

## 'Neurological Literature' - Headache (Part 2)

The Oxford English Dictionary defines headache as:

An ache or continuous pain, more or less deep-seated, in the cranial region of the head.

Compared with the richness and variety of definition to be found in the IHS classification of headache,<sup>1</sup> the OED seems a little prosaic.

Although accounts recognisable as descriptions of migraine may be found in the remaining works of several ancient civilizations,<sup>2</sup> the earliest reference to headache acknowledged in the OED comes from a Saxon document of ca. 1000 AD, followed by a quote from a work of John de Trevisa dated 1398:

Also heed-ache cometh of grete fastinge and abstinence

The first literary reference to headache mentioned in the OED is from 1581, Sir Philip Sidney's (1554-1586) *An apologie for poetrie*:

How many head-aches a passionate life bringeth us to

Not mentioned in OED, but perhaps the first literary work devoted to headache is a poem of 1648, entitled *The Head-ake* by Robert Herrick (1591-1674), in his collection *Hesperides* (H-591):

My head doth ake,  
O Sappho! take  
Thy fillit,  
And bind the paine;  
Or bring some bane  
To kill it.

But lesse that part,  
Then my poore heart,  
Now is sick:  
One kisse from thee  
Will counsell be,  
And Physick.<sup>3</sup>

One wonders whether this might be an example of art imitating life: did the author's experience of headache prompt the writing of the poem? [There is another possible reference in one of Herrick's poems entitled *Upon Love*, H-509: I held Love's head while it did ake;/But so it chanc't to be;/The cruell paine did his forsake,/And forthwith came to me.<sup>3</sup>] A similar question may be addressed to the many writers who have mentioned headache in their works, some of which have already been documented.<sup>4</sup> For example, did Charles Lutwidge Dodgson's headaches influence the pseudonymous Lewis Carroll's depictions of Alice in Wonderland?<sup>5</sup> Seldom can this question be definitively answered, although Vlad Zayas has skilfully traced the possible links between the character Pontius Pilate's headaches in *The Master and Margarita* and the author Bulgakov's (1891-1940) headaches.<sup>6</sup>

Herrick's poem is quoted in full in one of his earliest extant letters (November 1898) by the American writer Jack London (1876-1916).<sup>7</sup> Interestingly, headaches crop up in several of London's books: *The People of the Abyss* (1903; chapter 21, describing the effects of industrial white lead poisoning in the East End of London); *The Sea-Wolf* (1904; chapters 10,13,33); and *The Iron Heel* (1908; chapters 23,24), in both the latter afflicting London's characters. Did London himself suffer from headaches?

Only three mentions of headache are to be found amongst the largest published collection of his letters (1557 in all), occurring in the context of other systemic illness (fever, cold) or on a boat in driving wind and snow; in the latter he was "nearly blind with a headache" (is migraine a possibility?).<sup>7</sup> Even in the autobiographical *John Barleycorn or, Alcoholic Memoirs* (1913), there is no mention of headache per se, although following the consumption of wine at the tender age of seven London reports "The alcohol I had drunk was striking my ... brain like a club".<sup>8</sup>

Another American author aware of headaches was Louisa M Alcott, as exemplified in her novel *Little Women, or Meg, Jo, Beth and Amy* (1868).<sup>9</sup> Three of the four young ladies are afflicted at one time or another; only Amy, aged 12, seems unaffected (pre-menarche?). Beth, aged 13, has headaches which force her to lie on the sofa and cuddle her cats; headache is also the first symptom of the scarlet fever from which she becomes delirious. Jo (16) has had a headache which is ascribed to reading too much, although of note this occurs when her usual daily routine of looking after a trying elderly relative, Aunt March, comes to an end and the 'experiment' of not working is tried. Like London, Alcott also recognises the perils of alcohol: Meg (17), despite warnings from the girls' neighbour, Laurie, develops headache after drinking champagne.<sup>9</sup>

This latter example may fulfil IHS criteria for "Alcohol-induced headache immediate",<sup>1</sup> as may Jack London's boyhood experience with wine. Are young people, perhaps sampling alcohol for the first time, particularly susceptible? Another possible example occurs in *The Amber Spyglass*,<sup>10</sup> the third book in Philip Pullman's trilogy *His Dark Materials*, when young Will Parry is treated to vodka by Semyon Borisovitch. In a short story entitled *The man who liked Dickens* (1933), Evelyn Waugh, himself no stranger to the effects of alcohol, has the character Henty ("a shadowy version of [Waugh] himself") wake with a headache after drinking *piwari*, a local South American brew, so missing his chance to escape from the jungle and from McMaster, the man who likes Dickens but who cannot read and hence wishes Henty to remain permanently to read him the novels.<sup>11</sup>

Ian McEwan has made a name for himself in medical circles with his accounts of the life and thought of a neurosurgeon (*Saturday*, 2005) and of De Clerambault's syndrome (erotomania) (*Enduring Love*, 1997). In *Atonement*,<sup>12</sup> the matriarch Emily Tallis suffers from "the beast migraine":

She was not in pain, not yet, but she was retreating before its threat. There were illuminated points in her vision, little pinpricks, as though the worn fabric of the visible world was being held up against a far brighter light. She felt in the top right corner of her brain a heaviness, the inert body weight of some curled and sleeping animal; but when she touched her head and pressed, the presence disappeared from the coordinates of actual space. ... It was important .. not to provoke it; once this lazy creature moved from the peripheries to the centre, then the knifing pains would obliterate all thought ... It bore her no malice, this animal, it was indifferent to her misery.

As for the pain: "At worst, unrestrained, a matching set of sharpened kitchen knives would be drawn across her optic nerve, and then again, with a greater downward pressure, and she would be entirely shut in and alone". This is set in 1935, and no specific treatment is mentioned. But is it purely chance that one of the plants growing in the cracks



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between the paving stones on the terrace is feverfew, sometimes prescribed as a prophylactic?

As a consequence of her migraine, Emily has developed an "expertise born of a thousand headaches, avoiding all things sudden or harsh", wearing dark glasses before going outside to fetch her daughter, and has "learned her patience through years of side-stepping migraine". Nonetheless, when unforeseen trouble comes, "she rose to the crisis, free of migraine and the need to be alone". The migraines also impact on the family: "As children they claimed to be able to tell from across the far side of the park whenever their mother had a migraine by a certain darkening at the windows." Her daughter avoids troubling her mother, since "nothing but migraine would have come of it". At another time, they see the migraines as "a comic interlude in a light opera".

McEwan is perhaps less secure in a later description, which purports to be of vascular dementia. A seventy-seven year old woman reports:

My headaches, the sensation of tightness around the temples, have a particular and sinister cause. He [the doctor] pointed out some granular smears across a section of the [brain] scan. ... I was experiencing, he said, a series of tiny, nearly imperceptible strokes. The process will be slow, but my brain, my mind, is closing down. ... I have vascular dementia, the doctor told me ... it's not as bad as Alzheimer's, with its mood swings and aggression.

Yet later she reports, "I fell asleep again and when I woke ... a painful tightness was around my forehead. I took from my handbag three aspirins which I chewed and swallowed with distaste. Which portion of my mind, of my memory, had I

lost to a minuscule stroke while I was asleep?"

Surely these are tension type headaches, possibly medication overuse headaches (waking from sleep, excessive analgesic consumption) and the scan appearances entirely incidental and appropriate for age? Has this fictional doctor (or possibly McEwan's source) had any training in the disciplines of headache or cognitive disorders? It is surprising that the careful research done for the historical parts of the book is not matched when it comes to medicine. Artistic licence, no doubt; the need for melodrama, possibly.

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## Nobel Laureate launches £10m Brain Centre

Cardiff University's Brain and Repair Imaging Centre (CUBRIC) has been heralded as a development of international significance to Wales. The Centre was officially launched by Professor Sir Peter Mansfield, Nobel Laureate for Medicine in 2003, who pioneered the development of MRI scanning techniques that use a strong magnetic field to reveal internal organs and other tissues in extraordinary detail.

Speaking at its launch, the Minister for Education and Lifelong Learning, Jane Davidson, described the facility as world-class. She said that in addition to bringing real benefits in the understanding and treatment of disease it will further contribute to the international standing of the School of Psychology and of Cardiff University.

"Cognitive neuroscience is one of the most significant areas of contemporary science," she said. "This is a world-class offering and it will attract additional world-class researchers. Let's celebrate this fantastic new Centre."

Welcoming the new Centre, Vice-Chancellor, Dr David Grant said, "I congratulate Professor Peter Halligan and his colleagues on the opening of CUBRIC which puts Cardiff, and Wales, at the international forefront of developments in brain imaging. This is a significant development for the University and confirms our commitment to invest in areas of research which draw on recognised strengths right across the breadth of our academic schools."

Under the leadership of Professor Peter Halligan,



CUBRIC will contribute to transforming the understanding of normal and damaged brain function, as well as to informing the treatment of brain impairments such as head injury, stroke, dementia and schizophrenia.

The distinctive focus of the Centre's research is aimed at understanding everyday cognitive (thinking), emotional and social processes, like how we learn a new skill, remember a face or solve a problem. Researchers will then be able to compare

the damaged and healthy brain.

Funding of £10m combined with the appointment of two new Chairs (professors) and additional research staff will provide for a unique multi-disciplinary approach to understanding the structural, functional and theoretical aspects of brain mechanisms. The investment builds on existing strengths in several schools at Cardiff

University to provide a world-class facility based around complementary applications of clinical and cognitive based research. This interdisciplinary neuroimaging program takes advantage of Cardiff's pre-eminence in neuroscience including neurobiology, cognitive neuroscience, psychology, computer science chemistry, clinical medicine, and translational research.

CUBRIC will be one of the few research-dedicated functional neuroimaging laboratories in the UK to have the latest brain scanning technologies, [3T Magnetic Resonance Imaging (MRI); and Magnetoencephalography (MEG)] in the same facility. For further information visit: [www.cardiff.ac.uk/psych/cubric](http://www.cardiff.ac.uk/psych/cubric)



Neurological literature: Headache (Part 5) previous articles in this series<sup>1-4</sup> have focused Thomas Mann's novel Doctor Faustus (1947). P on literary descriptions of headache. As in. The efficacy of Correspondence to: Dr Andrew Larner, Robert Herrick's poem The Head-ake,<sup>2</sup> praying to strong tea in migraine has been emphasized by Walton Centre for Neurology saints or fasting,<sup>3</sup> and using a leaf and charm by some authors,<sup>13</sup> whilst others insist on the with- and Neurosurgery, Socrates in Plato's Charmides.<sup>4</sup> (The use of the drawal. The affected part of thorax detain in the act of breathing, intercostal intervals are smoothed out, is loosened the vocal fremitus, by percussion is determined tympanitis, at auscultation bronchial breathing with an amphoryc tint. The state of patient is so heavy sometimes, that rescued he can be by urgent operative interference only. In Part 2 of Primary Headache disorders, we discuss the fourth Primary Headache Disorder, Tension-Type Headache (TTHA). We are again using the ICHD-III (Beta) definitions of such headaches, taking into consideration episodic and chronic TTHA, as well as the presence or absence of pericranial muscle tenderness. Osteopathic considerations and literature are also reviewed in the broader context of headache management. View. Objective: The objective of this article is to investigate the neurological substrates associated with medication overuse (MO) in patients with chronic migraine (CM). Methods: We recruited age- and sex-matched CM patients with MO (CMwMO), CM patients without MO (CMwoMO), and healthy controls (HCs).