THE TREATMENT OF SMALL-POX BY VACCINATION AND INJECTION OF LYMPH.

By R. C. FURLEY, L.R.C.S.Ed., Edinburgh.

In the JOURNAL of the 4th May, I am censured for having written to a daily contemporary what I believe to be a fact—viz., that vaccination cures small-pox. I am aware that I was guilty of great impropriety, and that my conduct in so doing is from one point of view justly reprehensible; but I would ask to be allowed a word of justification. At the time when I wrote, half the city was under the impression that it was dangerous to be vaccinated when small-pox was raging; and some medical men with large practices were refusing to vaccinate under the same fear, and others because the former vaccination-mark was quite distinct. My letter was sent to a local paper (in which I have read the letters of great and honoured members of the profession on sanitary subjects), to dispel these ideas; and if ever an object aimed at was attained, it was that. In a few days, hundreds who had refrained from protecting themselves, were vaccinated; and some medical gentlemen were calling upon those to whom they had previously refused the only safeguard. I willingly therefore take all the odium attached to my proceeding, on account of the good it has done; at the same time, I regret the cause that gave occasion to it. In the same article, I am reproached with not having read my data before the Medico-Chirurgical Society. It is not my fault, nor that of the President, that this has not been done, but arises simply from the fact that there were more papers sent in than can be read and discussed this session. Relying on the statements and undoubtedly extensive experience of Mr. Marson and Dr. Grieve, it is asserted in the JOURNAL that the curative action of vaccination in small-pox appears to be *nil*. I venture to differ from this conclusion. It would seem that any success which I have had is attributed to the fact that, towards the end of an epidemic, cases frequently abort. This can scarcely be true of my cases; for I began the treatment by vaccination long before the epidemic was at its height. Mr. Marson lays down this rule: "Suppose an unvaccinated person to inhale the germ of variola on a Monday. If he be vaccinated as late as the following Wednesday, the vaccination will be in time to prevent small-pox from being developed. If it be put off till Thursday, the small-pox will appear, but will be modified. If the vaccination be delayed till Friday, it will be of no use."

In the latest edition (1871) of Sir Thomas Watson's *Practice of Physic* (vol. ii, page 950), is the following passage: "The following case, related to me by Dr. Johnson, shows that vaccination may curb the small-pox, even when it is performed at a later period after the reception of the viruliferous poison. A boy, in a house where a fatal case of small-pox had occurred, was vaccinated for the first time. About the fourth day after the operation, when the vesicles were beginning to rise, he sickened with small-pox. The initiatory symptoms were severe, and an abundant eruption appeared. About the fourth day, however, the variolous eruption rapidly subsided, and the child was convalescent. Meanwhile, the vaccine pustules pursued their regular course. The vaccination was just in time to arrest the progress of the small-pox."

This case shows that there are at least exceptions to Mr. Marson's rule. I go a step further, and state that vaccination will modify small-pox after the eruption has appeared.

But before giving proof, let us analyse Dr. Grieve's six cases, for no series of experiments is without a lesson. First, however, let me observe that only one case was treated in accordance with the method recommended by me; for I have stated that, while the ordinary process of vaccination may be sufficient for an infant, it is not so for an adult. Then two cases aborted. Is it Dr. Grieve's experience for one-third of his cases to abort? If so, it is a very happy one. One of the vaccinated cases that aborted was no better than one that had not been vaccinated. I have seen a case with only two pocks; and are we to think that treatment has been of no avail unless it modify the disease to that extent? If so, one may well despair of further progress in the treatment of small-pox. Again, Dr. Grieve's cases were not vaccinated till the fifth and sixth days. Now, in this disease, as in all others, the earlier the treatment the greater the success. I acknowledge that I may have considerable advantage over Dr. Grieve in that respect, as I have vaccinated many on the first or second day, and generally with far greater success than at a later period. In the one case injected, "the injection did not produce any local effect." Why not? We know that if it had been done in health it would have produced a very powerful effect. Did the small-pox virus destroy the cow-pox poison? If so, did it expend any of its strength in doing it? And if there had been more lymph to destroy, would there have been a corresponding diminution in the power of the small-pox virus? In other diseases, is the dose of a remedy not

varied according to the age and severity of the case? It is not prevention, but cure, that we are at present seeking. That is the principle upon which I am acting. I injected a woman, aged 50, on May 25th, and gave her six tubes; and on this day (the 28th) the case has aborted. Even that may not be enough in some cases.

I proceed now to give cases showing that vaccination and the injection of lymph have curative powers in small-pox, leaving the readers of the JOURNAL to draw their own conclusions. I should mention, however, that for injection I use a hollow needle, made for me by Mr. Young, cutler, North Bridge, the bore of which is large enough to admit a vaccine-tube, and the lymph is blown directly into the circulation. I now advocate, also, injection on both arms.

CASE I.—A. B., aged 12, was vaccinated in infancy, and revaccinated three days before he sickened with the small-pox. The eruption made its appearance on the fourth day, when I injected the lymph of one tube. Next day, the redness surrounding the papules was fainter. The following day, the papules themselves were not so prominent. On the fourth day after the eruption appeared, all trace of it had gone. I know that this boy was exposed to the infection.

CASE II.—M. R., aged 13, was vaccinated in infancy; her sister had died of small-pox a week before. I was called in on Saturday, she having been three days sick, and found her face considerably swollen, and the papular eruption on the hands and forearms. I at once injected two tubes of lymph into the arm. On Sunday, the eruption had disappeared from the hands and arms, and appeared on the feet. On Monday, it had spread up the legs and trunk. On Tuesday, it had entirely gone away; and there was nothing to be seen but the inflamed areola at the point where I had injected.

CASE III.—On the 11th instant, I was requested by Dr. — to see an unvaccinated child, aged five weeks, on the fourth day of the eruption, which was partly papular and partly vesicular. The eruption was very abundant; and we could see that, if the vesicles enlarged, the case would become confluent. Dr. — remarked at the time that, if I cured that child, he would believe in my treatment. The case being advanced and severe, I vaccinated one arm, and injected two tubes in different places on the other. Next day, many of the papules had disappeared, and the vesicles had not enlarged; indeed, there was a large umbilicated vesicle on the forehead when I first saw it, which seemed smaller. The following day, the papules were nearly all gone, leaving the vesicles distinct; there were not even two that cohered. The vesicles filled up, a little cornified and desiccated, on the seventh day after the injection. The vaccination did not take, but the injected points rose, and discharged fluid on the twelfth day.

CASE IV.—C., aged one month, was unvaccinated. When first seen, the papular eruption was over the face, hands, and legs. There had been three cases of small-pox in the house. One had been sent to the Small-pox Hospital, where the mother had visited him. I ascertained from the Resident Physician that this was really the case. I vaccinated the child at once. Next day, when I called, the eruption had entirely disappeared, with the exception of two papules on the face, which seemed now more prominent. On the third day, these two papules disappeared, and a fresh crop of four-and-twenty, chiefly over the head, made its appearance; and these became hard, and did not fill like ordinary vesicles. In three days, these had also disappeared. The vaccination itself did not show any signs of taking till the tenth day, and was matured on the thirteenth.

CASE V.—A. S., aged 6, unvaccinated, was first seen on a Monday, being the second day of the eruption, which was very abundant on the face and extremities. I injected two tubes of lymph. On Tuesday, the redness was disappearing. On Wednesday, the eruption was receding. On Thursday, it was nearly gone, except on the arms. On Friday, there was no trace of it, except on the uninjected arm, where blue marks were visible, similar to those of a person who had passed through the disease. On the eighth day after the injection, there was only a black mark at the point where I had injected, which, on the thirteenth, was covered by a little scab. A neighbouring medical man whom I met, and who asked me how the new treatment was getting on, saw this case. He told me he had practised it on an unvaccinated infant, and had been successful. He also stated that, when he vaccinated during the sickness before the eruption appeared, the case always turned out mild. He had never injected.

The next case is not my own, although I could give plenty more, and will do so by and by; it is extracted from a letter recently received.

CASE VI.—"I was called to see a patient named D., aged six years, and unvaccinated. On my arrival, I found the boy suffering from a severe attack of small-pox. Having vaccine lymph and also a small hypodermic syringe, I thought I would try and inject lymph under the skin, which I did by sending the mother for some glycerine, and mixed one drop of it with the lymph out of the tube. This was on the second

day of the eruption; and, on the sixth day, not a mark of any kind was to be seen on the boy's face or body."

I have not given any names, because I do not think the gentlemen above referred to would like to be told they were "mistaken." It will be observed that the cases were all in children; and although I could give a number of successful cases in adults, still the treatment has been by far the most successful amongst infants and children. Why it is so, I am not yet prepared to give the reason; although I think it is due to the amount of lymph not being sufficient. I trust I have given enough to show that there is some cause for courting and not checking further investigation.

Another question has presented itself to my mind: Why do some cases abort? Is it because there is some lymph left in the system? In vaccinating during small-pox, the lymph has not an opportunity of reproducing itself to the same extent as during health; but can this want not be supplied by injecting a sufficiency of it?

CONCEALED PRÆ PARTUM HÆMORRHAGE.*

By JOSHUA PARSONS, Esq., Frome.

THE three cases which I am about to detail have occurred to me at long intervals in a tolerably extensive midwifery practice of many years' duration; and, although they belong to a class well recognised and often described by writers on the subject, yet I have found in conversation that many brother practitioners of intelligence and experience, not having had their attention specially directed to such cases, possess but vague ideas of their nature and treatment. There are, however, few accidents interfering with the even tenor of natural parturition more distressing to witness, or calling for more clearness of diagnosis and decision of treatment on the part of the medical attendant, than those of which I am about to speak. It has, therefore, struck me that a record of these three instances, though not otherwise very interesting, may form a footprint for whose guidance some perplexed and anxious brother may be thankful.

CASE I occurred in 1840. The patient was the wife of a weaver, a strong and healthy primipara, arrived at the seventh month of gestation. On February 8th, she was seized with faintness and a feeling of painful distention of the abdomen; but, as no labour-pains occurred, no treatment was adopted by the midwife beyond keeping the patient in bed. As, however, the pallor and distention increased, I was summoned on the 12th, and found the woman exhausted and exsanguined to a remarkable degree. Upon examination, although there had been no pains or discharge, the os uteri was flaccid and dilatable, the membranes unruptured, and the face presenting. I had at the time no idea of the nature of the case with which I had to deal; but possessed with the dread, instinctive in an accoucheur, of seeing my patient die undelivered, and miles away from instruments or professional assistance, I introduced my hand into the unresisting uterus, and immediately delivered the small dead fetus by the feet. Finding the abdomen but little diminished in size, I thought there was another child to be born, and plied the woman freely with brandy and ergot; and after a while had the satisfaction of finding the placenta thrown off. The cause of danger and perplexity then became evident; for I removed from five to seven pounds of old black coagula. The uterine surface of the placenta showed that it had been detached over its larger part. The woman slowly recovered to a great extent, but was ever afterwards an invalid and remarkable for her extreme pallor.

CASE II occurred on December 4th, 1860, to one of those unhappy individuals whose bairntime (to use a Scotticism) was a catalogue of disasters. She had arrived at the eighth month of her eleventh pregnancy, when she was, at 4 A.M. of the morning mentioned, while lying quietly in bed, seized with sudden deadly syncope. As she lived close to my house, I saw her in a few minutes; and, recognising the nature of the case, I examined and found the head presenting and the funis prolapsed. Being thus able to assure myself that the child was dead, and knowing from former experience that to deliver the patient with forceps was a work of time and difficulty, I did not hesitate to resort immediately to craniotomy, and, after giving ergot, to remove the placenta and a large mass of coagulum which appeared to be of recent formation. The patient recovered, and had children subsequently.

CASE III.—This patient is the wife of an innkeeper living four miles from my house, and was expecting her seventh confinement in November last. For four days she had been observed to lose her colour, and complained of hardness and tension of the abdomen, but had continued to move about and attend to her household duties. On the afternoon of the 19th she fell suddenly in her kitchen, and was for a long time

unconscious. When she was carried to bed, a slight discharge of blood was observed, and I was sent for, being told to come directly, as she had had a fit. When I arrived she had become conscious, but was tossing about faint and pulseless, with no labour-pains, but a slight sanguineous discharge from the vagina. On examination, I found the os about the size of a shilling, occupied by distended membranes, but very hard and resisting. I immediately sent to my son, Dr. Parsons, asking him to bring various instruments, and intending, as the urgency of the case seemed increasing every moment, to deliver as soon as he arrived. As, however, by reason of distance, a considerable time must necessarily elapse, I determined to do something; and so I ruptured the membranes, and gave at once two drachms of the liquid extract of ergot, repeating the dose in half an hour. Fortunately these means were successful in controlling the hæmorrhage; and on my son's arrival the aspect of affairs had so much improved, that we considered it right to wait a while and watch for the issue. About midnight, labour-pains came on, and the woman was delivered naturally about 2 A.M. The child had been evidently dead for some days, and the placenta was followed by a great gush of fluid blood and many pounds of old clot. The woman is still suffering from exhaustion and bloodlessness, but will, I trust, ultimately recover.

The cause of the accident of which I have been speaking is, to me, obscure. In neither of these cases had there been any over-exertion, nor had either of the patients been exposed to any of those shocks of body or mind which we are accustomed to see followed by hæmorrhage and premature birth. In the first and third cases, the pallor and painful distention showed that a moderate discharge of blood had been taking place between the placenta and uterine walls for some days, before a sudden and unaccountable increase occurred and produced the alarming symptoms already described. Although the issue was fortunate in these instances, yet I need not tell you it is by no means always so, two or three fatal cases having occurred within my own knowledge. In the last case, my distance from home led me to adopt measures which fortunately proved successful; but, looking at the tendency to sudden increase of symptoms, I would not voluntarily run the risk of delay, but should make it a rule, where I had reason to believe that subplacental hæmorrhage was going on, to induce labour and complete the delivery of the patient by the speediest method suitable to each particular case.

I do not know any condition likely to cause difficulty in the recognition of this accident. In the second case, the sudden and complete collapse and violent pain might at first have led to a supposition of ruptured uterus or abdominal pregnancy; but the round well-defined uterus, hard as a cricket-ball, and perhaps the absence of tenderness, would at once clear up the difficulty. In neither case did I observe any diseased condition of the placenta likely to account for its separation from the uterus, though the appearances plainly indicated that such separation had taken place to a very large extent.

CLINICAL MEMORANDA.

FLAP-OPERATION FOR VESICO-VAGINAL FISTULA.

THE description of my operation (after the manner adopted by Dr. Kidd) not being intelligible without an illustration, I send a woodcut and a few details (see JOURNAL, June 1st, p. 597).

An U-shaped cut is made round the fistula, half through the wall between the vagina and the bladder. The flap thus marked is dissected

up, and its lower half is cut off. The remainder—so extensible are the tissues—is pulled down so as to fill the bed made for it, and is retained by three or four sutures. The advantages of this proceeding will appear to every one who has had to deal with these troublesome cases.

E. D. MAPOTHER, Surgeon to St. Vincent's Hospital, Dublin.

* Read before the Bath and Bristol Branch.