

## John Hunter's alleged syphilis

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### Summary

*The allegation that John Hunter suffered from syphilis is challenged. It is suggested that he was the subject of non-luetic vascular disease, evidence for which may be found by a study of his symptoms and autopsy report. It is further suggested that John Hunter's famous inoculation experiment was performed not on himself but on another subject. It is claimed that there is in fact no scientific evidence for attributing John Hunter's illness to syphilis and it is urged that the stigma of this diagnosis should be expunged from his image.*

### Introduction

The suggestion that John Hunter suffered from syphilis was first made in 1925 by d'Arcy Power in a Hunterian Oration<sup>1</sup>. He stated, 'It seems to me that John Hunter died of syphilitic disease of the arterial system, and that, in addition to the angina pectoris due to this cause, he suffered for many years from cerebral syphilis.' This view has been widely accepted — for example:

'John Hunter had syphilis (self-inoculated) and angina pectoris<sup>2</sup>.

'He infected himself . . . he suffered from the remote results of true syphilis . . .'<sup>3</sup>.

'He deliberately infected himself . . . in the end the experiment cost Hunter his life'<sup>4</sup>.

'He deliberately inoculated himself with venereal pus, in a mistaken endeavour to prove the disease is one entity. He developed syphilis.'<sup>5</sup>

In this article it is suggested that John Hunter did not suffer from syphilis but from chronic non-luetic vascular disease and that he did not in fact inoculate himself with venereal pus. Evidence on these matters is found by consideration mainly of the autopsy findings, the clinical features, and Hunter's description of the inoculation experiment.

### Autopsy findings

John Hunter's autopsy was performed by Everard Home. It showed evidence of advanced generalized atherosclerosis, with calcified coronary arteries and ossified internal carotid and vertebral arteries<sup>6</sup>. In the opinion of Dr Brian Livesley<sup>7</sup> 'the post-mortem findings do not support the belief, commonly held, that his angina was due to an aortitis resulting from his earlier and deliberate self-inoculation with syphilis. . . . Severe coronary and cerebral atherosclerosis was associated with probable mitral and aortic stenosis and a post-stenotic dilatation of the aorta rather than a coexistent luetic aortitis.'

Professor J L Turk<sup>8</sup> has given his opinion on the post-mortem report: 'There is no evidence in this report of any pathological changes that might have been caused by syphilis. The changes described are those of a high order of calcification which would most likely be the result of atheroma affecting coronary and cerebral arteries as well as the mitral valve, the aortic valve and the aorta. . . . There is no doubt that Hunter died as a result of coronary artery disease of atheromatous origin. He also had severe cerebral arteriosclerosis and there would appear to be evidence in addition of old myocardial infarction which could account for the changes seen in the myocardium and pericardium. The degree of calcification might seem excessive, but there appears to be no other indication of metabolic disease. I can find no evidence for a syphilitic aetiology in the contemporary descriptions of his illnesses when alive or of his death.'

### Clinical features

From the age of 45 John Hunter suffered from acute attacks of illness, the symptoms

being those of angina pectoris associated with dizziness, visual disturbances, and loss of memory. An important feature of the attacks was a weak or absent pulse. In Home's opinion<sup>9</sup> 'the symptoms of Mr Hunter's complaint for the last twenty years of his life may be considered as those of angina pectoris and form one of the most complete histories of that disease upon record'.

A most convincing interpretation of John Hunter's symptoms has been presented by Dr Livesley, who suggests that the acute attacks from which Hunter suffered may have been due to a disorder of sinuatrial activity (sick sinus syndrome):

'It is suggested that John Hunter's spasms were due to acute episodes of prolonged and severe bradycardia which by aggravating the effects of aortic and mitral stenosis resulted in hypoperfusion of the coronary and internal carotid arteries. As a result of their ossification these vessels were unable to constrict and offset the effects of hypoperfusion. Under these circumstances, bradycardia would be more likely to precipitate angina and syncope. . . .

'Attacks due to disorder of sinuatrial activity with the development of bradycardia can be spontaneous . . . such a tendency can be familial. . . . This condition of sinuatrial disorder may only achieve clinical significance when episodes of bradycardiac hypoperfusion of tissues is aggravated by the development of valvular heart disease and obstructive atherosclerosis, particularly when this latter affects the coronary and cerebral arteries as was the case in John Hunter. In this connexion it is interesting to note that John's brother, William, died as a result of a "stroke". However, in the absence of more complete clinical data about him, it is only possible to speculate that he too had sinuatrial disorder but in a less severe form than his brother John.'<sup>7</sup>

### **Inoculation experiment**

John Hunter carried out his famous inoculation experiment in 1767<sup>10</sup>. The first suggestion that this was a self-inoculation was made in 1925 by d'Arcy Power<sup>1</sup>, who presented this view as an explanation of Hunter's alleged terminal syphilitic infection, thus, 'On a Friday in May 1767 Hunter inoculated himself with pus from a patient with gonorrhoea . . .'. This suggestion has been grasped avidly by many subsequent Hunterian biographers — for example, Kobler<sup>11</sup> ('he picked up the pus-laden lancet, punctured his foreskin, then the head of his penis'), Gloyne<sup>4</sup>, and Gray<sup>5</sup>.

Careful perusal of Hunter's own account of the inoculation suggests that these descrip-

tions of the experiment are inaccurate and that the assumption of self-inoculation is completely unjustified.

John Hunter was the leading authority of his time on venereal disease and his large clinical experience must have made him very familiar with the virulent ravages of the disease — for example: 'Gonorrhoea either produces, or is supposed to produce, many disorders besides those already mentioned, and which are totally different from the original disease. . . . There is frequently a series of them . . . stricture of the urethra . . . dilatation of the urethra . . . ulceration, fistulae in perinaeo, dilatation of the ureters and enlargement of the pelvis of the kidneys . . . swellings of the testicle and of the glands of the groin'<sup>12</sup>. It is inconceivable that a man of Hunter's intelligence could have even contemplated the idea of inoculating himself with such a disease. What would we think of a doctor or student who inoculated himself with a loathsome disease? We should send him to a psychiatrist. The whole idea of Hunter inoculating himself with a venereal disease is preposterous.

Hunter's experimental inoculation was performed in an attempt to prove his erroneous theory that gonorrhoea and syphilis are different manifestations of one disease. He thought that the same poison gave rise on a soft mucosal surface to the fluid purulent reaction of gonorrhoea and on the hard skin surface to a chancre. It is easy to appreciate that this concept was a natural outcome of one of his established principles concerning inflammation, that 'inflammation will in general be in proportion to . . . the nature of the part; . . . as there is great variety, so must there be in the inflammation'<sup>13</sup>.

The inoculation experiment is recorded in detail in his famous *Treatise*<sup>10</sup>, but a careful study of this work shows that the actual subject of the experiment is never identified:

*'Experiments made to ascertain the Progress and Effects of the Venereal Poison*

'To ascertain several facts relative to the venereal disease, the following experiments were made. They were begun in May 1767.

'Two punctures were made on the penis with a lancet dipped in venereal matter from a gonorrhoea; one puncture was on the glans, the other on the prepuce.

'This was on a Friday; on the Sunday following

there was a teasing itching in those parts, which lasted till the Tuesday following. . . .

'The time the experiments took up, from the first insertion to the complete cure, was about three years.

'The above case is only uncommon in the mode of contracting the disease.'

It will be seen that Hunter has not stated that he inoculated himself. He simply states that two punctures were made. He has used the first person on only two occasions throughout the account, which occupies about two pages, and even these 'I's' are not associated with the actual experiment.

The complete absence of the first person in this description of the experiment is a very striking and important fact because Hunter's works abound in the use of the personal pronoun. There is hardly a page in all his works where he has not used the word 'I' at least 20 times. All his observations were personal. It is very remarkable that this experiment, supposed by so many to have been performed on himself, should be just the one section in all his works in which he has not bothered to mention himself.

Now John Hunter did once have an injury, when he ruptured his Achilles tendon, and he gave a full description of his case :

'Mr Hunter's Case. On Thursday morning at four o'clock the 20th February 1766 I broke my Tendo Achilles. I was jumping and lighting upon my toes without allowing my heels. . . . I supported the whole weight of my body. . . . My heel came to the ground. . . .

'I examined the parts every day. . . . I could not find any inequality . . .'<sup>14</sup>.

This description occupies about two pages and includes 27 'I's' and 11 'me's'. It is written in the personal style characteristic of all his works. It is surely very significant that an inoculation experiment supposedly performed on himself should have been described in a manner which is impersonal and completely contrary to the style of all the rest of his works.

There is plenty of evidence to suggest that in fact the inoculation experiment was performed by Hunter on another person. The *Treatise* contains several descriptions of inoculation experiments performed by John Hunter on patients at St George's Hospital — for instance :

'A man, who had venereal blotches on many parts of his skin, was inoculated with matter from a chancre. . . . The wounds inoculated became chancres. . . . Here then was a venereal constitution capable of being affected locally with fresh venereal matter. This experiment I have likewise repeated more than once.'

'I ordered a person, at St George's Hospital, to be inoculated with the matter taken from a venereal ulcer on the tonsil, and also with matter from a gonorrhoea. . . . The matter from a gonorrhoea produced a chancre but that from the tonsil had no effect.'

'A woman aged twenty-five . . . St George's Hospital . . . venereal disease . . . blotches over her body. . . . To ascertain whether her secondary ulcers were infectious . . . she was inoculated with some matter from one of her own ulcers and with some matter from a bubo of another person where mercury had not been used.'<sup>15</sup>

Here then is a mass of evidence in John Hunter's own writings to prove that he repeatedly inoculated patients deliberately with venereal matter. There is good reason to assume, therefore, that Hunter performed the crucial experiment on some person other than himself. It must be emphasized that throughout the description of this experiment there is not a single statement that John Hunter himself was the subject of the inoculation. All the observations are completely non-personal. The subject of the experiment could well have been one of the many destitute outcasts of subnormal mentality who roamed the streets of London at that time, and Hunter could have kept him unobtrusively in his large household establishment so that he could make the necessary daily observations.

It is significant that before Power's publication none of Hunter's many biographers had suggested that the experiment was one of self-inoculation. Indeed, there is no special mention at all of the experiment in the biographies by Foot<sup>16</sup>, Adams<sup>17</sup>, Ottley<sup>18</sup>, Butler<sup>19</sup>, Paget<sup>20</sup>, or Peachey<sup>21</sup>. There can be little doubt that these biographers accepted the experiment in its proper context among Hunter's other experiments on venereal disease.

However, a most important account of the inoculation experiment has been given by Foot<sup>22</sup> in a book especially written as a critical commentary on Hunter's *Treatise on Venereal Disease*. In a detailed account of the experiment occupying 12 pages Foot refers through-

out to the subject of the experiment as 'the case'. Further, he says, 'The person upon whom the Professor tried the experiment amused him, if he told him that he had been chaste; and that if he told him to the contrary, the fable is all at an end'. Foot was a contemporary and a great critic of John Hunter, but he makes no adverse comments here except about Hunter's opinions on venereal disease. It may be inferred that experimental inoculations of this kind were not regarded as unethical in John Hunter's time. It must be remembered that although the 18th century was the Age of Elegance, it was also an age of brutality, when lunatics were flogged, children were sent up chimneys, and executions were public celebrations.

It is suggested therefore that John Hunter's inoculation experiment was not in fact a self-inoculation and that he used another subject for the experiment. There is incontrovertible evidence that Hunter made repeated experiments of this kind on patients. His description of the crucial experiment does not actually state that he inoculated himself, but the account is presented in a form which can be and has been easily misinterpreted as an experiment in self-inoculation.

### Additional evidence

It is significant that Hunter's mental clarity and cerebration suffered no deterioration with age. During the last three years of his life his output of work was unabated, as shown by his case records<sup>23</sup>, his administration as Surgeon-General to the Army, and his correspondence<sup>24</sup>. There is not the slightest evidence of the mental deterioration that would be expected with cerebral syphilis.

It is commonly stated that Hunter postponed his marriage for several years until he had cured his syphilitic infection. This statement is completely without foundation. 'The fact that his marriage was seemingly long deferred could be attributed, as Everard Home remarks, to his financial position which was such that he was not able for some years after his return from Portugal to provide his wife with those luxuries to which she was accustomed. Until 1768 when he was appointed to St George's, his income was his army half-pay and the fees from his

practice which at that time was only in its early stage of success.'<sup>25</sup>

D'Arcy Power<sup>1</sup> stated that 'the consequences of his action were visited upon his children' and he quotes in evidence the loss in infancy of two of Hunter's four children. There was no evidence of congenital syphilis in any of Hunter's descendants and d'Arcy Power's statement must be regarded as completely irresponsible.

### Conclusion

It is suggested that John Hunter's illness was due to non-specific atherosclerosis, that he never contracted syphilis, and that the 'self-inoculation' experiment was not in fact an inoculation on himself but on another subject. The suggestion that John Hunter was a 'martyr to science'<sup>1</sup> is sheer romantic sentimentality and it should be abandoned. It is hoped that a dispassionate scientific reappraisal of all the facts will result in the complete eradication of the stigma of syphilis from the image of John Hunter, the greatest genius of natural science that the world has ever seen, the founder of scientific surgery, and the man who first brought respectability to the surgical profession.

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