

affections. I am the more impressed with the value of the calomel and opium treatment from the remembrance of a conversation on this subject with the late Professor Porter and the late Surgeon Smyly, as one day we were watching the use of chloroform in a case of traumatic tetanus in the wards of the Meath Hospital. Professor Porter remarked, that "calomel and opium was the line of treatment which in his experience gave the best chance of recovery," and Mr. Smyly fully concurred in that view.

The tendency of opium to accumulate in the system has before now proved a source of danger in tetanus, particularly when, as often happens, the bowels are obstinately constipated; so that it is most important to have them well freed in the earliest stage of the disease; and, indeed, all through the treatment turpentine enemata will be found of great value.

It will be remembered that at the close of Master D.'s case belladonna was had recourse to, but it was not until all severe tetanic spasm had ceased, and there only remained some contraction of the masseters and some facial spasm.

I have noted the nervous temperament in both families with the view of calling attention to the great necessity for caution in prognosis, and more than ordinary watchfulness on the part of the surgeon in any case of injury in such subjects.

ART. XVII.—*On Esmarch's Operation for Closure of the Jaws by Cicatrices.* By CHRISTOPHER HEATH, F.R.C.S.; Assistant Surgeon to, and Lecturer on Anatomy at the Westminster Hospital.

IN the *Dublin Quarterly Journal of Medical Science* of May, 1863, I brought before the profession the causes and treatment of immobility of the jaws, using as illustrations three cases treated in the Westminster Hospital by Mr. Holt and myself. In Mr. Holt's case, and in one of my own, internal division of the cicatrices, with the subsequent adaptation of silver plates to the gums, gave very satisfactory results; in the third case I performed the operation proposed by Professor Esmarch, of Kiel, *i.e.*, the resection of a wedge of bone from the lower jaw in front of the cicatrix, thus

leading to the formation of a false joint. I have now to record a second case in which I have performed Esmarch's operation with a good result.

The subject of the contraction of cicatrices in the mouth, and their treatment, has attracted little attention among British surgeons, and even in the last published surgical works, *Erichsen's Surgery*, 4th Edition, 1864, and Mr. Pollock's *Essay on Diseases of the Mouth*, in *Holmes's System of Surgery*, Vol. IV. (1864), on mention of them is made; in Paris, on the contrary, the question has attracted much attention, and has furnished the topic of frequent discussions at the *Société de Chirurgie*. Since the date of the publication of a paper upon the subject by M. Verneuil (*Archives Générales*, 1860) several operations have been performed by French surgeons, but apparently with but little success, since in cases operated on both by the method of Esmarch and Rizzoli re-union of the divided jaw has taken place.

Thus, on the 4th February, 1863, M. Boinet brought before the society a little girl on whom he had previously performed what he terms Esmarch's operation, (but which appears to have consisted in the simple division of the jaw, recommended by Rizzoli, and not the removal of a wedge of bone, as originally proposed by Esmarch), and in whom the bone had re-united. M. Deguise thereupon quoted a case in which he had removed a centimetre and a half of bone with the same unsatisfactory result, and expressed a doubt whether a single successful case could be produced. On the 11th February, 1863, M. Deguise brought the case he had alluded to before the society, and showed that the failure "depended upon the formation of an osseous callus at the level of the resected portion." At the same meeting M. Bauchet showed a young Syrian girl in whom contraction of the left side had taken place, together with a loss of substance of the cheek, and commissure of the lips, equalling a five franc piece in size. In this case a centimetre and a half of the jaw was removed; and though extensive suppuration and necrosis of the jaw ensued, the girl made a good recovery, and at that date (4th February) a very satisfactory amount of movement and power of mastication had been obtained.

On the 29th July, 1863, M. Verneuil communicated to the *Société de Chirurgie* the histories of several cases operated upon by M. Rizzoli himself, the results of which were most satisfactory. In the first the operation (simple division of the jaw from within the mouth) was performed in 1857, and after six years the boy was

able to eat solid food most satisfactorily; the second case, operated upon in the same year, was equally good. In the third case operated upon in 1858, the mouth could not be widely opened, and the child had some difficulty in speaking. The fourth case, operated upon in 1860, was most satisfactory. M. Verneuil also mentioned a fatal case which occurred in M. Rizzoli's practice, and alluded to my paper in the *Dublin Quarterly Journal* of May, 1863.

It would appear that M. Rizzoli has adopted the plan of inserting a foreign body, such as a piece of gutta percha, between the cut surfaces of bone, with the view of preventing their re-union, and the possibility of doing this was roundly denied by one of the speakers at the Société de Chirurgie. There appears to me, however, to be no difficulty in effecting this, provided the section be made from within the mouth and without external incision, as proposed by M. Rizzoli, but I cannot speak with certainty, having no experience of his operation.

One observation of M. Verneuil's is, I think, worthy of special notice, viz., that all Rizzoli's successful cases have been examples of contraction within the mouth without loss of substance of the cheek, whereas the unsuccessful cases of the operation which have occurred in Paris had suffered considerable damage in the soft tissues; and he suggests that in these cases Esmarch's operation may be more properly applicable. In the case I am about to relate the loss of substance in the cheek had been replaced by a dense cicatrix, which it would have been unwise to interfere with from within the mouth, and at the same time, owing to its firm contraction, it would have been impossible to have performed Rizzoli's operation in the way he recommends, viz., without any external incision. I therefore resorted to Esmarch's proceeding, with the results of which I have every reason to be satisfied.

CASE.—Ellen Johnson, aged twenty-three, was admitted into the Westminster Hospital on the 22nd January, 1864, with closure of the jaws from cicatrices.

History.—When six years' old she had fever, and her mouth was ulcerated, as the patient believes, from the effects of mercury, which her mother told her was rubbed into the soles of her feet. As long as the patient can remember the jaws have been tightly closed; and some years ago Dr. Budd, of Plymouth, removed a small piece of dead bone. Three months before admission she had typhus fever,

and whilst ill the left commissure of the lips gave way, causing her present unsightly appearance.

Fig. 1.



On admission, the lower jaw is firmly held against the upper by dense cicatrix tissue on the left side, which appears to involve the whole of the buccinator muscle, and to extend to the angle of the mouth, a firm depressed cicatrix occupying the whole of that portion of the cheek. The teeth of the upper jaw on the left side project considerably over the lower teeth; the first molar was extracted by Mr. Bullen, at the Lambeth Infirmary, a short time since, but the bicuspid and canine teeth remain fully exposed to view, the second bicuspid being thrown forward out of its proper position, and being decayed. The commissure of the lips has been divided by the pressure of the teeth, and the extremities of the lips are now half an inch apart. The girl introduces soft food between the teeth on the right side, which is perfectly healthy, and has a very slight power of trituration of the food on that side. She obtains sufficient nourishment, though slowly, and has gained flesh since her convalescence from fever.

In this very unfavourable state of things I determined to perform Esmarch's operation for the formation of a new joint in front of the cicatrix, believing that it would be impossible to obtain any good result by interfering with the cicatrix itself either from within the mouth or by transplantation of skin.

Operation.—24th January, 1864.—The patient being under the influence of chloroform, I extracted the two bicuspid teeth of the upper

and one of the lower jaw. An incision was then made for two inches along the lower border of the jaw, immediately in front of the cicatrix, and the tissues being cleared from the bone, a narrow saw with a movable back was passed through the wound into the mouth. With this one cut was made immediately in front of the cicatrix, and slanting backwards; and another cut half an inch in front, and slanting forwards, both going through the whole thickness of the bone. The wedge thus cut was then removed by dividing the few fibres of the mylo-hyoid muscle attached to its inner surface. It was found that the healthy right side of the jaw could now be freely moved, and the teeth of the two jaws separated to some extent. A small piece of sponge was inserted between the cut ends of the bone, and the wound was closed with a couple of sutures, no ligatures being applied.

The piece of bone removed included the whole thickness of the lower jaw, and measured seven-eighths of an inch along its lower border. It contained the mental foramen, with a portion of the nerve.

On the 25th January (following day), there was a little unimportant oozing of blood, and the piece of sponge was removed. Patient quite comfortable.

On the third day, the contracted masseter of the right side having yielded, the patient was able to move the jaw freely. The wound was dressed with water dressing.

By the 10th February she was ordered soft biscuit to masticate and so exercise the jaw.

On the 23rd February (a month after operation) the wound was nearly healed, and the patient had so much power of mastication that she was ordered meat diet.

March 5th.—Two little exfoliations from the cut surfaces of the bone came away by the mouth, the wound being quite closed and the movements of the new joint free.

It may be mentioned here that it was easy to watch the gradual formation of a new joint from the interior of the mouth; the cut surfaces of the bone becoming gradually rounded and covered with mucous membrane, continuous with that of the mouth.

On the 23rd March (just two months after the operation), the false joint being in a perfectly satisfactory condition, I determined to attempt to remedy the deformity of the cheek and angle of the mouth.

The patient being under chloroform, the extremities of the lips

was detached from the subjacent bone, and the anterior edge of the cicatrix of the cheek was vivified. A small flap, three-quarters of an inch in length, was then marked out in the healthy portion of the cheek, and was dissected up, being attached by a broad base to the extremity of the upper lip. This being drawn down with the end of the lip, fitted well into the gap, and also brought the lips close together at the angle of the mouth. The flap was secured with several wire sutures, and the gap made by the removal of the flap was closed with two hare-lip pins and twisted suture.

The results of this operation were unsatisfactory; the lips failed to unite, and the flap separated from its attachments; after the wounds had healed, however, the upper lip was found to be lower than before, thus offering every probability of a good result in any future operation.

The patient was sent to Walton for a month, and returned on May 30th, with her general health much improved.

On the 3rd June I made another attempt to close the aperture in the cheek, under chloroform. The edges of the opening were vivified, and the mucous membrane was removed from both the lips for half an inch from the angle of the mouth. The lips were freed from their attachments to the bones, and they were brought together with a hare-lip pin with the view of forming a new com-

Fig. 2.



missure in front of the position of the old one. Another pin was introduced at the posterior part of the wound, to keep the parts in

position; collodion was painted over all. Straps of plaster were applied to relieve the tension upon the pins.

8th June.—The pins were withdrawn, having nearly cut their way out. The wound gapes posteriorly; but the lips appear to have united in great part. Straps re-applied.

17th June.—The new commissure of the lips is quite perfect, and the rest of the wound has contracted considerably, and is granulating healthily. I introduced another hare-lip pin to bring the granulating surfaces together, and increase, if possible, the breadth of the commissure.

28th July.—The patient was discharged—her condition, at this time, with the mouth wide open, being shown in Fig. 2—her personal appearance having much improved owing to the growth of her hair. The commissure of the lip is half-an-inch in breadth; and, with a piece of black plaster over the opening, which is now much reduced in size, the patient is very comfortable, although the saliva flows from time to time through the opening, when the plaster becomes loosened. The space between the incisor teeth, when the mouth is widely opened, is exactly half-an-inch; and the movements of the jaw are very free.

I have recently (March, 1865), received an account of this patient from my friend, Mr. W. P. Swain, of Devonport, who finds that the mouth can be opened as much as ever, and that the power of mastication has increased rather than diminished.

I take this opportunity of recording the present condition of the cases reported in my former paper.

Barton, B., the boy on whom I operated in July, 1862, continues in perfect health, and able to take plenty of nourishment, although the movements of the jaw have very decidedly diminished owing, apparently, to contraction of the fibrous tissues around the new joint, due, as the patient and his mother believe, in the first instance, to the cold of the severe Winter following the operation, from which he suffered considerably.

I have lately (March, 1865), had the boy up from the country, and find that the space between the left molar teeth has diminished from seven-eighths to one-eighth of an inch, and that between the left lateral incisors, from five-eighths to two-eighths of an inch. The movement is still free enough to show that osseous ankylosis has not taken place in the new joint; but whether the contraction is due simply to changes at that point or to the contraction of some

band it was impossible to determine, as the boy positively refused all interference, either with or without chloroform.

Frances H., the girl treated by Mr. Holt by internal division and the application of metal shields, wore the shields for some months after leaving the hospital, but discontinued them some eighteen months back. The contraction has returned to some extent, the band which existed in the cheek having shortened so as to diminish the extent to which she can separate the teeth one-half, viz., from three-fourths to three-eighths of an inch. The cheek is slightly tucked in owing to the contraction; but the girl is perfectly well and comfortable, and will not allow any interference with the parts.

Isabella M'Nab (my other case treated by metal shields) whose case was remarkable owing to the adhesions being present on both sides of the mouth, was seen by Dr Crockett, of Dundee, in the middle of last Summer, and that gentleman has kindly sent me the following report of her condition:—"The jaws can be opened with ease to the extent of half an inch; she has begun to articulate distinctly within the last two months, and within the last fortnight is able to chew a crust of bread, having some lateral motion of the jaw. A fetid muco-purulent discharge continues to come from the mouth, but her general health is much improved."

ART. XVIII.—*Puerperal Fever, Metastasis to the Bronchial Tubes; Successful Treatment by Small Doses of Turpentine.*

By JOHN POPHAM, A.M., M.B., Licentiate King and Queen's College of Physicians.

ABOUT the middle of January, 1865, an outbreak of puerperal fever occurred in the lying-in department of the Cork Union Workhouse, which, at first, threatened serious consequences. There is accommodation in these wards for about fourteen cases; and the beds are kept generally occupied. Taking into account the number of women having primary or secondary syphilis who come into the workhouse for child-birth, it is surprising that grave puerperal ailments are not more frequent; but free ventilation and cleanliness are so strictly enforced that it is a rare occurrence for any