

at all, but presented a slightly elevated, usually oblong surface, quite firm to the touch and of a dull chocolate colour. Other characters common to the small-pox exanthem were, however, present—viz., distinct depression as if from drawing together of the centre in some cases, in others a softening of the surface with scabbing, without any evidence of the usual cycle of vesiculation and pustulation. Distinct vesiculation such as is suggested, to quote any one of the recognised authorities, by the description “hemispherical in form and opaline in appearance”¹ was not manifestly present, and, as many

after every visit. Disinfection in the cabin set apart for the patient was effected by means of a moist sheet sprinkled with carbolic solution hung over the doorway. All food, &c., was passed to me through the barricades and the dishes washed with carbolic solution after use. After the death of the patient his cabin was washed down with the steam hose and afterwards scrubbed with carbolic acid, while both it and the fore-castle adjoining were well fumigated. It was with difficulty that the Lascars could be argued into leaving to me the preparation of the body for burial, and, while conceding this, they insisted on holding a burial service on deck. Every precaution was taken by the captain, who stopped the ship and ran her broadside to the wind. Three of the Lascars who bore small-pox marks were chosen to remove the body from the cabin (where it had previously been wrapped in well-carbolised sheets and canvas) to the deck, where they deposited it on one side; the whole of the Lascar crew assembled on the other at a distance of some four yards while the service, lasting a quarter of an hour, was conducted. After the body was consigned to the deep additional precautions were taken to disinfect those who had acted as bearers.

These facts are given in some detail because they seemed to bear a sequel, for thirteen days afterwards (the ship having escaped quarantine at Suez, Port Said, and Malta) a young Lascar fireman was struck down by symptoms which soon left no doubt that he was suffering from small-pox. The coincidence of this lapse of time—corresponding so closely to the usual period of incubation—with the onset of his symptoms seemed to point to the burial service on deck as a loophole in the disinfectant precautions. This was all the more disappointing as the danger of its being so had been clearly recognised, and though the service seemed inevitable great care had been taken to isolate the participants in the service from the deceased as far as possible. Fortunately for the sequel, this second case was of a much milder type and made a good recovery on reaching the Thames.

Glasgow.

FURTHER NOTE ON THE TREATMENT OF TAPEWORM.

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IN THE LANCET of Aug. 4th, 1894, I contributed a note on the Treatment of Tapeworm. As six cases—two children and four adults—which I have since seen had been previously treated unsuccessfully I venture to think that my further experience may be of interest. The line of treatment indicated in my previous communication was successfully followed in all of these cases, but I desire to refer to two of them as they appear to me to corroborate the views I then expressed as to the necessity of preparing the patient before administering the vermifuge and the absence of danger in giving the considerable doses of the liquid extract of male-fern which I recommended if it is speedily washed from the bowel.

CASE 1.—The patient was a little girl aged seven years who had undergone treatment many times during three years, but without success. She had been given repeated small doses of about fifteen minims of the liquid extract of male-fern, and although numerous segments of the worm were passed after each course of treatment they re-appeared in the stools in two or three months, when the child herself would again ask for “fern,” as she felt sick and irritable and had abdominal discomfort. The child dreaded the administration of the drug as it always made her so ill for some days, but she preferred this to the unpleasant sensations produced by the presence of the parasite. The medical man in attendance was afraid to give the large doses recommended by me—one drachm at 8 A.M. and another drachm or half a drachm at 9 A.M.—as he argued that if fifteen

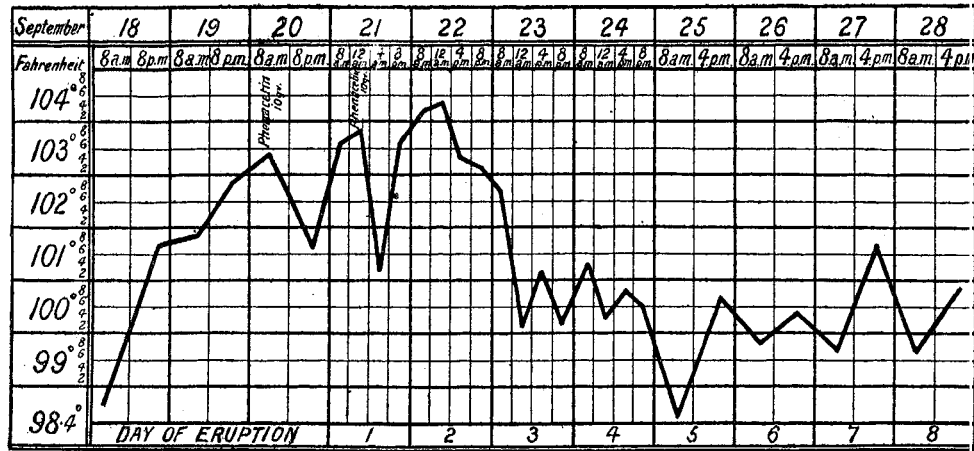


Chart showing rise until Sept. 22nd, when the temperature was over 104° and there were spots all over the body. Coincidentally with the appearance of the rash the temperature fell.

other indications pointed to the eruption being that of small-pox, proof of vesiculation was sought for by puncture of one of these flat elevations; the result was the escape of a small amount of serous fluid removing all doubt of the condition. Previous experience might have led to the same conclusion at an earlier stage, but as the decision of the true nature of the case was one of immense importance to the ship's company it was delayed by the outlook for such a condition as the common description of vesiculation had suggested. Subsequently confluence of these areas and the appearance of pustulation took their usual course, producing the appearance seen in Fig. 2, the only additional fact worthy of remark being the presence of black scabs among the pustules indicating unusually speedy maturation here and there. The prognosis was not at first grave, the only disturbing factors in the early stages being the great tropical heat both by day and night and the early appearance of delirium. The extensive confluence in the later stages indicated a serious outlook. Curiously, what appeared to be the turning-point towards recovery must have been a final struggle on the part of nature, for on the day preceding his death the patient had for the first time expressed himself as “getting better,” and his general condition had, moreover, apparently improved.

With regard to treatment, little could be done medicinally. Quinine evidently had little or no effect in controlling the initial fever, although phenacetin in equal doses (ten grains) took effect upon two occasions. Bathing the eyes with a weak solution of perchloride of mercury gave much relief, as also did the application to the face of boric and zinc powder on a mask of boracic lint. Milk diet was adopted on the first evidence of continued fever; condensed milk only being available, this was given with fine-boiled rice three times daily. Alcoholic stimulant, for which there seemed no indication till the onset of the secondary fever, was at first refused on religious grounds (its use involving loss of caste), but was insisted on later when strength was evidently failing with good, although temporary, result. Isolation was at first no easy matter owing to the Lascars, having no idea of contagion, trying to communicate with the patient; the cabin had to be barricaded so that entrance could only be obtained in sight of the watch on the bridge; the delirium of the patient added another danger, as on one occasion he rushed out on deck and was got back with difficulty. On my part, too, there was great need for caution, as the case had to be taken full charge of in addition to my ordinary duties. To allow of this special clothing was set apart for my visits; my cabin was occasionally fumigated, and a hot bath, impregnated with Condy's fluid, was taken

¹ Hilton Fagge: Text-book of Principles and Practice of Medicine, third edition, p. 202.

minims produced such severe toxic effects six or eight times that dose would be dangerous. As I previously pointed out this is exactly contrary to my experience. The small doses produce toxic effects because they remain in the bowel and are to some extent absorbed, while the large doses are sometimes expelled from the bowel within two hours of being taken, frequently before the final dose of castor oil has had time to operate. In this case I was not given time to follow thoroughly the few days of preliminary treatment by means of saline purgatives, and as, unfortunately, the child was especially constipated I had no means of properly gauging the amount of purgative required to evacuate the bowel with certainty. Without having the bowels satisfactorily moved by the evening and early morning doses of sulphate of magnesia and jalap I gave a drachm of the liquid extract at 8 A.M. followed by forty-five minims in an hour. As the castor oil given two hours afterwards failed to operate enemata were freely used and another dose of oil was administered about two o'clock. The entire tapeworm, including the head, was passed between four and five o'clock, together with a considerable quantity of mucus. The child had not suffered from the sickness, faintness, or other toxic effects which she always experienced after the small doses, but an erythematous rash appeared on the skin of the face and body in the evening, showing that some of the poison had been absorbed. She, however, felt well, ran about all day, and shared in the delight of her mother in having got rid of the enemy. I feel convinced that if I had insisted, as I usually do, on having the bowels freely opened for several days before administering the vermifuge, and if an effectual dose of castor oil had been given afterwards, the rash even would not have appeared. This case, therefore, shows the importance of procuring free evacuation of the bowel both before and soon after treatment by the vermifuge and, I think, goes far to establish the fact that effectual doses produce no more toxic effects than small inefficient doses, even though administered without the careful preparatory and subsequent measures I advise.

A case of exanthema after the use of *extractum filicis maris* is reported by von F. Schmey.¹ The case was that of a broken-down old woman who, after taking ten grammes of the preparation, suffered from redness and swelling of the eyelids which spread to the cheeks and forehead and disappeared entirely in three days. Von Schmey thinks that the effect was perhaps due to the simultaneous administration of castor oil, in which filicic acid, the poisonous principle, is easily soluble. I certainly think that the castor oil should not be given along with the male-fern, because an ineffectual dose would lead to the poisonous symptoms above noted, and an efficient dose would wash the poison from the bowel before it had time to injure the worm. If an efficient dose is given two hours afterwards the solubility of the poisonous principle in the oil would facilitate its removal from the bowel.

CASE 2.—I was careful in this case, that of a middle-age woman with symptoms of obstinate constipation, to prescribe a course of purgatives for two weeks. The aperient which suited best in this case was Hunyadi Janos which she took for about a week with excellent results and no discomfort. As I previously pointed out, saline aperients are the best for the preparatory treatment as they rid the bowel of the excess of mucus which is present in most cases of tapeworm and thus expose the worm to the full action of the poison. It is more effectual to administer castor oil with jalap after the vermifuge because this combination is more rapid in its action, the object being to remove the poison from the bowel before it is absorbed, and the worm before it has time to recover and re-attach itself to the mucous membrane. In this case, after the course of medium doses of Hunyadi Janos every morning for a week, she had a dose of sulphate of magnesia and tincture of jalap one night followed by Hunyadi Janos in the morning at 7 A.M., the drachm doses of the liquid extract of male-fern at 8 and 9, and castor oil with tincture of jalap at 11 o'clock. The worm was passed along with much of the liquid extract between 9.30 and 11 o'clock, therefore before the oil was given; but, notwithstanding this, I gave the dose of castor oil and jalap to make sure that all the poison was removed from the bowel. The patient did not feel any ill effects from these apparently severe measures; in fact she suffered less than she had done on four previous occasions when she was unsuccessfully treated for tapeworm. It may be, of course,

that the assurance that she was free from this parasite for ever made her minimise her sufferings.

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A CASE OF MALARIOUS FEVER.

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THE following case of malarious fever occurred in a medical student of the local medical school, who has just finished his curriculum and has been under my observation for five years. In his recollection and in mine he has never had fever until last September, when crescents were discovered in his blood the day after the first attack commenced. He always lived in the city of Hyderabad, but a month before he got fever he changed his residence to a malarious suburb called Troop Bazaar, and he has had fever about once in two months since. The last attack took place at the end of March, 1896. He was cured with quinine, and when he got well was directed to have his blood examined every day until the onset of the next attack—the attack under report,—in order to enable us to determine whether the presence of Laveran's bodies in the blood precedes or follows the disease. Accordingly, the microscope examinations of his blood were made daily, and no Laveran's bodies were found from April 8th to 30th inclusive. On the morning of April 30th he looked poorly and complained of pain and uneasiness in the region of the spleen and liver. The blood on this day was thoroughly examined by three competent observers and nothing abnormal was detected in it. He went home at 10 o'clock A.M., and at noon had very violent ague followed by the usual hot and sweating stages of intermittent fever. Next morning Laveran's bodies were found in the blood. He was kept under observation without quinine till May 4th, when we gave it to him, and he has had no fever or Laveran's bodies in the blood since and is now (May 7th) quite well. The following table shows the dates of the attacks of tertian ague, the results of the blood examinations, and the dates on which he took quinine, from April 30th to May 6th, 1896.

Table showing the relation between Intermittent Fever, Laveran's Bodies, and Quinine in the Case of a Patient attacked with Ague and Fever on April 30th, 1896.

Date.	Laveran's bodies.	Fever.	Quinine.
April 30th ...	None found at 9 A.M.	Came on with ague at noon.	None.
May 1st ...	Intra- and extra-corporcular "swarming."	None.	None.
" 2nd ...	Same as on May 1st; but leucocytes also "swarming."	Came on with ague at 11 A.M.	None.
" 3rd ...	Same as on May 2nd.	None.	None.
" 4th ...	Same as on May 3rd; rosettes.	Came on with ague at 8.30 A.M.	Ten grains at 10 A.M. and five grains at 4 P.M.
" 5th ...	None.	None.	Five grains at 10 A.M. and five grains at 4 P.M.
" 6th ...	None.	None.	Same as on May 5th.

In this case there were no Laveran's bodies in the blood before the disease began; they did not appear until after it was established and they were obviously one of its effects and not its cause. The bodies seen daily in the blood between May 1st and 4th bore signs of the well-marked relationship of Laveran's bodies to the white blood-cells to which I called attention in the address I had the honour of delivering before the profession in Bombay on April 4th last. Additional evidence in this direction was furnished unexpectedly by the rosette forms which were found in the blood on May 4th. One of these bodies was traced from its origin to its termination. It appeared first like a red blood-cell with a spot of black pigment in the centre. A number of small cells then made their appearance in the form of a rosette round the central black spot

¹ Allgemeine Medicinische Centralzeitung, 1895, No. 68.