

WSHoMSoc lectures Oct 12th

Affah • October 26, 2013



Hooray, the West Sussex History of Medicine

Society autumn lecture season has begun! I am looking forward to reporting on these gems combining as they do knowledgeable speakers, historical topics and academic investigation.

On Saturday 12th Oct we launched the term with **Professor Ken Shaw MA MD FRCP**, the endocrinology specialist. The talk was titled **"A Glass of Wine Before Visiting the Sick: The Clinical Sense of James Lind, Haslar Physician 1758 – 1783"**. At first I thought James Lind must have been one of those brilliant people who achieve a great deal in a tragically short life, but the dates above do not refer to Lind's birth and death but to his time at Haslar Hospital. In fact he only went to Haslar when already an established medical practitioner, at the age of 42, and lived a further eleven years after his tenure at that place of physic.

Lind is chiefly famed for his attempts to understand and successfully treat scurvy, that desperate disease that we now know as due to vitamin C deficiency. Sadly, he didn't solve the problem, but came tantalisingly close to doing so, searching and researching, as he did, all the possible causes and cures that occurred to him and others of his day. Indeed he conducted some pretty good clinical studies on the subject. I particularly like his trial method of pairing up scorbutic patients and treating one of each pair only, and observing the effect, each pair being prescribed a different treatment.

The vastness of the scurvy problem can hardly be overstated. The fact that 90% of the crew of HMS Salisbury, the Channel Fleet ship to which Lind was appointed Surgeon, *died* of the scurvy illustrates the devastation it wreaked. Hindsight, being the wonderful gift that it is, makes us gawk at the failure of those working to solve this problem, especially when there appeared to be a correct focus on food stuffs and yet not quite the *right* food stuffs, despite the solution having been stumbled upon on more than one occasion prior to Lind. Indeed we heard that in 1699 Everard Manwaring identified citrus fruits as a cure. Clearly, his realisation failed to catch on as the problem of scurvy continued well into the next two centuries! In fact the benighted adventure to the antarctic by Robert Falcon Scott and his band of tough adventurers came a cropper partly due to scurvy as they failed to take any citrus fruit with them, and that was as recently as 1910! One would have thought that this particular nutritional blunder could have been avoided.

I was particularly interested in one of the remedies trialled by Lind – the offal soup. Although many people respond to the word *'offal'* with a *'yuk!'* there is good evidence that offal provides some very beneficial nutrients, and our ancestors, as well as many documented hunter gatherer tribes, knew this as they prized the organs above all else (apart from bone marrow that is). The kidneys of an animal are usually extracted along with the adrenal glands, which sit atop them, because they are not easy to separate (or so a surgeon explained to GPs a while back at a CMEC lecture) and therefore any casserole or pottage of offal would almost certainly have included the adrenal glands, and these are an *excellent* source of vitamin C! Our bodies store their ascorbate in the adrenal glands, as do animals. (I have a theory that the old English word for kidneys, reins, could be the origin of the word 'reindeer' as I know that in northern parts of Finland, and other areas within the arctic circle, the people traditionally obtained vitamin C from the reindeer herds adrenal glands and that they valued these animals very highly due to the fact that for much of the year fruits and other plants yielding vitamin C would be extremely scarce. I suspect that the word 'rein' is actually Old Norse and imported to these shores by Vikings, but this is only conjecture on my part).

Vitamin C and glucose are similar in structure and compete for receptor sites, meaning that in conditions of high blood glucose, such as diabetes, PCOS, cancers, Cushings syndrome and dementia, vitamin C will become reduced, leading to vascular damage, gum frailty, and signs of low-grade scurvy if extra ascorbic acid is not deliberately taken. I will enlarge this piece about vitamin C at a later date on my blog as there are some very important details about this essential nutrient and its interaction with glucose and they way they compet for receptors, and some interesting research into the treatment of high glucose conditions with big doses of vitamin C that I will go into when I have the time to dig out the references. In the meantime here is a delightfully smug looking portrait of James Lind to enjoy.

Lind's suggestion that physicians should wine and dine before visiting the sick is eminently sensible. Only when one is fully nourished can one's immunological resistance be great enough to defend one from those lurking microbes that can assail from any quarter. Fully functioning organs of all types in our bodies depend on the regular through flow of fats, proteins, minerals, vitamins and water, and surely no one would deny that wine is, for the most part, water, just a tad more antiseptic!

The second of our lectures was on **'Beethoven: His Life and His Music'** written and presented by **Dr Winston Leigh BA MB ChB MRCP.**

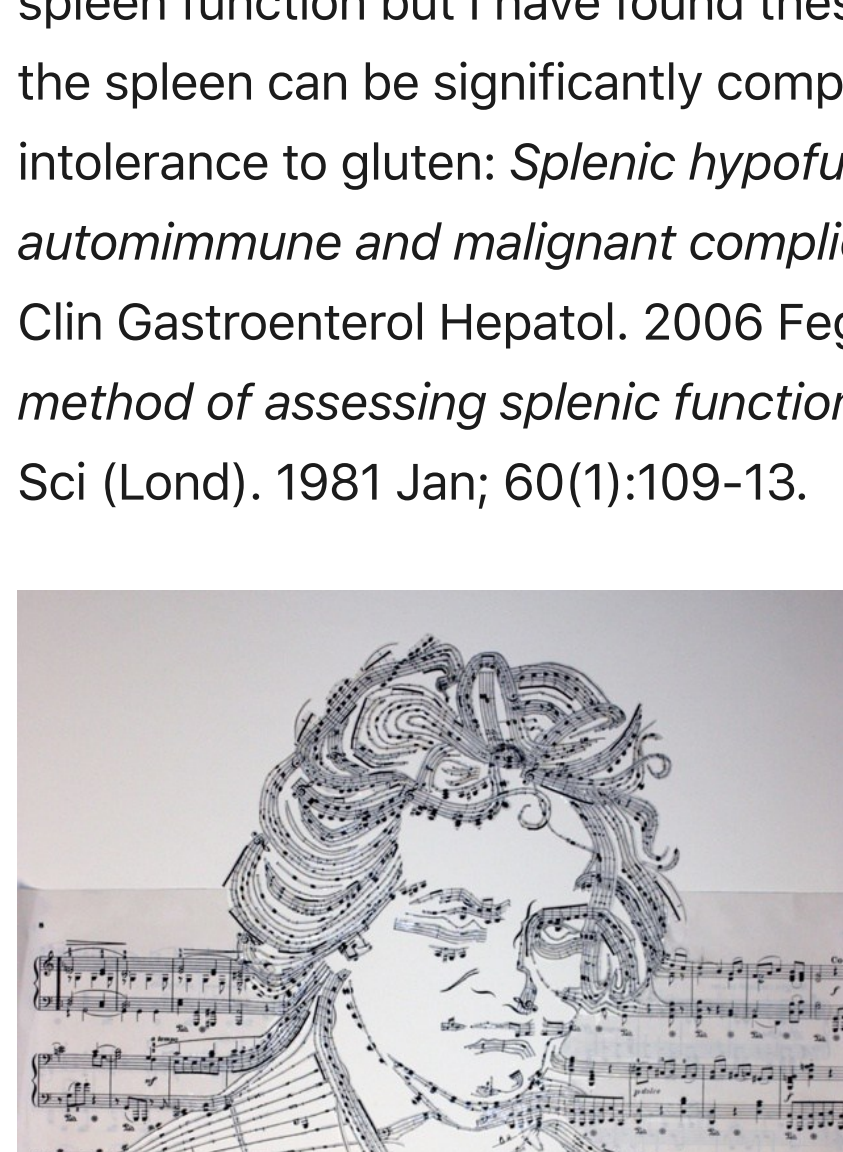
Dr Leigh's interest in and knowledge of the arts is legendary, so to have Beethoven given the Leigh treatment was eagerly anticipated, and did not disappoint. Although my childhood was spent surrounded by classical music, due to my father being a piano teacher, there is much that I learnt about our Ludwig that I did not previously know. I didn't know he was born in a caul, for instance! (Well, he certainly did not drown, so that traditional bit of predictive folk lore is holding fast! He should have been a sailor...). The family into which Ludwig was born and his early years although influenced by music were also influenced by alcohol as his grandfather was a wine merchant and certain relatives died of alcohol poisoning. Indeed at one time it was considered that our man Beethoven may have had cirrhosis of his liver due to alcohol poisoning, and I am not sure where the theories stand on this now. What we do know is that he suffered from an array of other persistent complaints right through his teens and beyond, well before his hearing began to fail, and these conditions interest me greatly. Abdominal cramps, constipation, diarrhoea, headaches, and pulmonary infections all plagued the poor young man.

Beethoven had to endure a series of extremes throughout his life, it seems, from enormous highs (e.g. Mozart found that the musical variations on a theme he asked the young Ludwig to compose were so complex and brilliant that he stated to the world that they must "Watch out for this one!") to dreadful lows (his father suffering a mental breakdown when his mother died, leaving Ludwig to care for his two younger brothers as dad was unable to cope) back up again (being tutored by the great composers of the time Joseph Haydn and Salieri) and back down again (severe, troubling tinnitus), right back up, due to falling madly in love (with the 17-year-old Josephine Von Brunsvik, his pupil, and probably the love of his life) only to be dashed back down as her widowed mother needed her to marry a man of wealth and aristocratic status, which our man could not claim. This was followed by another lift from love (this time to another pupil, Giulietta Guiccardi, to whom he proposed marriage, and *was accepted*, only to be rejected by her father as an inappropriate suitor but to whom he dedicated the immortal piece Piano Sonata No.14, aka the Moonlight Sonata). Following this blow to his hopes the poor man admitted to thoughts of suicide, so he was clearly profoundly depressed by this time, with only his vast musical creativity keeping him going! In his mid 40s Ludwig spent a lot of money trying to help his younger brother Carl who had developed TB and when he died a major legal battle ensued as Ludwig attempted to gain custody of Carl's young son, even though the poor kid's mother was still living. All rather bizarre.

And through it all, with gaps for getting embroiled in other things, Beethoven produced works of utter genius, even though his hearing continued to deteriorate, eventually resulting in total deafness. His bowels continued to malfunction too, and at the age of 56 following some months of illness so severe he kept to his bed, with jaundice, swollen ankles, ascites, a fever and with foetid breath, he died, during a thunder-storm. A doctor had drained the ascitic fluid in his abdomen, some time earlier, to no avail. Apparently when his body was examined in an autopsy his spleen was black, his pancreas was hard and both auditory nerves were shrivelled, accounting very well for the deafness.

Following an amazing trail of leads and discoveries of letters in secret drawers, and a snippet of his hair taken by a pupil and found in a locket, handed from collector to collector, arriving for auction at Sotherby's in 1994 (all 582 strands) Beethoven's hair has now been analysed in an attempt to discover the cause of his poor health. Initially William Walsh checked for the presence of mercury and other heavy metals, and then Walter McCrone (the forensic chemist of Turin Shroud fame) identified an excess of lead in the hair. 42 times the normal level, no less! It is well-known that lead poisoning effects nerve development and function, and can cause unpredictable behaviour and outbursts. It can also cause digestive system pain and malfunction, but can it cause the liver to fail and the spleen and pancreas to be so harmed? I have not found any information confirming this in my brief search, though the colour change of the spleen to black does not seem unreasonable if it is filtering blood that is tainted with lead.

However I would like to add another possible cause of some of Beethoven's terrible suffering, and that is **gluten intolerance**. It is certainly known that the ingestion of grains containing gluten (wheat, rye and barley) can damage all sorts of membranes and tissues in the body, such as the enterocytes, those all important cells that line the gut, and their counterparts lining the blood brain barrier. The former manifestation is known as coeliac disease, and certainly causes pain, cramps, constipation and/or diarrhoea, and the latter can cause variously a neurological symptom, including **gluten ataxia**, MS, epilepsy, schizophrenia, migraines *and* damage to the cranial nerves which includes the auditory nerve, leading to deafness. There is even such a condition as **gluten hepatitis** as this very recent paper describes: *Celiac disease and chronic liver disease: Is there a relationship?* Singh P *et al*; *Ind Jnl Gastroenterol* Aug 7 2013. Here is one of many recent papers regarding hearing loss in children diagnosed with coeliac disease: *Sensorineural hearing loss in pediatric celiac patients*; Hizli S *et al*; *Internat Jnl Pediatr Otorhinolaryngol* 2011 Jan; 75(1). I am no expert on spleen function but I have found these two papers which support the notion that the spleen can be significantly compromised in people with an immunological intolerance to gluten: *Splenic hypofunction and the spectrum of autoimmune and malignant complications in celiac disease*; Di Sabatino *et al*; *Clin Gastroenterol Hepatol*. 2006 Feb;4(2): 179-86, and this 1981 paper: *Simple method of assessing splenic function in coeliac disease*; Corazza GR *et al*; *Clin Sci (Lond)*. 1981 Jan; 60(1):109-13.



So, between a possible alcohol story, the lead poisoning from the lead pipes of the day, the extreme emotional roller coaster that this man experienced, and what looks to me very much like coeliac disease with extra gastrointestinal manifestations, this genius did extraordinarily well to produce the sublime and lasting works that we know and love so well. Thank you Winston Leigh for bringing so much of this story together, with music (I forgot to mention that) for our delight.