vital action, but merely a local phenomenon, depending upon the physical condition of the parts exposed, and in this respect quite analogous to vaccine.

The true condition of morbid action in inoculation resides, therefore, altogether in a pre-existing wound, or ulcer, and, more frequently still, in an excoriation, resulting in general from coitus, and placed in immediate contact with a virulent secretion. Occasionally, also, the follicles of a part, when large and numerous, become impregnated with the virus, and, excoriated by its presence, soon present the characters of chancre.

It is in the genitals that these local conditions are mostly met with. Disproportion of size of the organs, the length of the foreskin (which incarcerates the poison), the great breadth of the meatus in some persons, hypospadias, in all prolonged contact of the part with the virulent matter—all these local circumstances, and not any special action exclusively due to the vitality or the functions of the genitals, explain why these organs are, oftener than others, the seat of disease.

The presence or increase of the physiological secretions of the parts are natural protections against infection. The same may be said of the menses, of utero-vaginal catarrh; also, the secretion covering a newly blistered surface prevents its being inoculated, though placed in contact with chancrous pus. The emission of urine or of semen act as a sort of injection forwards, and, washing away the exposed virus, must not be forgotten in the prophylaxis of syphilis.

Modes of Propagation.—Connection between a diseased person and a healthy one is, beyond doubt, the most frequent. But is this indispensable? Not absolutely so, in my opinion. In one case, and in one case only, do I admit of the possibility of infection occurring between two healthy persons, one of them serving as the mere vehicle of inoculable matter, which takes effect on the other. This opinion, which, at a previous lecture, I have already mentioned, cannot, it is true, be always physically proved to be correct; but do we not admit that the surgeon's own hand may be the vehicle of the poison from one person to another, whilst he himself escapes unscathed?

Besides sexual intercourse, there are some other modes to which I need not allude. During labor, a mother may inoculate her child with chancre; but this does not deserve the name of hereditary syphilis, which we would confine to secondary symptoms appearing in an infant, who, during the nine months of intra-uterine life, has derived its chief nutriment from the tainted blood of an infected mother.

Surgical instruments may transmit the disease, when not carefully washed, after opening a chancrous abscess. No fact hitherto proves that the introduction of virulent pus into the stomach can inoculate the mucous lining of the digestive organs. The atmosphere tainted with the breath of syphilitic patients cannot, as was formerly believed, transmit the disease. Public prostitution is a great source of primary syphilis; but here I must again repeat what I already have stated on a former occasion, that more disease is propagated by women not matriculated on the books of the police than by those who, thus inscribed, are every week submitted to medical examination. We will here close this lecture, by reminding you, Gentlemen, that

all these modes of communication of chancre are all, without exception, inoculations, in which the inoculating instrument alone occasionally varies.

ON THE
RELIEF OF DEFORMITIES
PRODUCED BY
CICATRICES IN THE NECK AFTER BURNS.

By J. H. JAMES,

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[*Read at the Anniversary Meeting of the Provincial Medical and Surgical Association, at Leeds, Thursday, August 3, 1843.*]

The various deformities incident to the human body have, of late years, much engaged the attention of the medical profession, and I cannot but think it rather remarkable that one of the most distressing of these should still be generally neglected. I allude to those miserable cases where, after burns, the head is tied down to the chest by the cicatrices which so constantly form. While it was allowed that in other parts of the body art is capable of relieving the imperfection by the means described by my late lamented friend, Mr. Earle,* those in the neck were pronounced by the highest authorities to be incurable, in proof of which permit me to quote a passage from the lectures of that great surgeon, Sir A. Cooper—"I have never seen," he says,† "a case like that represented in the plaster bust on the table, where the chin is firmly united to the breast, which was capable of being cured." "Where the bridle is broad and not separated from the muscles, as under the chin, no operation will avail." In the year 1825, I was enabled to communicate to the Medico-Chirurgical Society three cases, in two of which I had operated with perfect success, adopting a material modification of Mr. Earle's treatment, by which I was enabled to overcome those difficulties which the structure of that part of the body peculiarly presented. That communication was published in the Thirteenth Volume of the Transactions of the learned society to which I have alluded.

I should not now trouble you with any further observations on this subject, if frequent repetitions of the operation in the hospital to which I have the honor to belong, by my colleagues as well as myself, did not enable me to assert that, when carefully conducted, success will be obtained, while the works which are justly deemed to convey the present state of opinion on surgical practice, still continue to pronounce these deformities for the most part, if not altogether, incurable; it may be because the operation, as proposed, has not received any trial. Mr. Liston, in speaking of cicatrices after burns, expresses himself thus: "There is no encouragement to make such attempts, certainly no severe operation is warrantable, and, as already said, it is only in favorable instances where the connecting slip is thin and not extensive that any permanent advantage can be expected from interference with it."‡ And Mr. Fergusson—"When a cicatrix has been removed, and the wound healed by the means recommended by Mr. Earle, I have generally noticed

* Paper in vol. vi and vii of Med.-Chir. Transactions.

† Lectures, vol. i, p. 178.

‡ Operative Surgery, p. 216

that after the union by granulations had been accomplished the parts were much in the same state as before—in some, perhaps, a little worse for the proceeding.” “I have almost invariably noticed,” he adds, “that in instances where the cicatrix had merely been cut across, and when the head had been held in a favorable position for weeks, that at last matters have arrived at nearly the same condition as when the knife was first used. I must admit, however, that all instances were not alike unfortunate.”* Again, under the article *Cicatrix*, in the “*Cyclopædia of Practical Surgery*,” very little is said with reference to these cases, and that by no means calculated to encourage the performance of operations for the purpose of relieving them; and Dr. Mutter, to whose valuable memoir I shall hereafter allude, says, speaking of his operation, that if he had permitted the wound to heal by *granulation*, the patient, so far from being benefitted, would be made worse than before. Here I may observe that the operations to which these authorities have alluded would appear, with the exception of the last, to consist in the simple division of the bands; at all events, that no special apparatus was employed to ensure their success. After thus briefly stating the cold condemnation of the proceeding so pronounced, I should hardly venture again to bring the subject under public notice, unless supported by pretty strong facts; one of these may, with peculiar force, be presented to this meeting, and, therefore, I have selected the present occasion as a fitting opportunity for mooted it. It so happens that one of the cases was seen by many of the most distinguished members of this Association, when Exeter was honored with their presence a twelve-month since, it being then in progress, and, consequently, I may have the advantage of appealing to some of them now present for the correctness of my statement. The first cast which I offer to your notice was roughly made by the pupils of the hospital, at a time when I had not the least intention of offering the case to your observation; rough as it is, however, it will suffice to show the extent of the contraction, and may, I imagine, afford not an unapt parallel to that which Sir A. Cooper mentions in his lecture as incapable of redress. The second is one of the same neck by an artist in Exeter just prior to the patient's leaving it for Cornwall, her native county. The slightest inspection will justify me in saying the relief was complete. Some of my friends around me may recollect the state of this young woman in August, 1842. They will probably remember that my colleagues, the pupils, the nurses, the patient herself, all agreed as to the extent of the deformity existing prior to the operation. It remains that I should state to you her condition at this time, which I am enabled to do by the kindness of Mr. Ulingworth, of Fowey, who thus writes me July 23, 1843: After stating that the sore in the neck was not healed, owing, as he thinks, to her having neglected the application she ought to have employed, but expressing himself confident of its ultimately, though slowly, healing, he says—“I think it will be an admirable cure—that is, that her head will be as erect as ever, and that she will have the free use and action of the surrounding muscles.”

The possibility of complete relief in the most ag-

gravated cases having, then, I hope, been proved, I shall, in the next place, offer some data on which the degree of probability may be grounded.

In my case-books I have noted fourteen instances of the operation, the greater number very bad cases; of these eight of my own are recorded, six of my colleagues. Of the eight which fell to myself, and were all severe, the success was complete, with one exception, and in this the thorough attention which is uniformly necessary was not paid. With respect to those operated on by my colleagues, although I lost sight of some of them before the treatment was quite concluded, I believe equal success was obtained in by far the greater proportion.

These are not the whole number of cases which have been operated on; many have been omitted, as, from circumstances to which it is unnecessary to allude, no operations were entered in my case-books during two long intervals.

I shall now, with a few additions, very briefly recapitulate the principal points which, in my former paper, I offered to the attention of the society I then addressed, which are especially these:—

That, whereas in the limbs no difficulty exists in maintaining the proper position of the part after the cicatrix has been set free, there being but one joint concerned, and that easily fixed, this is far from being the case in the neck, from the peculiar mobility of that part, arising chiefly from the numerous joints in the cervical spine. It might be supposed, *a priori*, and indeed, has been, that confining the head back would keep the chin and sternum sufficiently asunder; but this is not so. To elude the effect of the cicatrix as it contracts, the cervical spine becomes shortened with a curve either to one side or backwards, as the case may be. To render this approximation impossible became, therefore, the object of my inquiry. I considered that if an apparatus could be interposed between the clavicles and lower jaw, extending backwards to the basis cranii, so as to prevent these parts from approaching each other, I should obviate the difficulty. These purposes are fully attained by the apparatus here presented, which possesses the further advantage of raising the chin by the action of the screw, so that the change in the position, not only of the soft parts, but of the bones, is gradually redressed, and the neck and face wholly, or in a great degree, restored to their former proportions; for it must be observed that the bones themselves, as in talipes or varus, become altered in their shape. The rigid cicatrix holds the chest and front of the face tightly together, so that, as the child grows (for it is generally in children these accidents occur, especially females), the whole bony apparatus is fixed; and when it has been chiefly on one side, I have even seen the orbit of that side considerably lower than the other. I have also seen the lower incisors pushed horizontally by the pressure of the tongue, the counter-pressure of the muscles of the lower lip being wholly wanting.

I do not pretend that all traces of so great a deformity can be effaced by the operation—that there will be no drawing down of the lower lip, no scar, no detriment to the personal appearance, but I am warranted in asserting that the lips will be allowed to close, to retain the saliva, and for distinct articulation

* *Practical Surgery*, p. 400.

—that the head and face may be carried erect, and freely moved, the lower lids no longer everted—that the patient will enjoy her life in comfort, and no more exhibit a picture miserable to behold. It has been objected that the contraction may return. The answer is, that it does not, if the apparatus is worn for a few months after the healing is completed. The observation of many years warrants me in stating this.

I may further and incidentally mention, that the apparatus I have described not only answers the purpose for which it was originally intended, but that, if employed in due time, it is capable of preventing the primary cicatrices consequent on burns from contracting, as is fully shown by a patient, now under the care of my friend and colleague, Mr. Harris, just about to be discharged from this hospital; * and furthermore, that it may be most advantageously employed in those cases where the cervical vertebra give way from disease, or where it exists in the processu dentatus, and support is required.

Such are the uses of the instrument, and such are the advantages of the operation; but it must not be concealed that it is long, sometimes difficult, and very painful—that very great attention is requisite in the subsequent management, and a long confinement necessary on the part of the patient; yet, so strong is the feeling in the female mind of the horrid disfigurement, as well as physical disability, produced by these accidents, that I have never met with one patient who has not been deeply grateful for the relief afforded.

It is but right I should state that another mode of operating has been very recently proposed and practised by an American surgeon, Dr. Mutter, of Philadelphia. It consists in adopting the Taliacotian principle, so as to cover the wound formed in the neck after the removal of the cicatrix. It strikes me, however, that if this should be found preferable in some, in many bad cases it will not answer the purpose, unless the collar be also employed; for although, by a careful dissection of the parts at the time of the operation, the chin and the sternum may be very considerably separated, yet, without the continued and gradual action of the screw, they will not be restored to their natural position. In addition, I may mention, that in by far the greater number of bad cases, the adjacent integuments are themselves so involved in the mischief as to offer no suitable materials for a flap. I may observe, in this place, that in small cicatrices in any part of the body, I have sometimes adopted the plan of destroying them by caustic potass. The ulcer which forms offers no obstacle to any extension which may be wished, and the cicatrix which follows has no peculiarity like that consequent on burns by fire, a circumstance sufficiently remarkable in itself.

As the mode of treatment has already been stated in the former paper I have alluded to, I shall not occupy your time by particular details, but merely state that it consists—

* Eliza James, aged eleven, Exeter Ward. Burn occurred in April, 1842. It was treated without the collar for five months. It then began to contract, and the collar was applied, and continued to the present time. The head is quite upright; the distance from the lower jaw to the clavicle is fully three inches and a half. The mouth not deformed.—June 27, 1843.

1. In dissecting the hardened cicatrix from the subjacent parts, having previously dissected it with a Brodie's knife in most cases, and, in all, forming a flap to turn up under the chin; and I may here take occasion to mention that I think it the safest and best method to operate on the patient in the recumbent posture.

2. In confining this flap under the chin by broad straps of adhesive plaster, and a uniting bandage, secured at the top of the head, which must be shaved to some extent.

3. In covering the large exposed surface in the throat with moistened lint, and bread and water poultices, confined by a paste-board collar, until suppuration is freely established, the head being rather thrown back at the same time.

4. By the use of the screw collar as soon as suppuration is established. In very bad burns it is often desirable to change the first for one with a longer screw, as ground is gained for its action. The apparatus should be worn for many months at least after the cure is completed.

I will not weary your patience by the details of any cases in addition to the three formerly published, to which I beg to refer, but shall merely give a reference to the fourteen I have alluded to, and the names of the surgeons by whom they were performed. Permit me to add, that the fact of the operation being practised by my colleagues to the present time, is, perhaps, the best evidence that can be produced that it answers the purpose for which it was intended.

I may remark, in conclusion, that in Dr. Mutter's case it was found necessary to divide the sternocleido-mastoidæ; but the subject was an adult, aged twenty-eight, in whom the accident had occurred at five years' old, and consequently the muscles were very much shortened. In the cases on which I have operated, with the exception of one, no such interval had elapsed, but even in this I found the screw collar suffice; it was in one of the cases not entered.

Reference to the Cases which have been Operated on.

— Lee, aged 7, October 17, 1818; Elizabeth Bully, aged 8, March 9, 1824; Elizabeth Beal, aged 13, May 4, 1824, by Mr. James.*

A. B. (girl), October, 1824, by Mr. Harris.

Frances Pearse, aged 15, March, 1826, by Mr. James.

Mary Dibbles, aged 15, September, 1826, by Mr. Barnes.

G. N. Heath, aged 13, December 16, 1829, by Mr. James.

A. B. (girl), aged 16, July 6, 1830, by Mr. Harris. William Perriam, aged 7, May 16, 1831, by Mr. James.

A. B. (girl), May, 1837, by the late Mr. Luscombe. Eliza Cousins, aged 11, June 17, 1837, by Mr. James. Louisa Trewman, aged 7, November, 1841, by Mr. Delagarde.

Ann Tinsman, † aged 24, July 2, 1842, by Mr. James. John Shear, aged 8, September 6, 1842, by Mr. Delagarde.

* Published in the Medico-Chirurgical Transactions.

† The last case, from which the casts were taken. At Christmas the wound was nearly healed, but in the spring her health became bad, from the air and confinement of the hospital, and early in May I was obliged to discharge her on this account.