On the use of the sulphite of potash / by J.F. Nicholls, M.D.

ON THE USE OF THE SULPHITE OF POTASH.

By J. F. Nicholls, M.D.

I have for many years believed that zymotic diseases and cancer are caused by the action of either vegetable or infusorial germs. It is not my intention, however, to enlarge upon this subject now, but only to mention the fact that fungi have been detected in the fluid of the ventricles of the brain, in urine, in the fæces, especially in cholera stools, in the lungs, stomach, and intestines, and in syphilitic ulcers. Recently the announcement of the discovery of spores in the blood, in cases of rheumatism, by Dr. Salisbury, in America; and the statement by Dr. Schmidt that in the recent epidemic of fever in the Mauritius, in those cases that died he invariably found the lining membrane of the stomach and intestines covered with a multitude of very minute plants of a fungus, similar in growth to that found in the water of the Grand River; and that he could also detect them in the secretions, on the corner of the mouth, on the tongue, on the eyes, and sometimes on the surface of the skin of living persons suffering from fever, whilst in the secretions of entirely healthy persons they were not to be found;—have tended to strengthen my belief that we are on the eve of having the fungoid or infusorial theory of the cause of zymotic diseases satisfactorily proved. It will probably be found that some orders of zymotic diseases owe their origin to vegetable, others to infusorial germs.

During the same time I have held the opinion that amongst some of the compounds of sulphur, a remedy would be found as much a specific in these cases as it is in scabies. As a student, one of my day dreams, and I have no doubt many here have built similar castles in the air, was that I might be enabled to discover some compound of sulphur that would cure cancer, a disease to which in those days I more especially paid attention.

In October, 1863, within a day or two of its delivery, I read in one of the newspapers an extract from Mr. Henry Lee's introductory address at St George's Hospital, in which he mentioned the result of the experiments of Dr. Polli, of Milan, showing that putrid blood injected into the veins of dogs, in every instance but one, caused their death, but that the sulphites, when administered in large and repeated doses, entirely prevented any ill effects from the injection. It immediately struck me, were not these sulphites the compounds I had been so long seeking for? At any rate, I determined to test

their effect, and I will now state the result, in the hope that some of those who have greater opportunities will be led to try the sulphite of potash in a large number of cases. I should, however, first mention that I selected the sulphite of potash on account of the known superior activity of the other combinations of the same base. The rationale of its action probably is that decomposition takes place, caused by the acid secretions of the stomach, and that the sulphurous acid set free either destroys the vitality of the germs in the stomach and intestines, or its beneficial effect may be caused by its entering into the blood, and preventing the development of the germs, and consequently the disintegration of the albumen in the blood. That this decomposition does take place is fairly proved, not only by the simple experiment of adding a drop or two of dilute nitro-hydrochloric acid to a little of the sulphite of potash dissolved in water, when the sulphurous acid can be immediately strongly smelt; but also by the fact that, sometimes as soon as taken, it causes considerable distension of the stomach, and the eructations smell strongly of sulphurous acid. This distension in a few cases produced vomiting; I have not found it act on the bowels, but in the few cases I tested I found it caused the urine to become alkaline.

The first case in which I prescribed it (on October 10th, 1863), was that of a female servant who, after having felt unwell for several days, appeared, when I saw her, to be suffering from typhoid fever, which I supposed was caused by drinking water contaminated by sewage matter, and by sleeping in a room into which the emanations of a cesspool entered. She took the sulphite three times a day in half-drachm doses, and in six days was convalescent.

Syphilis Primaria.—On the 3rd of September, 1865, I was consulted by a Mr. T., a commercial traveller, who had an ulcer on the dorsum of the penis rather less than a shilling in size, circular, with hardened edges and base, with a multiple bubo in the right groin; he had never been affected before; had been under the treatment of a druggist for six weeks; believed he had not had any mercury given him, but iodide of potassium and sarsaparilla, with black-wash to the sore. I ordered him to take twenty-grain doses of sulphite of potash twice a day, which he commenced taking the following morning, and to apply water dressing to the ulcer, and a lotion of hydrochlorate of ammonia to the bubo; on the third day after the sore looked healthier and not so deep; on the sixth day it was very much smaller in size and level, the hardened edges nearly gone; on the eighth day it was quite healed, bubo smaller; on the tenth day bubo much reduced in size, and not at all painful, hardening of the cicatrix very trifling. I did not see him again for a week, when the hardening of the cicatrix was gone, leaving a small depressed scar, and there was not any trace of the bubo; he continued taking the sulphite of potash for a fortnight after the sore was healed. I have seen him from time to time for more than

two years after treatment, and he has never had the slightest trace of secondary symptoms. I have since treated seven other cases of pure Hunterian chancre on the same plan, except that one or two used a lotion of sulphite of potash instead of water dressing to the sore; perhaps the surface appeared to look cleaner, but I did not find any greater benefit from it. With but one exception, I have traced each case—five of them for eighteen months, and one for six months, after treatment—and not one of them has had any secondary symptoms. This result, I think it may be fairly assumed, is most successful, when compared with any other plan of treatment.

Syphilis Secundaria.—G. B., æt. 27, contracted primary syphilis in the spring of 1864; had a chancre, accompanied by a bubo, which disappeared without suppurating; was treated in Haslar Hospital for six weeks, mouth not sore; then did duty for three months; returned to Haslar Hospital, and was under treatment for nearly five months for secondary disease; was discharged from the Royal Marine Light Infantry in March, 1865, as unfit for further service, on account of syphilitic rheumatism; since that time has been getting worse, pain in his head and limbs has been so violent that he has hardly left his bed for months; gets no rest, is much emaciated. First seen by me on the 30th of September, 1865, when he commenced taking twenty-grain doses of sulphite of potash twice a day. October 4th, pain in his limbs rather relieved; pain in the head of a duller character. October 7th, pain quite gone from his limbs; pain less in his head; gets a little rest at night; feels stronger than he has done for months. October 11th, looks much better to-day; no return of pain in his limbs; only slight heaviness in the head remaining; can sleep all night; is astonished to find that the present rough weather does not affect him, as previously it caused so much pain that he could hardly turn in his bed; has slight conjunctivitis, which continued for a few days, and slight pustular eruptions, which gradually disappeared. He continued taking full doses of his medicine up to the 21st, when, as he appeared convalescent, he commenced taking ten-grain doses. October 28th, caught cold from getting wet through yesterday. Iris of left eye slightly affected, to apply a small blister to the temple, belladonna to the eyebrow. November 1st, iris much inflamed, irregular; to take two-grain doses of quinine every four hours, continue using the belladonna. The iritis continued about the same for four or five days, when it commenced to improve; on the 10th it was nearly gone, and the iris, which at one time had been very irregular, had nearly regained its normal state; there was slight dulness of vision, which rapidly disappeared; he had taken the quinine up to the 8th. On the 11th, felt a return of pain in his head last night; recommenced taking the sulphite of potash, which he continued up to the 20th, but the pain only lasted a few days. On the 20th, as he looked anæmiated and had a slight pustular eruption coming out, I ordered him two-grain doses of sulphate of iron, with fifteen grains

of sulphate of magnesia, twice a-day, which he continued taking for a short time, since which, up to the present time, he has been in perfect health. Subsequently I treated another case of secondary syphilis, but of much less severity, on the same plan, with equally good result.

I have prescribed the sulphite of potash in a case of phthisis in the last stage; it appeared to diminish the quantity of expectoration, and to relieve the diarrhœa, but for a few days only. I also gave it in a case of variola; from the history of infection, I was able to diagnose the disease before the appearance of the eruption; it was an extremely modified case; there were faint marks of vaccination. A brother and sister who continued to reside in the house from which my case was removed, had the disease in a very severe form; one, I heard, died.

A short time ago I had under my treatment a case, which from the identity of the symptoms I could only consider to be one of ague; the cold, hot, and sweating stages regularly succeeding each other. This man had suffered in India from intermittent fever, and said that the present attack was exactly similar; he took the sulphite of potash, and in three days was quite well. I have recently treated with the sulphite of potash thirty-five cases of typhoid fever out of seventy-one persons inhabiting a row of houses. A canal, into which I believe several drains empty themselves, runs parallel with, and about fifty yards from the houses, which are from ten to fourteen feet below its level. The drinking water is good, and not contaminated with sewage matter. The drainage is perfect, and as the epidemic was entirely local, there being no other cases in the town,* nor any trace of its having been imported from a distance, I can only suppose that emanations from the canal were the cause of the outbreak. I should mention that these cases were confined to the non-commissioned officers and drummers on the permanent staff of a militia regiment, their wives and children, who are in comfortable circumstances. The following is the result in a tabulated form.

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* I have since heard that at about the same time there were two or three cases of typhoid fever in the county prison, which is within 200 or 300 yards of the row of houses inhabited by the cases under my treatment, and about the same distance from the canal as the row of houses. One case died. Subsequently there have been more cases, making a total of ten, with two deaths.

No. of Case.	NAME.	Age.	Date of Attack.	Commencement of Treatment.	Date of Convalescence.	Duration of Case.	REMARKS.
		Years				Days.	
1.	Joanna L.	9	Nov. 3	Nov. 10	Dec. 1	29	A very severe case; delirium, diarrhœa, rose-coloured spots, chest symptoms.
2.	Emma C.	8	,, 6	,, 10	,, 2	27	A very severe attack; diarrhœa, rose spots, delirious for days, chest symptoms.
3.	George C.	10	,, 6	,, 11	Nov. 28	23	A mild attack; diarrhœa slight, rose spots absent.
4.	John C.	4	,, 8	,, 11	Dec. 15	38	A very severe attack; diarrhœa, rose spots, chest symptoms, anasarca. This child had scarlet fever badly eight months ago, and anasarca subsequently.
5.	William L....	15	,, 9	,, 11	Nov. 29	21	A mild attack; diarrhœa, chest symptoms, no rose spots.
6.	James G.	52	,, 10	,, 12	,, 28	19	A very slight attack; no diarrhœa nor rose spots. Head principally affected.
7.	Jane C.	23	,, 10	,, 14	Dec. 1	22	A slight attack; no diarrhœa nor rose spots. Anxiety for her child prevented earlier convalescence.
8.	Eliza S.	29	,, 10	,, 12	,, 1	22	Mild attack; no diarrhœa nor rose spots. Rest much broken attending her child.
9.	Edwin P.	16	,, 11	,, 14	Nov. 27	17	Mild attack; no diarrhœa, had rose spots.
10.	William G....	9	,, 11	,, 13	Dec. 6	27	Very severe attack; continuous diarrhœa, rose spots, chest symptoms.
11.	Edgar G.	4	,, 11	,, 13	,, 3	23	Much delirium at first, great tympanites, diarrhœa for a day or two, rose spots.
12.	Henry C.	2	,, 11	,, 13	,, 8	28	A very severe attack, accompanied by dentition; petechiæ which sloughed, very severe diarrhœa, convulsions.
13.	Marian L.	4	,, 11	,, 13	,, 19	39	A very severe attack; diarrhœa, rose spots. Was kept alive by nutritive and stimulant enemata. Insensible for 10 days.
14.	Ernest S.	7	,, 11	,, 12	Nov. 30	20	Rather sharp attack; delirium, rose spots, but no diarrhœa.
15.	James C.	27	,, 12	,, 13	Dec. 2	21	Had been suffering from rheumatism for some weeks previously; slight delirium, rose spots, no diarrhœa, head symptoms.
16.	Harry C.	5	,, 13	,, 14	,, 1	19	Mild attack; diarrhœa, no rose spots observed.

No. of Case.	NAME.	Age.	Date of Attack.	Commencement of Treatment.	Date of Convalescence.	Duration of Case.	REMARKS.
		Years				Days.	
17.	William C.....	4	Nov. 13	Nov. 14	Dec. 2	20	Sharp attack; diarrhœa, rose spots.
18.	James C.	3	,, 13	,, 14	,, 1	19	Mild attack; no diarrhœa nor spots. Had been taking tonics for a long time previous to the attack.
19.	Caroline L.....	6	,, 13	,, 14	,, 6	24	Severe attack; diarrhœa, rose spots, chest symptoms.
20.	Silas S.	32	,, 13	,, 14	,, 1	19	Not very severe case; head and chest symptoms most prominent, no diarrhœa nor spots.
21.	Elizabeth C. ..	17	,, 14	,, 15	,, 3	20	At the onset this promised to be a very severe attack; much delirium, but she speedily got better, little or no diarrhœa, rose spots.
22.	M. E. H. ...	5	,, 14	,, 15	,, 2	19	Sharp attack at first; diarrhœa, rose spots, slight delirium for the first three days.
23.	Joshua C.	47	,, 16	,, 19	,, 4	19	Sharp attack at first; diarrhœa, no spots observed.
		mos.					
24.	James C.	19	,, 17	,, 18	,, 4	18	Sharp attack at first; diarrhœa, rose spots.
		years.					
25.	Mary L.....	11	,, 19	,, 23	,, 8	20	Mild attack; not any diarrhœa, rose spots.
26.	Ernest P.	10	,, 19	,, 23	,, 7	19	Not very severe attack; slight diarrhœa, rose spots.
		mos.					
27.	Frank S.	14	,, 20	,, 22	Died Dec. 1st.		Had diarrhœa ever since he was weaned, two months ago; was teething; first prescribed for on the 22nd; had convulsions on the 25th; rose spots; erysipelas the day before he died; only took the Sulphite of Potash for two or three days.
		years.					
28.	Fred. M.....	3	,, 20	,, 22	Dec. 8	19	Not very severe attack; diarrhœa, rose spots.
29.	Kate M.	4	,, 20	,, 22	,, 8	19	Sharp attack at first; severe diarrhœa, rose spots.
30.	Fred. H.	6	,, 22	,, 27	,, 13	22	Mild attack; trifling diarrhœa, no rose spots.
31.	Fred. S.....	9	,, 24	,, 26	,, 4	11	Mild attack; slight diarrhœa, rose spots.
32.	Lucy H.	3	Dec. 1	Dec. 5	,, 18	19	Rather sharp attack at first; delirium, severe diarrhœa for two or three days, no rose spots observed.
33.	Jane H.	13	,, 2	,, 4	,, 17	16	Very mild attack; slight diarrhœa, not any rose spots.
34.	Ann C.	43	,, 4	,, 6	,, 17	14	Very mild attack; slight diarrhœa, not any rose spots.
35.	Ann H.	25	,, 7	,, 8	,, 21	15	A mild attack; slight diarrhœa, not any rose spots.

These cases might be divided into three classes. First, mild cases; of these there were fourteen; nearly all had diarrhœa more or less, but rose-coloured spots were only present in three; they were all treated with the sulphite of potash in doses of twenty grains, in water, twice or three times a-day, for an adult; in proportionately diminished doses for children. The average duration of these cases was eighteen days; in one case there was a slight relapse. They all recovered. Second class, cases of greater severity; of these there were thirteen; ten had rose spots, ten severe diarrhœa, tympanites, and pain in the right iliac fossa. One case appeared to be more nearly allied to typhus, as there was neither diarrhœa nor rose spots, but severe head symptoms. In two of those who had rose spots, diarrhœa was absent, and two had diarrhœa but not rose spots. In seven there was a considerable amount of delirium for the first two or three days. The sulphite of potash was given in similar doses; there were two cases of slight relapse, but all recovered. In class third there were eight cases. All had severe diarrhœa, rose spots, chest symptoms, delirium, great prostration; two infants who were teething at the time had convulsions. The sulphite of potash was given in a similar manner. In six cases starch and opium enemata were given. The average duration was thirty days; seven out of the eight cases recovered. Nutrition was endeavoured to be well kept up with milk, beef-tea, arrowroot, wine and brandy, and by nutritive and stimulant enemata; in the more severe cases small quantities of nourishment and stimulants were given every half hour, and in some instances so continued for several days. The one case that died was that of an infant, fourteen months old, who had been suffering from diarrhœa ever since it had been weaned (two months previously). It was first treated on the 22nd of November for diarrhœa. On the 25th it had very severe and long-continued convulsions from dentition; on the following day rose spots came out, and on the day before its death, December the 1st, erysipelas appeared on the chin and spread over the neck. It only took the sulphite of potash for two or three days. I believe the long-continued diarrhœa and convulsions had quite as much to do with its death as typhoid fever, but I have thought it better to return its death as having been caused by fever, than let it for a moment be supposed that I had not fairly given the result of the treatment of these cases. It must be borne in mind that the child only took the sulphite for two or three days. The average death-rate of typhoid fever is about 1 in 6; if the death of the child is included, the mortality of these thirty-five cases is only 1 in 35. I think I may fairly assume that this small death-rate in cases of typhoid fever treated with the sulphite of potash is something more than a mere coincidence; at the same time, I well know how deceitful conclusions are when taken from the result of a small number of cases, and that only after a lengthened trial of the sulphite of potash can its true value be ascertained. So far, I am well satisfied with the result of its use in those classes of diseases in which I have tried it, and shall take every opportunity of prescribing it, not only in similar cases, but in cancer also.