

time. Finally it was discovered that he had a large fungating malignant growth in the rectum. The moral of such a case is that the rectum should always be examined in cases of dysentery and also if the patient has piles, a source of mistake with the uninitiated. Three times recently cases have been sent to me as dysentery because they had blood in the stools; in each instance I found that they had not got dysentery, the blood being derived from obvious piles.

### 3. TUBERCLE.

An Indian patient was sent into hospital with the diagnosis of dysentery. He was extremely emaciated and was passing diarrhoeic stools with sloughs, blood, and mucus. No protozoa were found nor dysentery bacilli isolated. An examination of the lungs revealed evidence of consolidation at the right apex and below. A specimen of the stool was then examined for tubercle bacilli and a positive result was at once obtained. The patient died and the autopsy revealed advanced tuberculosis of the lungs, with extensive tuberculous ulceration in the small and large bowel. The value of proper stool examinations is well seen in this case.

### 4. SCHISTOSOMIASIS DYSENTERY.

This common helminthic dysentery should be easily diagnosed by the finding of the characteristic ova during the routine examination of the stools. Nevertheless cases have been sent to me which had been diagnosed as dysentery and treated by emetine injections, but after all turned out to be schistosomiasis infection only. This is a bad mistake, because emetine can do such cases no good, whereas intravenous injections of tartar emetic will cure them.

### 5. PARAGONIMUS DYSENTERY.

The *Paragonimus westermani*, as regards its habitat in man, is not necessarily limited to the lungs. It has been recorded also in the abdomen and the brain. When found in the walls of the intestine the mucosa may become ulcerated, and then there will be diarrhoea with blood and mucus in the stools. I recently had a case of this nature. The man—a Japanese—had some obscure abdominal trouble with a tendency to looseness of the bowels; but no blood and mucus. Nothing could be found to account for this with the exception of scanty numbers of paragonimus ova in the faeces. Thymol was tried, but no adult worms appeared and the eggs persisted.

### 6. HETEROPHYES DYSENTERY.

The presence of large numbers of the *Heterophyes heterophyes*, a minute fluke, in the small intestine may give rise to signs and symptoms of enteritis. The following are the notes of such a case:

A Japanese was admitted into the Albert Dock Hospital under my care supposed to be suffering from dysentery. The stools resembled the pea-soup evacuations of typhoid, but the patient looked quite well and the temperature was not raised. There was mucus in the stools, and on one occasion some traces of blood. On examination of the faeces no amoebae or cysts were found, but quite a large number of ova of *Heterophyes heterophyes*. The question whether the flukes were causing the symptoms then arose. To settle this I administered an anthelmintic (eucalyptus, castor oil, and chloroform mixture), after the usual starvation. The result was excellent, over 500 adult flukes coming away. The symptoms after this all subsided and the stools became quite normal. In a week the patient left hospital cured.

### 7. ANKYLOSTOMIASIS.

Occasionally diarrhoea with blood is seen in ankylostomiasis. Last year a patient was admitted with the diagnosis of dysentery, because there was blood in the stools. He passed a liquid stool with blood in it; microscopic examination gave the diagnosis, many ankylostoma ova being present. Under suitable treatment, leading to expulsion of the worms, all the symptoms disappeared. In this case there was also considerable epigastric pain, which had puzzled several people, before the true nature of the disease was discovered.

### 8. BALANTIDIAL DYSENTERY.

*Balantidium coli* is also a cause of dysentery; the symptoms, indeed, resemble very closely those seen in amoebic dysentery. The diagnosis is made by finding the characteristic ciliated in the faeces. No instance of this

disease was seen in my series of cases, but I have heard of it from other observers. It is not uncommon in the Philippine Islands.

### 9. PSEUDO-DYSENTERIES.

This name has been applied to cases which do not fall under any of the headings described above. Foreign bodies impacted in the rectum above the anus may cause ulceration and discharge and be diagnosed as dysentery, especially if the patient has been abroad.

I once saw a patient with a rectal discharge of a purulent nature, and on making a digital examination found what appeared to be a growth just inside the sphincter. Next day he passed the tumour, a large piece of bone, and all symptoms and discharge disappeared. He did not remember swallowing it.

Such examples show that it is most necessary to exercise care in diagnosing cases presenting symptoms of dysentery. Careful and accurate examination of the stools comes first, of course, and after that local rectal examination, either with the finger or the sigmoidoscope.

## ANKYLOSIS OF THE MANDIBLE AND ITS OPERATIVE TREATMENT.\*

BY

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THE operations hitherto described for this condition fall broadly into two groups, according as the bone resected is from the region of the condyle or from the horizontal ramus. Operations in the first group fail to give relief when the cause of fixation is wholly or in part anterior to the condyle. Those in the second group, in bilateral cases, leave the jaw so weak as to be practically useless for mastication. In the recent third edition of Brown's *Surgery of Oral Diseases and Malformations* it is recommended that, save in rare cases of urgent necessity, such cases should be left undisturbed, rather than that a bilateral Esmarch operation should be performed.

The present paper deals with the operative treatment of five consecutive cases of ankylosed mandible. In each case, irrespective of the original cause, it was found that a factor in the fixation was the formation of fibrous or bony adhesions between the anterior border of the coronoid and the pterygoid aspect of the maxilla. The operation described permits of the complete resection of the whole of the coronoid. In one case this structure was removed on both sides, together with the condylar neck region of either side also. In no case was there any involvement of the facial nerve, and in each case the patient was left with a gape of at least 2½ cm. and a very satisfactory power of mastication.

Four of the cases were traumatic, all in the malar region and accompanied by fracture of the zygoma. One was infective in origin, and followed a bilateral suppurative arthritis of the temporo-mandibular joints in infancy.

In each case the whole of the coronoid was removed, so that the anterior aspect of the condyle passed in a clean sweep down to the commencement of the alveolar border of the horizontal ramus.

The incision for this operation starts in the pre-auricular fold at the lower level of the external auditory meatus, and passing vertically upwards to the level of the tip of the pinna, curves forwards below the superior temporal crest to terminate anteriorly within the hair area of the temporal region. The incision is carried down to the bone, and the skin, temporal fascia and muscle are separately defined and turned forwards. The deeper of the two layers into which the temporal fascia splits as it approaches the zygoma is divided, and the latter bone, still working from the deep aspect of the temporal fascia, is removed piecemeal with gouge forceps. The tip of the coronoid is defined, and both its surfaces cleared of muscular attachments with the raspator. By means of suitably shaped gouge forceps the whole of the coronoid process can now be removed. During this process the surgeon is working

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between the temporal muscle and belly of the external pterygoid on the one hand, and the under surface of the masseter as this passes to its insertion into the outer face of the coronoid and angle on the other. Throughout the operation the surgeon stands at the head of the patient, and the approach to the pterygoid region is by way of the temporal fossa.

In the four traumatic cases the temporo-mandibular joint was not involved, and in three of these cases the fracture of the zygoma directly involved the coronoid process in the resulting adhesions to the surrounding structures. Nevertheless in each case the formation of fibrous or bony adhesions between the lower part of the anterior border of the coronoid and the maxilla could be determined. In each case also free movement of the mandible was not obtained until the coronoid process had been completely removed down to its base.

In the fifth case, Mr. X., the fixation, which was of fifteen years' standing, was bilateral, and followed suppurative arthritis of both temporo-mandibular joints accompanying measles in infancy. The condition before operation is seen in Fig. 1. The molar teeth were firmly clenched and imperfectly erupted. A faint "spring" could be obtained on the right side, from which the condyle had been resected ten years previously, but no movement at all could be obtained on the left. The mandible shows the lack of development characteristic of such cases, and which is due to the involvement of the two epiphyses in the original lesion.

As a result the lower incisors, which in point of level actually overlapped the upper, were situated at some distance behind the latter. A gap was thus left through which the patient had managed to feed himself.

The operation in this case was performed in two stages. At the first stage the condylar neck region and coronoid of the left side were resected. At the second stage a similar operation was performed on the right side. On the left the condylar region was found to be represented by a mass of bone of ivory hardness, causing the ascending ramus to blend smoothly with the skull. The area of bone immediately below this, and representing the neck of the condyle, was removed. On the right side the firm fibrous union occupying the place of the previously resected condyle was likewise resected. Both these resections were carried out by means of curved gouge forceps, and the anterior aspect of the neck was approached by the route described above for the resection of the coronoid. On account of the extent and density of bone on the left side,



FIG. 1.



FIG. 2.

and in order to minimize the risk of injury to the internal maxillary artery, both these resections were completed from behind. For this purpose the angle of the jaw was exposed by a horizontal incision placed below it, and the neck reached by freeing the posterior border of the ascending ramus from the adjacent soft parts. On both sides movement of the mandible was not free until the coronoids had been completely resected. As in the traumatic cases, dense fibrous adhesions were found between the anterior border of this process and the maxilla. The operation on each side was completed by a flap of temporal fascia and muscle being brought down through the gap made by the resection of the neck region and secured in the deeper layers of the lower wound. In closing the temporal wound the temporal muscles and fascia were stitched back into place, a small drainage tube being left in this and the angle wound for forty-eight hours.

The precarious nature of the patient's teeth precluded gagging at the time of the operation. A gape was, however, obtained sufficient to permit of the teeth being capped a week later. The mouth was then wrenched open under gas and fitted with a detachable elastic gag. The patient's present condition, four months after the operation, is seen in Fig. 2. The unassisted gape is 2½ cm. Mastication is quite painless, and the bite is of sufficient strength to make it exceedingly unpleasant to leave the finger between his teeth.

The case demonstrates the possibility of surgical relief for the condition of bilateral ankylosis

in which the cause of fixation is in part anterior to the condyle, while still leaving the patient with a satisfactory control over the mandible.

The post-operative treatment in these cases was carried out by my colleague, Mr. Mendleson, and the results obtained owe not a little to his care.

In the bilateral case the fact that a second long operation followed within a fortnight of the first in a patient whose general condition was naturally far from satisfactory made the choice of the anaesthetic one of some importance. The operation was performed under gas and oxygen, administered by Mr. Wade through a preliminary tracheotomy by means of the apparatus used with so much success by Mr. Geoffrey Marshall while in France. The method proved so successful, and the condition of the patient both during and after the operation was so satisfactory, that I have since adopted it in other cases of prolonged jaw operations.

## Memoranda:

### MEDICAL, SURGICAL, AND OBSTETRICAL.

#### CARDIAC MASSAGE IN ASPHYXIA NEONATORUM.

WHEN in general practice some years ago I found cardiac massage of considerable value as an aid to artificial respiration in asphyxia neonatorum. The method was especially useful in white asphyxia, in which there is probably cardiac as well as respiratory failure. It does not do away with the necessity of artificial respiration by the usual and only really efficacious method—traction on the arms; but it renders this successful in a large number of cases where it would otherwise fail.

If smacking and clearing the pharynx does not make the child breathe, artificial respiration is resorted to for a minute or so. If this fails the child's body is placed flexed and supine. The head and shoulders rest against the upper portion of the operator's forearm, and his left hand grasps the infant's left thigh. The fingers of the right hand are now pressed into the upper part of the flaccid abdominal wall beneath the diaphragm, and the right thumb is placed over the cardiac area externally. Massage can now be performed much more effectively than in an

adult with the abdomen opened, and is sometimes strikingly successful. Every now and again the operator pauses for a moment to resume artificial respiration, and then begins the massage again if needful.

Asphyxia neonatorum should be regarded as a surgical emergency exactly similar to cessation of respiration on the operating table, and should be dealt with on similar lines. The many methods of resuscitating infants described in textbooks may be of historical interest, but are calculated in some ways to confuse the student. If smacking, artificial respiration by traction on the arms, and cardiac massage will not restore the infant, it is most improbable that any other methods will succeed.

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#### ACUTE SUFFOCATIVE CATARRH.

A few days ago I was summoned to a patient in this institution who was said to have had "a heart attack." He is an old gentleman of about 75, who, though failing, is still