

last year—who had spoken to me of one or two cases of erysipelas following vaccination in Leeds—that I always used the tincture of perchloride of iron, I think he replied that *it had been tried* in the cases alluded to without effect. At the first glance, this answer looked discouraging enough; but I question if further observation and experiment do not enable us, as vaccinators, to look upon the disorder with confidence and serenity, rather than with apprehension and dread. I have seen two cases of fatal erysipelas in children, and the treatment by iron was resorted to in both. I make no difficulty in admitting that, whatever had been done for those unfortunate creatures by way of remedies taken or used, the result would have been the same. The cellular parts of the bodies seemed disorganised precisely as we have all observed them in deep burns—the connecting tissues rotted away; but in neither of these cases was anything suspected as traceable to vaccination. They were purely idiopathic; they occurred at different periods, in different places, and did not appear at all contagious.

It is now proper to notice one particular direction of the vaccination authorities. We are “not to use virus from vesicles surrounded by inflamed areolæ”. Why? Because the inflammation may be erysipelas, probably. There seems to be some mistake here. Observation has taught me that the inflamed areola, as ordinarily seen, is not erysipelas; and that, if it be only brushed over with a weak solution of iron, it will certainly subside without further trouble. Of course, it is not to be inferred that the red ring now spoken of will end in erysipelas if let alone. On the contrary, the contention is, that this distinguishing mark of keen virus and active circulation will, in most cases, return to the natural condition as the vaccine disorder exhausts itself. But, to make the matter perfectly safe, it is only necessary, after puncturing the vesicles, to treat the inflammation in the manner above described. A step further takes us into a more doubtful and dangerous region. If, after vaccination, beyond the inflamed surface—say near the elbow-joint, but divided from the vesicular inflammation by a circular line of raised hard pale skin—there should appear a patch of dull red colour, that is quite another matter, and I should not recommend that lymph from such an arm should be used.

The erysipelatous circles or spots, or whatever shaped discoloration the skin may assume, must be treated with the iron at once; and wherever the diseased patches may extend, to them must its application be continued.

I have seen erysipelas as the result of vaccination in three cases, and in one of them almost every part was attacked and painted over. The three cases referred to occurred in our own practice about four years ago. There was nothing uncommon about the appearance of the vesicles; in two of them, the cow-pox inflammation was but slight. I did not see the third until afterwards. Finally, they all recovered. From that time, I have always applied the tincture of perchloride of iron to any suspicious-looking arm; and since having found every painted case to do well, I now use it in all without distinction. In fact, mothers and nurses would not contentedly take their charges away if the treatment were omitted.

Mention has already been made of one particular direction by the vaccination authorities to public vaccinators, and we now proceed with due humility to remark upon another.

It is somewhat unquestionable how far the Hunterian dogma is correct, that two disorders having similar characteristics cannot exist at the same time in one person; but it is difficult to divest one's mind of long-conceived impressions, and perhaps the following case may be interesting to some practitioners who, like myself, do not entertain the belief of all that is old being false and all that is new true. Small-pox was raging in a part of our district, and we were engaged in revaccinating the people. The grown-up daughter of a man who was lying ill of the disease came to be vaccinated. She had not been vaccinated in early life. I made the usual light scarifications, scarcely drawing blood, when the woman, without any apparent suffering, suddenly fell down in a swoon. It was thought that a fine strong young woman should not faint from so slight a cause; and, when she recovered, such answers were obtained as convinced us of her having been ill before coming to the station. This actually proved to be the case, for in a few days a regular crop of small-pox pustules appeared. The disorder ran through its stages, and the woman recovered well. I need hardly say that I anxiously watched for the advent of the cow-pox; but it never came.

It is possible that two analogous diseases may exist in the same person at the same time; but it does not seem easy to believe it. Then what are we to think of this direction to public vaccinators: “You are to be careful not to convey the blood of the patient you are operating upon back to the vesicle of the child from whose arm you are taking the lymph”? Water, a cloth, etc., are always to be used—and by me always are used—to purify the lancet after every time it touches the

new patient, in order that the blood of a child suffering from cow-pox at its greatest height may not be contaminated. Now, bearing in mind that the surface to which the lancet is applied for lymph is not an absorbing, but a rapidly exuding one, I venture to suggest that the government theory is physiologically incorrect. Right or wrong, however, this direction cannot do harm; and at any rate it necessitates caution.

My friend Mr. Parkinson of Bradford assures me that he now vaccinates with the same lancet that he has used for thirty years, and that he has never met with a case of disease consequent upon vaccination performed by himself or anybody else. Dr. Foster of Leeds, who has been a vaccinator over forty years, declares that he, in all his experience, has never seen a bad result from vaccination, nor even any approach to such a thing.

I have sometimes operated, according to the instructions of Dr. Stephens, by a number of small scarifications; at other times, by the tattoo dots of Dr. Willshire; and very often by the long line of the oldest practitioners; and, I am bound to say, with a like good result in all, so far as the prevention of small-pox has been concerned. In short, I may say that I have never known that terrible disorder occur to a patient that I have effectively vaccinated.

Fearing that I may be misunderstood, let me add that I have treated small-pox through three epidemics; that I have known pregnant women to suffer from it, the lives of both themselves and their offspring being sacrificed; and, finally, that I have attended one patient who died of a second confluent attack.

#### ABSTRACT OF A PAPER ON VACCINATION AND REVACCINATION.\*

By F. P. ATKINSON, M.D., Kingston-on-Thames.

DR. ATKINSON said it was now generally acknowledged—

1. That vaccination lessens the chances of taking small-pox, though it does not render the reception of it in after-years altogether impossible.

2. That vaccination, in most cases, greatly modifies the character of the eruption and lessens the severity of the attack.

3. That revaccination gives an almost absolute immunity from small-pox, provided it is efficiently performed after fifteen years of age.

The following evidence was then produced in proof of the correctness of the views held.

In the Punjab, with a population of 18,000,000, the deaths from small-pox, according to the statement of Dr. A. C. C. De Renzy, sanitary commissioner in the province, are never less than 20,000 a year. In 1869, they numbered 53,195. In England, the average annual mortality does not exceed five thousand, though, previously to the introduction of vaccination, it was quite as high as in the Punjab. Dr. Brett, Medical Officer of the Watford Rural Sanitary Authority, states that, in 1877, small-pox visited a family, nine in number, residing at Bushey; three had been vaccinated, six had not. All the six unvaccinated persons took the disease, and four died; while the three that had been vaccinated escaped altogether, one of the three being a child at the breast, fed by its mother within two hours of her death.

Dr. Schwarzgruber of Harland, in the *Medicinisches Chirurgisches Centralblatt*, 1877, shows the marked efficacy of vaccination in the epidemic of small-pox which appeared in August of that year. The first patient was a girl aged 5, who had not been vaccinated. She had the disease in a severe form, and, after ten days' illness, died. In the same house was another family with four children; two vaccinated and two unvaccinated. The two unvaccinated—a girl aged 13 and a boy aged 2½—took the disease and died; the two vaccinated children escaped. A third family was visited by the disease; in it also were four children—two vaccinated and two unvaccinated. The two latter had small-pox, and one died; while the two vaccinated escaped, though constantly exposed to the infection. In a fourth family, an unvaccinated girl aged 9 had a dangerously severe attack of small-pox, but escaped with the loss of an eye. A vaccinated boy aged 4, in the same family, had the disease in a very mild form. In a fifth family of eight children, of whom seven were vaccinated, six of the vaccinated had mild attacks of small-pox (four not being confined to bed); while, in the unvaccinated child, the disease proved fatal.

The course of events in other families was similar. In all, there were thirty cases of small-pox among vaccinated persons, with only one death, which may be attributed to the patient having gone, while scantily clothed, from a warm room into the cold air. Of the non-

\* Read before the Thames Valley Branch.

vaccinated (the only ones in the place), eight had small-pox; of these, seven died and one recovered with the loss of an eye.

That efficient revaccination gives an almost absolute immunity from small-pox was shown by the following evidence. Drs. Meigs and Pepper say that, in the terrible American epidemic of 1871-72, they did not see so much as a case of varioloid after successful revaccination even in those exposed. Dr. Welch, of the Philadelphia Municipal Small-Pox Hospital, states that not one of those connected with the hospital who have been revaccinated has taken the small-pox; while three or four of the nurses, who had previously had the small-pox, took the disease a second time. Again, from the report of Dr. William Gayton, Medical Superintendent of the Metropolitan Asylum Small-Pox Hospital, it would appear that only one of the large number (three hundred and sixty-seven) of nurses and others who have been employed at this establishment since its opening (nearly seven years ago) has contracted small-pox, and in this case revaccination had been omitted.

Dr. Atkinson next took up the question whether syphilis could be conveyed by vaccination, and said it would appear, from the cases brought forward by Mr. Hutchinson, that a syphilitic lancet, or blood taken up with lymph from a syphilitic infant, might be the means of transmitting it; though it must be admitted that the experiments of Cullerier and others with mixtures of syphilitic matter and vaccine, and vaccine taken from persons suffering from constitutional syphilis, are most powerful arguments against the idea; and it must also be remembered that, in 1857, Mr. Simon addressed a series of questions upon this very subject to a large number of medical men both in this and other countries, and received answers from no less than five hundred and thirty-nine, with scarcely an exception, entirely in the negative. They declared that syphilis could not be conveyed by means of true vaccination; while, at the same time, they pointed out that, by gross carelessness, it might be inoculated instead of vaccine. One thing is certain: two poisons cannot be present in a true Jennerian vesicle; for lymph may be taken from a vesicle developed in a person who has been vaccinated too late to prevent small-pox and used without the slightest hesitation for vaccinating another child. He next referred to the experiments of M. Taupin of the Children's Hospital, Paris. This gentleman vaccinated a large number of children with virus taken from subjects affected with scabies, scarlatina, rubeola, varicella, varioloid, variola, rachitis, scrofula, tuberculosis, chronic eruptions of the scalp, darts, etc., without communicating to the patient any of these affections, either those of acknowledged contagious or non-contagious nature.

When skin-eruptions follow vaccination, the fault is by no means necessarily with the lymph, but often with the constitution of the child vaccinated. If it cannot bear the slight disturbance of vaccination with impunity, it is clear how utterly unfitted it would be to bear the serious disturbance of small-pox, which is the almost certain alternative. It has been asserted, he said, by some that vaccine loses its effect by constant transmission; but, if this be correct, then, for the same reason, the poison of fever ought to become less virulent and infectious each succeeding year; but this is not the case, and though, owing to altered atmospheric influence, prevailing epidemics may for a time die out, they soon return when the conditions are again favourable, with all their former activity. Besides, Jenner, after careful observation for upwards of twenty years, came to the conclusion that the vaccine underwent no change whatever; and, in addition to this, Marson, Ceely, and others of great experience, have proved, so far as is possible, that vaccine matter does not lose any of its prophylactic power by continued transit through successive subjects.

After this, Dr. Atkinson gave the evidence of some of those who have experimented with lymph taken directly from the heifer. During the siege of Paris, Dr. Quinquand had all successful cases with the human lymph, but only a third with heifers'. Dr. Thevenot, with calf-vaccine, had only two successful cases out of twenty-one. Of thirty-two surgeons in Paris who sent in their reports, one said that vaccine from the calf became better after passing through the systems of three or four different children, though bad and difficult to introduce for the first time. The rest (thirty-one) agreed that vaccination from the calf was provokingly unsuccessful, succeeding at the very utmost in only a fourth of the children vaccinated directly, and much less from calf virus tubes or glasses. Of sixteen others who tried the calf-virus, thirteen failed completely. Dr. Gaillard, who succeeded one hundred and seventy times out of two hundred and eighty-three with calf-vaccine, was successful two thousand seven hundred and forty times out of two thousand eight hundred and fifty-six with Jennerian vaccine. After various remarks upon other points, Dr. Atkinson concluded his paper by suggesting that the public should have as much information given them upon the subject as possible, and that every medical man should be particularly careful in the performance of the operation, since it was

clear that small-pox was capable of being banished from our shores, and it was only by these means that the looked-for result could be accomplished.

## EXCISION OF THE RIGHT WRIST-JOINT FOR CARIES.

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THE utility of excision of the wrist-joint for disease not being altogether accepted by some of the most distinguished surgeons, it may be of importance placing on record the result of one's experience, however limited. The following case I am disposed to consider of interest, as showing that, notwithstanding many adverse circumstances, the operation may be followed by most satisfactory results. In this case, there was well-marked strumous diathesis, extensive scrofulous bone-disease of the joint and soft parts at the back of the hand. The hand and fingers were almost powerless before the operation. There was free exposure of the flexor tendons during the operation. Hæmorrhage occurred twice after the operation, necessitating opening of wounds; and during subsequent treatment, the cicatrices reopened and formed into unhealthy ulcers.

J. H., 12th Brigade Royal Artillery, aged 21, had no hereditary history of scrofula, though he presented all the characteristic features of such a diathesis. He had suffered from primary venereal disease, but not from secondaries. He served two years and a half at Malta; and, while stationed there in September 1876, experienced dull aching pain in the right wrist-joint, attributable, he states, to a jar received while endeavouring to move a gun shears. The joint became much swollen; and in November, an abscess formed, which was opened and discharged a small quantity of pus. Notwithstanding free incisions and the introduction of setons, the joint itself became seriously implicated, his appetite failed him, he lost flesh, felt generally unwell, other abscesses formed in the joint, and he was invalided to Netley, where he arrived on May 27th, 1877, having somewhat improved during the voyage. His state on arrival was as follows.

There was a large ulcer on the left arm above the elbow connected with a sinus, at least six inches in length, extending up the arm; and a second ulcer over the elbow, both discharging freely. The right wrist was much swollen; the fingers and thumbs were extended, and with the exception of the forefinger and thumb, which had very slight power, he had no power of flexion or extension, the tendons being apparently adherent to their sheaths; the wrist-joint was fixed, and he had no power of either pronation or supination. Several openings of sinuses existed, one being over and in connection with the fifth metacarpal bone, another on the opposite side of the hand, and three in front of the wrist, all in connection with diseased bone.

Measures were at once adopted to recruit his health. The sinuses in the left arm were laid open, and the wounds treated with salicylic acid lotion. The wrist was treated by free incisions, rest, and the use of the warm arm-bath twice a day, from which he derived great ease and comfort.

Towards the end of October, the ulcers on the left arm had completely healed, he had increased in weight, his health had improved, but the wrist being hopelessly diseased, I decided to excise the joint, and accordingly, on October 31st, performed that operation by Mr. Lister's method, the patient being under the influence of ether, and the limb rendered bloodless. The fingers and thumb were forcibly flexed, and adhesions were broken down immediately before the operation was commenced. There was considerable difficulty experienced during the operation in removing the carpal bones, which were so extensively diseased and softened that it was found necessary to dissect them out one by one, the slightest pressure or force causing them to break down. The radial artery, being much enlarged, required care to avoid it in making the radial incision, and to keep it out of the way and protect it when extirpating the trapezium. The pisiform bone, being much enlarged and diseased, was entirely removed. One small vessel near the bed of the pisiform bone was secured, and the wound was washed with a solution of chloride of zinc, thirty grains to the ounce of glycerine. The large cavity whence the carpal bones were removed was filled up with strips of lint, and Mr. Lister's splint was applied in the usual manner. Hæmorrhage occurred in the form of oozing, in about two hours after the operation, and again on the morning of November 2nd; necessitating, on both occasions, the opening of the wounds and application of compresses and perchloride of iron. No vessels could be detected as a source of the bleeding. The wrist and hand now looked in anything but a promising condition, being much swollen,