THE HOME TREATMENT OF SCARLET FEVER.

By ROBERT MILNE, M.D.,

MEDICAL OFFICER OF DR. BARNARDO'S HOMES AND HOSPITALS.

WHEN I left Scotland, nearly thirty years ago, there was a hazy report throughout the country that if cases of scarlet fever were rubbed with ointment or oil it prevented the scales (in peeling) from flying about, and thus lessened the risk of spreading the infection. Further, that if carbolic oil were used it still further lessened the risk. Along with others I used carbolic oil from the commencement of the disease, and found in several cases that the trouble was limited to one member of a family.

During the intervening years I have been able most fully to test this practice in many hundreds of cases. Should the infection arise from milk or similar source, it will spread in spite of the individual prohibition. Such an experience the children under my care passed through in the year 1904-5 (from December 16th, 1904, to April 2nd, 1905), when 95 cases were attacked out of a community of 1,100 children. Yet in no case could the disease be traced to individual contact, while no adults were attacked. Out of 58 cottages, cases appeared in 37.

My own children are very susceptible to scarlet fever. At different times six have had it, yet on no occasion was there any spreading to the other members. This, although their mother nursed those who were ill and attended to the others in an adjoining room. In the course of a few days the children were allowed to mingle freely with one another at games and meals. The sheet hung over the door, and kept moist with disinfectant, was dispensed with, for they were carefully rubbed with 10 per cent. carbolic oil or eucalyptus oil day by day, and had a plentiful supply of fresh air. This thoroughly destroyed all germs and prevented the risk of the disease spreading. It also completely dispensed with the need of elaborate disinfection afterwards, for the source of infection was destroyed.

Only after years of most careful observation, however, was I able to establish this with full assurance.

In 1895 the Chaplain to the Girls' Village Homes, in connexion with Dr. Barnardo's Homes, had a very severe attack of scarlet fever at Ilford. He peeled more freely than almost any patient I have seen, yet at the end of ten days, when he was peeling most freely, I had him brought up to my home in East London. He spent several days as one of the family. During these days he mingled most freely with my children, both at meal times and at games. In fact they were often all playing together on the floor. Several of my children had not then had scarlet fever, and none of them then contracted the disease; although some of them had the disease in later years. By this time I was fully convinced of the absolute prevention of the spread of scarlet fever when this treatment was faithfully carried out.

To many friends, both medical and other, I have strongly recommended this plan, and the directions have been faithfully followed on many occasions. The heads of one large family took up the system most warmly. On five or six occasions they had the opportunity of thoroughly testing it, and after their first favourable experience they had not the slightest hesitancy in repeating the plan of treatment for subsequent cases. In no instance did the fever spread to another child, and this, too, when children of a few years old were in the same room from the very commencement of the attack. On one occasion in this family an 8-year-old niece was staying in the house on a long visit. Christmas was approaching and about forty little children had been invited to a Christmas party. A fortnight before Christmas this niece was attacked by scarlet fever. In spite of this the party was duly held, and several of my own children, who had not then had scarlet fever, were invited. Not one of the party was attacked. The lady of the house observed that her niece and a little girl visitor were constantly together throughout the evening. She confessed afterwards that she had some doubts of the prudence of the proceedings, but she said to herself, "That is Dr. Milne's own girl. She may take all the risk!" Years afterwards this daughter of mine took the infection from another source.

On another occasion in the history of this same family, when one of their own children was taken ill with scarlet fever, a celebrated preacher wrote to them for a supply of books from their library. One of his own children was ill with scarlet fever, and he and his wife had had to leave their house and board out during the illness, two or three nurses being in attendance on the child. The father was not permitted to take books from his private supply. On a subsequent visit he found that the mother had been nursing the little one through a scarlet fever attack about the same date, her other children being in and out of the room all the time. In this instance, again, only one child was attacked, and no infection was conveyed outside the house.

It is, of course, by no means easy to convince the laity, or the medical profession, that this method of treatment does not carry with it serious dangers. In one of the earlier cases dealt with a medical visitor to the home said to the mother, "Are you mad to allow your other children to be exposed to such a serious infection as scarlet fever?" All the children, healthy and infected, were playing together. "No," said the mother, "I have had a similar experience more than once, and I know that it is perfectly safe." Her confidence was justified by the result. More recently in the same family a young child caught scarlet fever, and a brother who had not previously suffered lived in the same room and shared his little sister's bed from the beginning to the end of the attack.

On my return from a holiday in Scotland a friend sent for me in great haste. Another medical man had been called in in my absence. He ordered one of his children to be completely isolated for eight weeks. There must be no contact with the other children. In a fortnight the children were all together without any bad result.

In the autumn of 1907 I was called to attend the children of Mr. H.; one of them I found to be suffering from scarlet fever. My own treatment was fully and faithfully carried out. The children mingled with each other freely throughout the case without any infection resulting. In convalescence the children went to the seaside for six weeks. On their return they travelled with some school children on their way home. In a few days another of their number was attacked, doubtless from contact with their little fellow-travellers.

In the winter of 1895 the fever hospitals were so full that admission could not be obtained for 9 cases. These were kept in the ordinary hospital, carefully treated, without any others being affected.

It was during an epidemic at Ilford that I was able first to test somewhat fully the value of the treatment. From our isolation house patients were returned in five, four, three and two weeks. They mingled with from sixteen to twenty-five other girls from 2 to 16 years of age. In no case was there any infection carried.

On many occasions I have kept a child in the house with from six to twenty other children without any infection spreading. More recently the patient remained the whole time in a room occupied by twenty-four others.

Although I have shown how safe the children are, even in the same room, immediately the eucalyptus oil has been applied, on one occasion, when the rubbing was done by a young nurse, she was attacked, but I believe this has never happened when proper care has been exercised.

Since writing the above notes a nurse in one of our hospitals was attacked with a severe form of scarlet fever. She was treated in the above manner in the hospital, yet, although there were young children in both the wards above and on the same floor on which she lay, and although they passed her ward constantly to the lavatory, there was not another case.

On December 13th, 1907, a scarlet fever case was brought into Her Majesty's Hospital. The Sister in charge, newly appointed, had had no experience of the eucalyptus treatment. I directed that the case should be treated in the way described, but on the following morning I found the lad isolated in a small ward. I thereupon put him among fourteen children in a larger ward and treated him there. No other case occurred. On January 22nd, 1908, another scarlet fever case occurred in the home, and the boy was promptly sent in to the fever hospital by the house-surgeon, who thought that it would be better not to run any risk, as there were eight

recent osteotomies in the hospital. Of course, if the new mode of treatment proposed will not stand the severest tests the sooner its failure is declared the better. I should not have hesitated in the slightest to retain this lad in spite of the osteotomies. On February 5th and 6th 2 further scarlet fever cases occurred, also a case on the 18th, in the central home. These were placed in the large wards among the other patients, where they remained with the process of peeling going on, but no infection spread to any other case in the hospital.

The above cases I have taken from many; they show the result, although I would have preferred to carry on the plan a little longer and prove its safety more fully before publishing it. Some time ago, however, I met a nurse in a country district who had been engaged in nursing scarlet fever cases for some time. It was hard, she said, to take the fee for the nursing institute from these poor people, to whom it was such a sacrifice, for the two nurses who were insisted upon by the authorities. To those who paid the fee it meant retrenchment for years. Such cases, combined with the many thousands of pounds annually spent in the country over scarlet fever, have determined me to lay this plan before my medical brethren.

At first I used carbolic oil 1 in 10, yet in most of the above cases and in all recent years I have used eucalyptus oil. For the first four days I have it rubbed in all over the body from the crown of the head to the soles of the feet twice a day. Then once a day until the tenth day of the disease. The aroma fills the room. It greatly modifies the throat trouble and kidney trouble, ear or nose complications I have not known. The tonsils, however, I always paint with 1 in 10 carbolic oil every two hours for the first twenty-four hours. This greatly relieves the pain and enables the patient to swallow.

I have never known the trouble spread through any cases of otorrhoea or ozaena with this treatment, yet I have had children return, after seven weeks' absence in the fever hospital, with a little skin on the soles of the feet unpeeled. Within a few days the children who slept in a bed on either side of such a case were attacked.

For several years I have adopted the same method of treatment in regard to cases of measles. The great difficulty found in such is the infectious nature of the malady before any signs are definitely manifest. When, however, the eucalyptus oil is used at the earliest possible moment, I have found that it has entirely stopped the epidemic spreading. When such a case has occurred I have kept the aroma of the oil in the rooms and had a little sprinkled on the beds day by day, as well as on a handkerchief in the chest of the children. This has, I have found, entirely limited the epidemic to at most one or two cases who had been playing with the first child on the attack coming on, while in many instances it has cut the epidemic short. This spring an outbreak occurred in Her Majesty's Hospital in a ward containing 12 children, all under 4 years of age. The child was isolated and the above plan carried out; 3 cases occurred on the fourteenth and fifteenth days, but none afterwards.

It will be found of great interest to examine the records of the epidemic of scarlet fever in Dr. Barnardo's Village Home for Girls, Barkingside, to which I have referred above, which occurred from December 16th, 1904, to April 2nd, 1905. The cause was either milk infection or unknown. There were 1,100 girls in residence in 58 cottages. The number in each varied from 16 to 24. The epidemic broke out in 37 cottages. In 14 cottages there occurred only one case; 42 occurred in cottages in groups of 2, 3, and 4. While there occurred during the same time 35 cases in which the interval between the cases in the same cottage was over six days (the usual limit now given for infection), yet only 2 cases occurred on the sixth day, 1 on the fifth, 2 on the third and 2 on the fourth day. These cases were all treated on the first appearance of any symptom as above. The 5 cases on the third, fourth, and fifth day, occurring among so many other cases, were due, I believe from my experience, to outside, and not to case to case infection. Twice during the epidemic I carefully inspected all the children to make sure against any peeling case of unrecognized scarlet fever; but failed to find any trace.

The most careful separation of the infected children and isolation of those who had been exposed was carried out.

The following table summarizes the facts:

These cases occurred in 37 cottages, of which
47 appeared as primary cases in the various cottages, some appearing in groups of 2 and 3 on the same day.
29 appeared in one or other of the above cottages, but with an interval of from 9 to 50 days.
6 appeared after an interval of 6 days.
1 on the fifth day.
5 on the third or fourth day.
7 within forty-eight hours of one another.

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In conclusion, I would again emphasize most strongly the great need for care and thoroughness in carrying out the lines of treatment. Again and again I have said to both most sensible mothers and trained nurses, "Rub the patient most carefully from the crown of the head to the soles of the feet," only to hear on my subsequent visit and inquiry, "Oh, doctor, I did not know you meant me to rub it into the roots of the hair and the armpits," etc. With such an omission disaster would of necessity follow. The eucalyptus oil must be rubbed carefully all over the body, from the crown of the head to the soles of the feet, both morning and evening for the first four days, then once daily until the tenth day; the throat to be swabbed with carbolic oil 10 per cent. every two hours for the first twenty-four hours.

With this plan of treatment I have never known any nose, ear, or kidney trouble result. At the same time it greatly modifies the severity of the attack. I have always given careful injunctions to avoid cold for three weeks, and therefore to have the children warmly clad.

At first I only allow soda water or hot water and milk in equal quantities. In a few days light diet, and by the tenth day their ordinary meals.

The blessing of this plan of treatment, which I most highly and confidently recommend to medical men for use in private families, in boarding schools, and wherever children are congregated together, cannot be over-estimated. The statement in the language of Mr. J. Brendon Curgenvin, whose work merits the highest praise, "that no isolation of the patient in the way now practised is necessary," is more than proved by the above records.

SEVENTY-SIXTH ANNUAL MEETING

OF THE

British Medical Association.

Held at Sheffield on July 24th, 25th, 27th, 28th, 29th, 30th, and 31st.

PROCEEDINGS OF SECTIONS.

SECTION OF PATHOLOGY.

C. J. MARTIN, M.B., D.Sc.Lond., F.R.S., President.

DISCUSSION ON CEREBRO-SPINAL MENINGITIS.

OPENING PAPERS.

I.—W. ST. CLAIR SYMMERS, M.B., C.M.Aber.,
Professor of Pathology, Queen's College, Belfast.

It is recognized by all bacteriologists that epidemic cerebro-spinal meningitis is due to infection with the *Diplococcus intracellularis meningitidis* of Weichselbaum.

There are some points in regard to this coccus that will doubtless repay discussion. It is easily cultivated provided some form of serum is present in the culture media, preferably raw ascitic fluid or other serous effusion, such as hydrocele fluid, pleuritic fluid, etc. In the Belfast laboratory we use a medium (chapasgar) consisting of ascitic 1 part, 3 per cent. agar 2 parts.¹ The ascitic fluid is heated

¹ See Symmers and Wilson, BRITISH MEDICAL JOURNAL, June 23rd, 1907.