions

We have pointed out, using for the most part quotations from Weir Mitchell’s fiction and writings on medical science, his relevance for ambulatory medicine and clinical epidemiology in our day. Aside from being America’s greatest neurologist whose discoveries in the field of peripheral nerve injuries (made during his Civil War service at Turner’s Lane Hospital in Philadelphia) were still hailed as being definitive a full century later [27], he made important contributions to toxicology, clinical science, psychiatry and general physiology. He was also a novelist of stature and wrote a number of beautiful poems. As a public figure, he did much to further the cause of the Philadelphia College of Physicians and served on the Board of Trustees of the University of Pennsylvania [6]. He is also known to have helped break the hold on power of a municipal political machine in the city of his birth [14].

Less well-appreciated are Mitchell’s insights into the physician/patient relationship, growing out of his long experience in general practice. He appears to have had a prescient grasp of placebo effects, of patient-centered medicine, of health promotion, of the diagnostic process and of the need to broaden the context of the clinical encounter, in order to factor in the influences of family, personality and the larger surrounding society. It is even possible that, in his insistence on a rigorous, scientific basis for practice, he anticipated what is now called evidence-based medicine.

References


