

On a case of staphylococcic infection / by Sir Lauder Brunton.

Contributors

Brunton, Thomas Lauder, Sir, 1844-1916.
Royal College of Surgeons of England

Publication/Creation

[London] : [publisher not identified], [1904]

Persistent URL

<https://wellcomecollection.org/works/u2ksx8zg>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. Conditions of use: it is possible this item is protected by copyright and/or related rights. You are free to use this item in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s).



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>



Reprinted from St. Bartholomew

ON A CASE OF STAI

ST LAUDER E

[illegible]

1904

7

ON A CASE OF STAPHYLOCOCCIC INFECTION.

BY

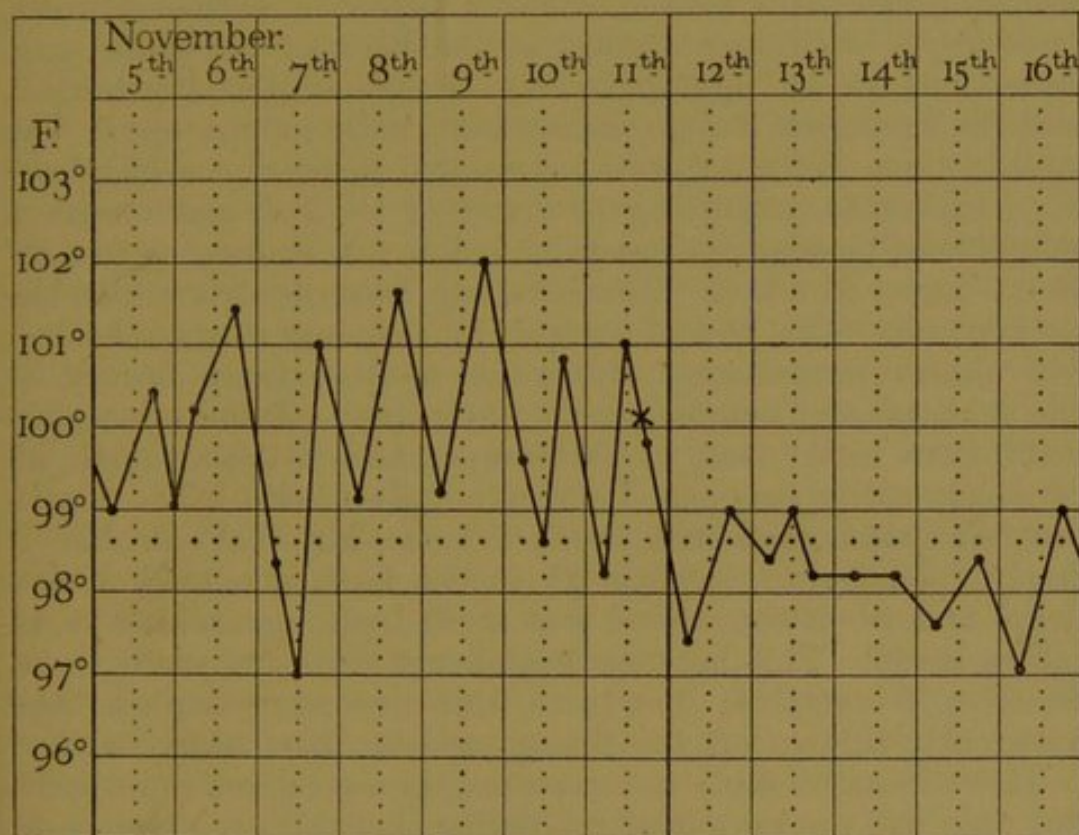
SIR LAUDER BRUNTON, M.D., F.R.S.

I have thought that it might not be altogether uninteresting to the readers of the Reports to have the story of the illness which has kept me away from St. Bartholomew's for more than a year. About the end of May 1902 I noticed one day upon my right index finger a small itching point, not larger than the point of a pin; the next day there was a small pustule upon the same position, but instead of the pustule going away when the pus was let out, it gradually grew larger and larger, and became converted into a somewhat large boil, which required to be opened by my late colleague, Mr. Walsham. Several other boils formed upon the same hand, next upon the other hand, and then upon the nates. These were all characterised by one peculiarity, viz., that the pain in them was out of all proportion to the local manifestations. There seemed to be present two sorts of pain—one of them of a dull, heavy, burning character, the other sharp and stinging, exactly like the sting of a wasp. In making this comparison, I know precisely what the sting of a wasp is like, because as a boy I have destroyed more than one wasp's nest. In doing so I had occasion to experience exactly what the pain of the sting is, and the pain which was present in those boils was almost the same as the sting of one, or, rather, I should say, of several wasps, all stinging together. I noticed one curious thing, viz., that this stinging pain was apt to come on at the time when the alkalinity of the blood would be lessened by the absorption of acid from the stomach, for the pain became worse, as a rule, just about the time that the contents of the stomach would be undergoing absorption. We know that an acid is a most powerful irritant to nerves, and in the physiological laboratory, when one wishes to stimulate a nerve, acid is very often applied. It occurred to me that the sharp stinging pain might

be due to increased acidity, or, more properly speaking, to diminished alkalinity, either of the blood or of the tissue juices surrounding the nerves, and that by taking bi-carbonate of soda, and so increasing the alkalinity of the blood, I might be able to lessen the pain. I did so, and found the result that I expected. It then occurred to me that perhaps the local application of an alkali such as sodium bi-carbonate might have a similar action, and again I found the result I expected, the stinging pain being relieved. This result has been confirmed by others, because I published my experience in the *British Medical Journal*; and in the week or two following the publication, several other men mentioned that they had tried the same experiments as I, and with the same result.

I was warned that unless I took rest I should be very likely to have a continuance of the boils and to break down in health; but, like many other doctors, I disregarded the warning, and went on doing my work, until at last I got a perineal abscess, which had to be opened under chloroform. Still I went on for a day or two more, but at the end of August I was forced to give up work. Again, like many other doctors, after taking to bed, I had one patient whom I wished to see, and I did not like to break an engagement made several weeks before, so I saw the patient, but on going back to bed I found my temperature was 104° . Shortly after this the temperature fell, but pain came on of a very excessive character. I had a very acute and severe attack of hæmorrhoids; and before this attack had subsided, there was evidence of pressure upon the urethra, which gradually became worse and worse, until emptying the bladder became impossible. Then I understood the awful torture that Tiberius inflicted upon those who had angered him, by tying the urethra and giving the persons wine to drink, so that the bladder became enormously distended; and while there was an intense desire to micturate, there was an absolute inability to do so. The pain was simply awful, and I never understood before the meaning of some words in Psalm 116: "The sorrows of death compassed me, the pangs of hell gat hold upon me," because the pains were more than the pangs of purgatory, and they lasted until my late colleague, Mr. Walsham, opened the abscess, when I got immediate relief. I improved a little, and went down to Margate, thinking that there was nothing more for me to do but to gain strength. Unfortunately, another inflammation occurred in the leg, which again had to be opened. Then abscesses developed in the abdomen. The first of these appeared to have occurred in connection with the sigmoid flexure of the colon, because the

pus was discharged per anum, and thus one knew that the discharge of pus, indicating rupture of an abscess, was coincident with the subsidence of the symptoms of pain and fever which it had caused. No sooner, however, was this abscess gone, than a second formed, which apparently was connected with the splenic flexure of the colon. The same pain, most intense in character, the same rise of temperature, and the same rather abrupt disappearance of the symptoms, occurred as in the first abscess; but in the second we did not notice any pus in the fæces; but none could have been found, unless present in very large quantity, because I was then taking an aperient medicine



regularly, and the motions were consequently very loose. A third abscess appeared to form in connection with the cæcum, and then a fourth one, apparently connected with the hepatic flexure of the colon. This was the worst of the four, and I thought there was no possible chance of my recovery. For three weeks my temperature had been oscillating between 97° and 103°, but just as matters seemed almost at their worst, I was sick (Nov. 11). Immediately the pain, which had only been made bearable by opium, completely disappeared, and the temperature went down to the normal, and stayed there. This is shown by the accompanying temperature chart in which the point at which the vomiting occurred is

marked x. Again I thought that I was on a fair way to mend, and I went to the Riviera. While I had been lying on the right side, unable to turn on to the left on account of the increased abdominal pain which this position caused, the shoulder began to ache. I thought nothing of it at first, but soon the symptoms of neuritis, or perhaps, more properly speaking, perineuritis, appeared, affecting the circumflex nerve, the musculo-spiral nerve, the external cutaneous and the ulnar nerves. I do not think there was very much doubt regarding this diagnosis, not because it was my own, but because it was substantiated by my friend, Dr. Ferrier, whom I saw at Cannes. Shortly after I reached Cannes, however, a swelling appeared at the back of the right arm, which had to be opened by my old friend Dr. Macdougall, and Sir Frederick Treves, who most kindly helped him. The swelling was not an abscess; it seemed to be of the character of a carbuncle, consisting of a sort of thickish tissue with a quantity of blood, a little serum and a few leucocytes, exactly like the core of a boil. This swelling was situated under the periosteum. The wound caused by opening it soon healed, but almost immediately afterwards another lump formed in the subcutaneous cellular tissue of the front of the arm; then a third one in the body of the biceps; and lastly, a fourth, all of which had to be opened under an anæsthetic. The fourth one left a sinus, and on my return home, Mr. Walsham laid it freely open by an incision $3\frac{1}{2}$ inches long, about $2\frac{1}{2}$ inches deep, and when the wound was stuffed with gauze, it was $1\frac{1}{2}$ inches broad. This has now healed up, except a small sinus, which still remains; but with this one exception, I have apparently thrown off the illness, and am now nearly well.

This illness of mine is interesting in a good many respects, but time will not permit of my taking them all up. One point that is interesting from a physiological point of view is the effect of pain. After rising to 104° at the beginning of my illness, my temperature fell, and remained very little above the normal, although all the time inflammation was going on in the prostate, resulting in the abscess which Mr. Walsham opened. The reason why there was no rise in temperature was, I have no doubt, the excessive pain, because Mantegazza, in his *Physiology of Pain*, has shown that excessive pain will reduce both temperature and pulse. The cause of this excessive pain I did not quite understand because, as I have said, it was apparently more than there was any definite local reason for, and I was inclined to attribute its acuteness to the presence of some unusual micro-organism, but on having the

pus from the boils examined, I was told that it was a pure cultivation of the *staphylococcus pyogenes aureus*; yet I still think that there may have been some other organism present which tended to intensify the pain. The pain of the boils, as I have noted, was relieved by the use of bi-carbonate of soda, either generally or locally. The abdominal pain was frequently relieved very considerably not merely by warm applications, such as poultices and hot water bags, but by a large sitz bath as hot as it could possibly be borne. This sometimes gave relief and allowed sleep to come on, but upon the whole the only thing that was of real good in alleviating pain was opium, and here I found there was a considerable discrepancy between my own views regarding the use of the drug and those of my colleagues. My colleagues were very much afraid to give me the drug lest it should produce the opium habit. I objected that I was not taking the opium for the purpose of producing pleasure, but only for the purpose of relieving pain, and I said that the moment the pain ceased the necessity for taking the opium would disappear, and therefore it would be given up immediately. At first I had a good deal of trouble to convince them of this, and many a night I had of great pain which might have been averted by the full use of the drug. I succeeded at last, however, in convincing them that I was right about the necessity of giving it to me, and afterwards, I am glad to say, it turned out that I was perfectly correct in regard to the continuance of its use, because the very day that the pain ceased and the necessity of taking the opium as an anodyne ceased, its use was discontinued, and no desire whatever was felt to go on with it. I found that in this point my idea coincided with the practice of two of my friends, one of whom had had a prostatic abscess and had suffered intensely, and another who had watched the drug in many of his patients. It was given me in a good many ways; first of all by the mouth, but that did not seem very satisfactory: it appeared rather to interfere with digestion, and did not relieve the pain as it ought to have done, probably because it was not given in sufficiently large doses. It was then tried in the form of a hypodermic injection of morphine, but this contracted the pupils, tended to dry the mouth, and also had not a satisfactory result. It was then given by suppositories, but these were made with cacao butter, which melted at a temperature above the normal temperature of the body, and while I had no high fever they were passed very much as they were introduced. Then it was suggested that I should take the opium in enemata, and first of all it was intended that I should take the opium in

the form of an enema, the ordinary enema opii, in which 2 ounces of water are employed as a vehicle. It seemed to me that this was too much, and accordingly I took from 30 to 45 minims of the tincture of opium mixed with water to 2 fluid drachms and introduced this into the rectum by means of an ordinary glycerine syringe. This is a method of using opium which I have not seen advocated anywhere, but which I found to be exceedingly efficacious. In about half-an-hour after it had been introduced, the pain began gradually to disappear. It was curious to notice how very accurate the dose required to be; thirty minims would succeed sometimes in relieving the pain, but not with absolute certainty; 35 would probably relieve the pain, 40 was almost always perfectly certain unless the pain were very severe, and on a few occasions I had to take as much as 60, but that was the outside. There was one curious thing to be noted, however: that the nights on which I took opium I was almost invariably sleepless. Instead of producing sleep, as one expected it to do, it only soothed the pain, but kept me awake, so that for hours I lay quite tranquil, delighted to be free from pain, but with no desire to sleep; very much indeed as if I had taken a quantity of coffee or tea, only that the tea or coffee is apt to produce a certain amount of restlessness, which was quite absent after the opium.

Now it may perhaps seem strange that, with a definite infection, one did not use an anti-staphylococcic serum. I confess that I was a little afraid of using a serum, and still more afraid of using an anti-staphylococcic serum. Perhaps I was prejudiced in regard to sera by an experience I once had with an anti-streptococcic serum in a case of ulcerative endocarditis. After injecting a quantity of this, the patient's face and body swelled up enormously; he got general œdema, and seemed to be in the last stage of Bright's disease. This passed off in a day or two; but on mentioning the fact to M. Calmette, of Lille, whose work on anti-venins is well known, he asked how I had injected this serum. I told him that I had injected it subcutaneously, and he then answered: "It is lucky that you did not inject it into the blood, because it would have killed your patient at once." Now, there is no doubt whatever that there are many cases on record of very good results indeed from the use of anti-streptococcic serum; but we generally hear of the good results, and we do not always hear of the bad results. I did not know until the other day why it was that sometimes one was successful with the sera, at other times why harm was occasioned. The use of serum is like the use of any other powerful remedies; it may do harm as well as good.

Every one knows what a useful remedy a cold bath sometimes is in cases of hyperpyrexia. The use of the cold bath is 1900 years old. It was used by Musa, the physician to Augustus, who probably saved the emperor's life by its employment; but not very long afterwards the same physician employed it on one of the same family and killed him, the reason being that at that time they had no clinical thermometers, and did not know how far it was safe to push the use of the remedy. Professor Wright, formerly of Netley, has been working on this subject. He tells me that in all probability the reason why the serum is sometimes harmful is that if it is given in too large a quantity it produces its toxic action on the body instead of inducing it to produce an antitoxin, so that when a serum is given in too large a quantity it really intensifies the disease and ensures the patient becoming worse or dying. Now an antitoxic serum only produces an antitoxin, or antidote to the poison produced by a microbe; but in order to produce a true vaccine against microbes themselves, one must inject not the toxin but the bodies of the microbes themselves, and formerly one was not always certain of getting the results one desired with such injections. At the present day one injects the culture of bacteria or cocci sterilised by heating. Such injections induce the body to manufacture an anticoccic serum or anticoccic substance, provided always the body is able to react. But if the body is not sufficiently strong to react, then the desired result is not obtained; but, on the contrary, the disease is intensified, and perhaps a fatal issue is brought about. It was because at the time of my illness there seemed to be no definite method of ascertaining how far the body could react that one was inclined not to use the serum. Professor Wright is now introducing a method of counting the blood corpuscles, and seeing how far, with a definite amount of anticoccic serum, the corpuscles will react when this is injected into the body. He has also a method of testing the phagocytic power of the corpuscles, by mixing them with a certain amount of serum, the amount of serum being varied in the different cases, and seeing how many bacteria or cocci each corpuscle can ingest; so that in future one may hope to be able to use an anticoccic serum or anticoccic sterilised culture without the fear of doing harm to the patient, but with the certainty of doing good.

One or two other lessons I learned. One was the difference between nursing nowadays and what it was long ago. I well remember, when I was a house physician, having under my charge one ward with twenty-four male beds, in which there

was one nurse, and a supposed night nurse. I had at that time not only to attend to the male and female wards, but I had duty in the delirium tremens wards, and I used sometimes to come up through the male ward after being called out in the small hours of the morning by a policeman to see a case of drunkenness. One night I came up and found the night nurse stretched on a mattress in front of the fire and sound asleep. I reported this, but was told in answer that it was quite natural she should be asleep, as she had been scrubbing all day. But the nurses that I had, and whom I engaged from St. Bartholomew's, were very different indeed, and I think that it was due to a great extent to the careful nursing I received that I recovered at all. I must also say that I really did not know how very good medical men were to one another. Amongst others there was Mr. D'Arcy Power, Sir Frederick Treves, Dr. Ferrier, Dr. Tunnicliffe, my old friend Macdougall, who operated four times, and who is one of the very best men I have ever known, and then there was one whom a year before I did not know—and that was Walsham. A year ago I thought that my colleague, Mr. Walsham, had a curious manner, that he was rather abrupt, and that he was sometimes perhaps a little brusque; but when I became ill, I found that Walsham was not only one of the most able surgeons, but one of the most tender-hearted men that it was possible to be. Much more I would say about him, but words fail to express my admiration for his character and powers, or the gratitude and affection which he inspired.



