Special Article

A Lively Mind in a Frozen Body: The History of Rickety Kate—an Australian Poet Who Suffered From Rheumatoid Arthritis

Journal of Evidence-Based Complementary & Alternative Medicine
16(3) 233-238

DOI: 10.1177/2156587211414425
http://cam.sagepub.com
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Ursula Werneke, MD, MSc, MRCPsych[1]

Abstract

"Rickety Kate" was the descriptive name of Minnie Agnes Filson, a popular Australian poet featured widely in the Australian media from the 1930s through to the 1960s. The assumed name was a reflection of her severe rheumatoid arthritis, which left her completely immobilized. During her lifetime, Kate received a variety of conventional medical treatments, which proved largely ineffective. She finally turned to an Indian healer, who managed to improve her quality of life although her physical disabilities persisted. This article explores the history of rheumatoid arthritis from a patient's perspective in the light of the scientific knowledge at the time and critically reflects on the relationship between conventional and complementary/alternative medicine then and today.

Keywords

rheumatoid arthritis, complementary/alternative medicine, conventional medicine, poet

Introduction

Rickety Kate was the descriptive name of Minnie Agnes Filson a popular Australian poet listed in the *Anthology of Australian Literature*. Her work was published in newspapers, literature collections, and school textbooks and broadcast on the radio from the 1930s through to the 1960s.[1,2] She was associated with the Jindyworobak movement propagating Australian nature and Aboriginal themes hitherto neglected. Minnie Filson's assumed name of Rickety Kate was a reflection of her suffering from severe rheumatoid arthritis. Kate had contracted the condition in her early 20s, and it deteriorated in 1926 after the birth of her only son. The disease progressed rapidly, and 3 years later, she was completely rigid except for her toes. Completely dependent on her family for her physical care, she was surrounded by many good friends, readers, and scribes who recorded her work for more than 40 years. Kate survived many acute episodes. On one occasion during the 1940s, doctors gave her only 48 hours to live. She died in 1971 from the consequences of a myocardial infarction having been completely immobilized for 44 years without any episodes of significant recovery of movement. She left a detailed account of her illness in her autobiographical novel *Feet on the Ground*[1] written during the 1940s and finally published in 2008.

Kate's Medical Treatment in Light of What Was Known at the Time

During her long illness, Kate had 3 treatment episodes in hospital. A variety of strategies were tried, including food elimination diets targeting carbohydrates, fats, and proteins in turn. She wore splints for several months and received hot air and diathermy, allergy tests, and massage. Teeth and tonsils, seen as the source of her infection, were extracted, and autologous serum from the extracted material was administered. She also received intravenous injections producing acute rigor and sweating. However, none of the treatments helped. From today's perspective, some of these treatments appear somewhat unkind, inappropriate, and more related to the realm of quackery than scientific medicine. Yet most of these treatments reflected the contemporary state of knowledge[3-14] (Tables 1 and 2).

When Kate contracted rheumatoid arthritis in the 1920s, very little was known about the condition. Frequently described as "arthritis deformans," no distinction was made between rheumatoid arthritis and osteoarthritis.[3-5] Only in the 1940s, did rheumatoid arthritis start to emerge as a separate disease entity.[6-8] The condition was assumed to be infectious in origin, most likely the result of streptococcal infection of the oral cavities.[6-8] Thus, teeth and tonsils were commonly extracted. Use of autogenous vaccines to elicit an immune response by stimulating antibody production was recommended when elimination of the purported infective locus was

[1] Umeå University, Umeå, Sweden

Corresponding Author:
Ursula Werneke, MD, MSc, MRCPsych, Department of Clinical Sciences, Division of Psychiatry, Umeå University, SE-90187 Umeå, Sweden
E-mail: uwerneke@gmail.com

Table 1. Milestones in the Evolution of Knowledge About Rheumatoid Arthritis During Minnie Agnes Filson's Lifetime (1898-1971)

Period	Classification	Etiology	Diagnosis
1901-1910[3]	Arthritis deformans: no distinction between RA and OA	Unclear etiology, either of nervous origin or a chronic infection	Clinical
			Radiographs
		Association with gout or rheumatoid arthritis doubtful	
		Infective? Some association with gonorrhea, influenza, and so on	
1911-1930[4,5]	Arthritis deformans: RA and OA, 2 separate conditions?	Result of infection, most likely streptococcal infections. Index infection most likely in throat and mouth, including teeth sockets, but other loci possible	Distinguish from gonococcal arthritis
			Absence of marked response to salicylate medication speaks against rheumatic fever
		Not a metabolic disturbance, lowered carbohydrate intolerance in some cases	
1931-1950[6-8]	RA and OA 2 separate conditions	Associated with streptococcal infection as above	1942: ESR ↑which may persist even in quiescent periods
		Inflammatory etiology?	
1951-1960[9,10]	RA a separate illness	1951: Collagen disease: possibly a faulty synthesis of hyaluronate?	1951: Subcutaneous nodules in 20%.
			ESR ↑
		Antigen-antibody reaction?	
		Antirheumatic substance X?	
		1958: Disease of hypersensitivity?	1958: CRP and hyperglobulinemia (↑ α2 and γ fractions)
		Cortisone of no etiological significance	
			Sheep-cell agglutination test
1961-1970[11,12]	RA a separate illness	An abnormal immune response to an unknown antigen	Rheumatoid factor (RF) 75% +ve in definite RA
			In the first 6 months likely to be negative
		Anti-complementary activity in synovial fluid. More closely related to antinuclear factors than rheumatoid factors?	Consistently positive tests associated with unfavorable prognosis
Current[13]	RA a separate illness	Chronic systemic inflammatory disease of unknown origin	Diagnostic criteria according to the American College of Rheumatology
		Significant genetic component: HLA-DR4/DR1	ESR, CRP
		Infectious etiology suspected but no agent identified	RF: 60% to 80% lifetime prevalence, but <40% in early RA
		Primary or secondary autoimmune event?	Antinuclear antibodies and possibly other newer antibodies (anti-RA33, anti-CCP)

Abbreviations: CCP, citrullinated proteins; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; RA, rheumatoid arthritis; OA, osteoarthritis; RF, rheumatoid factor; HLA, human leukocyte antigen.

Table 2. Evolution of Pharmacological Treatment of Rheumatoid Arthritis During Minnie Agnes Filson's Lifetime (1898-1971)

Decade	Emerging Treatment Recommendations
1901-1910[3]	No single remedy of special value
1911-1940[4-6]	General tonics, arsenic, iodide of the iron, potassium iodide No specific drug treatment known. *Pain relief:* salicylates, not to be given over long periods. Antipyrine (phenazone) phenacetin and pyramidon, sometimes codeine. Avoid morphine as habit forming *Anemia:* iron *Intestinal antiseptics:* guaiacol carbonate, dimol, cyllin *Other:* arsenic, iodine, potassium iodide Thyroid and thymus gland extracts sometimes beneficial
1941-1950[7,8]	*Vaccine treatment*: autogenous vaccine if removal of the infectious focus is not enough No single curative drug *Gold*: IM injections of gold salts but risk of severe toxicity Other treatments as above+ *Antibiotics:* sulfonamides and penicillin unhelpful *Vaccines and filtrates*: unclear benefit *Raising temperature in the acute phase of the illness:* protein shock using TAB (typhoid/paratyphoid A + B) vaccination *Pain relief*: Dover's powder (ipecac + opium + potassium sulfate) *Other:* arsenic, possibly + nux vomica
1951-1960[9,10]	*Gold*: results for gold salts (auro-thiosulfate/-thiomalate/-thioglucose/-thioglycolanilide) IM conflicting *Corticosteroids:* cortisone and ACTH oral or intramuscular or intraarticular. Initially high doses recommended, later dosing becomes controversial: "compromise dose between 37.5 to 75 mg daily." End 1950s: cortisone for earlier and milder cases, often fails where changes are irreversible Other treatments as above+ *Spasmolysis:* neostigmine and physostygmine controversial Curare for relief of pain and muscle spasm *Pain relief*: phenylbutazone
1961-1970[11,12]	*Gold:* gold salts beneficial in a few well-controlled trials *Corticosteroids:* prednisolone and prednisone; low starting doses; intraarticular injection when only 1 or 2 easily accessible joints are involved *Antimalarials:* chloroquine and hydroxychloroquine *Chemotherapy*: intraarticular injection of triethylene thiophosphamide (alkylating agent) with conflicting results. Vaccine therapy and search for infection abandoned
Current[13,14]	*Xenobiotic DMARDs:* gold salts, D-penicillamine, chloroquine and hydroxychloroquine, sulfasalazine, methotrexate, azathioprine, and cyclosporine Biological agents: TNF-α blockers, that is, infliximab, etanercept, adalunimab; IL-1-inhibitors, that is, anakinra; T-cell activation-inhibitors, that is, abatacept Anti-inflammatory: glucocorticoids, NSAIDs, COX-2 inhibitors Vaccination: heterologous TNF-α gene vaccine, T-cell vaccine?

Abbreviations: ACTH, adrenocorticotropic hormone; COX, cyclooxygenase; DMARD, disease-modifying antirheumatic drugs; IL, interleukin; NSAID, nonsteroidal anti-inflammatory drug; TNF, tumor necrosis factor; IM, intramuscular.

considered insufficient. Protein shock therapy involved vaccination with foreign material, thereby stimulating a nonspecific immune response with high fever. The acute rigor and sweating following Kate's injections could be related to this. However, the scientific evidence base for such treatments was hypothetical and mostly anecdotal.[4,7,8]

Equally unproven was the benefit of elimination diets or splints and immobilization over long periods of time. The eighth edition of Osler's famous textbook *The Principles and Practice of Medicine* published in 1912 recommended splints to prevent contracture and displacement but cautioned against complete fixation.[4] In Kate's case, long episodes of splinting could have contained her joint contortions possibly at the expense of accelerated immobilization. Ultimately, the net benefit or damage of this procedure cannot be evaluated in retrospect. Carbohydrate restriction was indeed recommended for some time to aid digestion.[4,7,8] But Osler and his collaborators had already warned since 1912 against the elimination of proteins: ''The diet should be the most nourishing possible with full quota of vitamins. The mistake of cutting down proteins is often made.''[4 (p. 1141)]

It is unclear whether Kate received gold salts. Whereas heavy metals such as arsenic had already been proposed for a long time,[3,4] gold salts made their debut into the medical textbooks by the early 1940s[7] (Table 2). In 1890, Robert Koch had found that gold cyanide killed tubercle bacilli in vitro. Pursuing the hypothesis of a bacterial etiology further, gold salts were actually first explored as a treatment for rheumatoid arthritis in 1929.[15] In Kate's case though, having been immobilized for many years, the risks of severe toxicity could have more likely

outweighed the benefits at that stage. Later, presumably for the same reason, Kate was definitely not offered treatment with corticosteroids, which were becoming a prominent therapy in the 1950s[9,10] or antimalarials introduced during the 1960s.[11,12]

Kate's Alternative Treatment in Light of What Was Known at the Time

Kate turned to alternative medicine when conventional medicine had failed to help her. She experienced an acute deterioration of her condition, either another acute exacerbation of her rheumatoid arthritis or an infectious process possibly triggered through her long episodes of immobility. Given less than 48 hours to live by Western medicine, she happened to meet an Indian healer who intervened. Kate survived. Obviously, it remains unclear whether the healer's intervention saved her life or just coincided with a spontaneous remission. His treatment could have modified the cause of this acute episode. The healer gave Kate some Chinese medicine in the form of a pill with unknown contents, started massage, and cautiously mobilized her. Although it is difficult to comment on the Chinese medicine because of lack of information, the healer's approach to physiotherapy was in line with the current textbook recommendations: "Massage is especially useful in the rheumatoid form, and in it passive motion should be used early."[5 (p.1166)] The healer also prescribed a drink of rum, hot water, lemon, sugar, and egg—a classic "hot toddy." This was traditionally a sailor's drink, at the time commonly recommended for cold and flues. The word "toddy" seems to be derived from the Indian term "tari," a fermented drink produced from the sap of certain palm trees.[16] It has been speculated that the drink was originally introduced into Scotland by the East India Company.[17] The egg was a rich source of protein, and egg yolk is a known source of antibodies and immunoglobulin, although it remains unclear how this could be used therapeutically. A further ingredient was lemon, a source of vitamin C, traditionally valued because of its antioxidant properties. However, the evidence for the use of vitamin C or other antioxidants in the treatment of rheumatoid arthritis remains unconvincing.[18]

Conclusions

Kate's choice of an Indian healer as her main "doctor" was highly controversial at the time. The relative lack of effective medical treatments at that time could partly explain the appeal of complementary and alternative medicine. When more effective treatments finally became available, it was too late for many rheumatoid arthritis sufferers. In Kate's eyes, her healer had indeed outperformed the medical profession by sparing her the considerable unpleasantness of medical treatments that turned out to be useless. Admittedly, the healer could not significantly improve her physical functioning either, but he had succeeded in improving Kate's quality of life by mobilizing her passively after 12 years of confinement to bed. Kate had been effectively looking at the ceiling for all those years and being able to sit up and to be allowed outdoors came close to a paradigm shift. Kate's healer adopted a highly personalised approach actually in line with contemporary textbook advice: "The patient should be studied as a whole; he needs treatment as much as his joints."[7 (p.1199)]

Patients suffering from chronic debilitating conditions with treatments associated with significant side effects offering containment rather than cure require such "holistic" attention even today. What is interesting is that despite considerable advances in treatment, the overall issues remain similar. The etiology of rheumatoid arthritis, albeit indentified as an autoimmune process (primary or secondary), remains unclear.[13] Infection triggering an autoimmune response is still considered, although it has not been possible to confirm involvement of the more recently implicated agents such as mycoplasma organisms, Epstein-Barr virus, parvovirus, or rubella. Even the concept of vaccination is back on the agenda in some form. Currently, early treatment with biological agents and disease-modifying antirheumatic drugs is the best strategy to reduce disease activity and prevent progressive joint damage. Such early treatment can even lead to less adverse effects than treatment at a later stage, possibly because of the younger age of the patients, fewer comorbidities, and lower use of concomitant medication.[19] What is interesting is that patients can be more prepared than their doctors to try aggressive novel treatments.[20] However, despite the increased likelihood of disease containment and the need to address acute symptoms such as severe pain, significant adverse effects can accumulate over a lifetime. For instance, since August 2009, the United States Food and Drug Administration (FDA) has required tumor necrosis factor blockers to carry an updated boxed warning of an increased risk of cancer in children and adolescents.[21] Equally, the history of corticosteroids suggests that the concept of a cautious treatment approach should not be abandoned completely to avoid disillusionment when treatment effects fade but adverse effects prevail.[22]

Clearly, those patients who delay treatment have a worse prognosis in terms of their rheumatoid arthritis. They can even miss a window of opportunity where remission could be achieved for some.[13] In such patients, complementary and alternative medicine is likely to be harmful if conventional treatments are forgone. Particularly, the choices of pharmacological complementary and alternative medicines are extremely limited for rheumatoid arthritis. Although some remedies such as borage and fish oil can reduce inflammation, disease-modifying complementary and alternative medicines have not been identified. Thundergod vine (*Triperygium wilfordii*) can possibly be an exception because it has both anti-inflammatory and immunosuppressant properties. However, a recommended safe dose has not been established, and severe poisoning has occasionally been reported.[18] As in conventional medicines, potential side effects and drug interactions have to be carefully considered when using complementary and alternative medicines.

In patients with significant disabilities though, the utility equation can be different. In industrialized countries, rheumatoid arthritis is still associated with significant morbidity, mortality, and disability; in low- or middle-income countries with

limited access to treatment, a fate as experienced by Kate can indeed be common.[23] In industrialized countries, access to disease-modifying drugs can be delayed for a variety of reasons. Some patients opt out of conventional medicine altogether. Others might not realize that they have early rheumatoid arthritis and delay seeking help. Primary care physicians can initially not recognize the significance of early symptoms and hence delay referral. As a result, according to estimates of the United Kingdom National Audit Office, the median time from onset of symptoms to diagnosis and first treatment has remained constant at around 9 months since 2003.[24]

Kate's account could help clinicians critically reflect on modern medicine, its benefits, and its dilemmas. Clinicians managing chronic diseases can only fully succeed if prepared to tune into the individual patient's psychological and physical needs despite the breath-taking scientific progress. Although state of mind and fighting spirit are highly unlikely to alter disease progression and survival,[25] they can have a positive impact on quality of life as long as patients do not develop unrealistic expectations or blame themselves when their condition deteriorates. Kate's history demonstrates the power of art, mental discipline, and fighting spirit in coping with extreme physical adversity, all of which can constructively be integrated into the psychological management of sufferers of chronic and debilitating illnesses.

Acknowledgments

I gratefully acknowledge Lenore Bassan née Filson and Edda Filson both of whom knew Kate personally and allowed me such a detailed insight into her life.

Author's Note

I declare that I am married to Minnie Agnes Filson's (Rickety Kate's) grandson, but neither my husband nor I has any financial interest in or property rights to her work.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

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