

direction as high as the ribs. Even then the hole was well-nigh inaccessible, and traction on the stomach had but small influence in bringing it nearer. Anything like paring the edges or drawing the orifice up to the abdominal wall was out of the question. Throughout these various manœuvres the green liquid continued to flow in an almost endless stream, and caused much inconvenience. Presently it ceased, and with a curved needle in a long holder I then passed a single suture through the margins of the hole, so as in some measure to close it, and afterwards a series of six Lambert sutures, to enfold this portion of the stomach wall and bring the peritoneal surfaces into apposition. This was a matter of exceeding difficulty, not only by reason of the distance of the orifice, but also from the tendency of the thick and inflamed stomach wall to unfold itself, whereby some of the sutures immediately cut their way through. The work, however, was ultimately achieved, but not without great misgiving as to the stability of the sutures. The peritoneum was then flushed and sponged, and the wound was closed in the usual way. The girl had borne the operation well, and was perfectly warm when she left the table. For a few hours afterwards she was decidedly easier, but about midnight she began to fail, vomited the same kind of fluid as had been seen at the operation, and had increased pain. She died fourteen hours after it. I felt little doubt we should find that the sutures had yielded, and that fluid had again been extravasated into the peritoneal cavity. From the notes of the necropsy made by Mr. Clarke we learn that "the body was that of a very anæmic girl. On opening the abdominal cavity and lifting up the left lobe of the liver a line of stitches was seen on the anterior aspect of the stomach, close to the cardiac orifice and parallel to, and about three-quarters of an inch from, the lesser curvature. The perforation in the stomach was close to the cardiac orifice, was far back, overlapped by the liver, and high up behind the costal margin. Although it appeared to be closed by the sutures, there was some greenish fluid between the stomach and the liver, and the general impression was that leakage had occurred. The ulcer measured one inch by half an inch, and the perforation was half this size. The bottom of the ulcer was thin and brittle, while the tissues of the stomach wall immediately around the ulcer were thickened, inflexible, and very brittle. Except in the neighbourhood of the upper part of the stomach there was no peritonitis." Enough has been said, I think, to show that perfect closure of the ulcer in this instance by suture was practically impossible. First of all, it was almost out of reach; and, secondly, the stomach walls themselves were in such a condition that no suture could have held; nor by any possibility could the part of the stomach containing the hole have been brought up to the abdominal wall and there fixed so as to exclude the peritoneum from further contamination. I tried to draw it forward, but its natural attachments absolutely prevented it; and if one had searched for some neighbouring structure with which to close the orifice the only part available was the under surface of the diaphragm, and that has only to be named to show at once how impracticable this proposal must have been. By reason of the remoteness of the perforation from the abdominal surface any and every manipulation must have necessarily been as difficult as possible, but it has occurred to me that it might perhaps have been feasible to fix a rubber tube into the orifice, to draw up and suture the stomach wall around it, then to bring the stomach as near the abdominal wall as possible, and to that in turn secure the tube, much in the same way as Witzel² performs gastrotomy. It is thus conceivable that the area including the ulcer might have been presently united by adhesions to the abdominal wall and adjoining portion of the liver, and that so the seat of the ulcer might have become practically extra-peritoneal. That method failing, I fear it must be acknowledged that as far as closure of the ulcer is concerned we must be prepared to meet with cases which are beyond surgical aid, even though the opportunity has arisen of operating early and before the general peritoneum has been extensively invaded. I await, however, with much interest the successful case to be brought before the Royal Medical and Chirurgical Society by Mr. Morse to learn what difficulties he met and how he overcame them: whether he had to deal with an open ulcer and closed it by suture, or with an area of inflammation and extravasation encapsuled

by adhesions, such as Mr. Barling³ successfully treated in a recent case. It must not be forgotten that there is all the difference in the world between such conditions and those which my two cases presented, and that the chances of success must largely depend on the good fortune which attends the surgeon as to the lesions he may find and the time at which he has been called to operate. I purposely refrain from considering other important points in connexion with the operation—the propriety of entirely resecting the ulcer, of uniting it to the abdominal wall, of endeavouring to close it with transplanted omentum, of washing out the stomach either before or after it has been exposed—for these matters lie outside the scope of the paper and have not fallen within my own experience.

ŒSOPHAGOTOMY AND GASTROTOMY FOR THE REMOVAL OF A DENTURE WITH FIVE ARTIFICIAL TEETH FROM THE ŒSOPHAGUS.

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It would be interesting to know the percentage of persons above twenty-five years of age who possess false teeth. It is certain that amongst domestic servants and shop girls, in whom it is almost the rule to find decayed teeth, very many have artificial substitutes. These substitutes are frequently badly fitting and after a time become insecurely fixed. More particularly is this the case when the plate carries only one or two teeth and is small in size. Dr. Church¹ cites many interesting cases illustrative, amongst other things, of the risks attending the use of such plates.

I propose in this paper to give in detail the description of a case which illustrates one danger, and to supplement the account by remarks. A married woman aged twenty-eight with three children, the two youngest being twins aged six months, awoke on July 31st, 1893, with a sensation of something in the back of the throat. She tried to cough it up, but failed, and therefore tried to swallow it. In this, with the aid of several mouthfuls of water, she partially succeeded, and, having obtained comfort thereby, she bethought herself of what that something might be—viz., a plate with five teeth. She suffered considerable pain, and her husband called in a medical man, who sent her into the Royal Infirmary, Edinburgh. On her arrival at 2 A.M. the resident surgeon found her breathing quietly and suffering no pain. He examined her throat, but could see no foreign body, and gave directions that she should be watched for fear of difficulty in breathing. I saw her on the forenoon of the same day. Bearing in mind a well-known story redounding to the credit of the late Professor Spence, I first endeavoured to ascertain whether the plate was present or not. Both the patient and her husband were positive that the teeth had passed into her gullet and that they were still retained. She complained of slight pain opposite the manubrium sterni. No foreign body could be felt on palpation of the neck and no abnormal prominence was made out. She was able to swallow milk, but said that the effort gave rise to pain at the point mentioned above. I placed the patient on a chair and passed a large-sized olivary œsophageal bougie (No. 10) into the stomach, but failed to detect any foreign body and met with no resistance. This was done twice, and then a coin-catcher was tried, with a like result. The patient complained very much while these manœuvres were being carried out, she was therefore placed in the recumbent posture; chloroform was administered, and the olivary bougie was again introduced, when, although it passed readily into the stomach, a slight sensation of roughness was detected, not sufficient, however, to enable one to definitely say that a foreign body was present. The coin-catcher was, therefore, introduced, and after two or three endeavours to "catch on" to the plate if present it caught and could not be withdrawn by a moderate degree of force. Definite proof of the presence of the plate having been thus obtained the coin-catcher was kept in position and the exact position of the plate was

² See *Annals of Surgery*, vol. xviii., 1893, p. 641; also *Edinburgh Medical Journal*, February, 1894, on *Gastrotomy after the Method of Witzel*, by F. M. Caird.

³ *Birmingham Medical Review*, September, 1893.

¹ *St. Bartholomew's Hospital Reports*, 1893.

gauged as far as possible to be midway between the manubrium sterni and the stomach. Œsophagotomy was performed in the usual way, the opening into the œsophagus being made as low down as possible. No difficulty was met with in the operation. The coin-catcher was now withdrawn, a pair of dressing forceps were introduced through the œsophageal opening, and an attempt was made, but without success, to grasp the plate. Failure by this method being met with, a laparotomy to expose the stomach was performed; the incision was made in the middle line between the xipho-sternum and the umbilicus. The stomach at once presented in the wound and was drawn forward, the anterior surface at the cardiac end being brought well out. Sterilised muslin was now packed round it to prevent any of the contents, when the stomach was opened, from gaining access to the general peritoneal cavity. An incision at right angles to the greater curvature, sufficiently long to admit the forefinger, was made into the viscus; the finger was introduced, and a search was made for the œsophageal opening. Difficulty was encountered, however, in finding the opening, which anatomically is not only high up and very posterior in the diaphragm but is bound down by the crura of that muscle. With the knowledge that the size of the opening in the stomach was not so important as, firstly, the avoidance of foreign matter gaining entrance to the peritoneal cavity, and, secondly, delay in finishing the operation, I freely increased the size of the opening until it allowed my hand to enter the viscus. I had then no difficulty in finding the œsophageal opening, into which I passed my forefinger, when I detected the plate about an inch and a half from the orifice of the œsophagus. Along my finger I passed a pair of dressing forceps, grasped the plate, and by a gentle rotatory movement succeeded without difficulty in withdrawing it. The wound in the stomach was then stitched with fine silk by a modified Czerny-Lembert suture; the mucous membrane was brought together by a continuous suture, and the serous coat by the Lembert. The wound in the stomach when stretched to facilitate stitching was four inches long. The abdominal wound was closed in the ordinary way. The œsophageal wound was closed with fine catgut, and the superficial parts with interrupted sutures, a small piece of iodoform gauze being introduced for drainage. Dressings having been applied, the patient was put to bed. The whole procedure occupied rather less than two hours. I was indebted to my colleague, Mr. Alexis Thomson, for assistance at the operation.

After-history.—The patient did not suffer much from shock, and two hours after the operation the temperature was 98.6° F. She slept at intervals and said she was fairly comfortable. At 10 P.M., four hours after the completion of the operation, she was restless and at 11.15 P.M. she was given a $\frac{1}{4}$ gr. morphia suppository. At midnight the temperature was 100.4°, the pulse 84, and respiration 30. For forty-four hours after the operation nothing was given by the mouth, but nutrient enemata were given every four hours. For five days the enemata were retained and gave rise to no irritation. Partly to prevent rectal irritation and partly on account of general restlessness, morphia suppositories were introduced thrice daily. On the sixth day there was slight diarrhoea, which continued for a week notwithstanding that the enemata were immediately stopped. Forty-four hours after the operation the strip of gauze was removed from the œsophagotomy wound, which was healthy in appearance and showed no sign of saliva having escaped into it. A smaller, fresh piece of gauze was introduced, the wound having been powdered with iodoform. At this time also she was given two ounces of milk and barley-water by the mouth. She swallowed it readily; none escaped into the œsophagotomy wound, and it caused her no pain. After this she was fed with milk, cream, and barley-water every four hours. On Aug. 4th the œsophagotomy wound was dressed, and the patient was fed by the mouth, when it was noted that a little milk oozed from the œsophagus into the wound, indicating that the œsophageal stitches had in part given way, or, at any rate, that the wound was imperfectly closed. The important question now arose, What measures should be taken to feed the patient? Three procedures were possible: (1) to pass a tube by the mouth into the stomach; (2) to open up the wound in the œsophagus and introduce a tube through it into the stomach; and (3) to continue the method in use—viz., to allow the patient to swallow. The second of these plans was dismissed at once, as the superficial parts were nearly healed and the opening in the œsophagus was very minute. I dreaded to continue the third, as the milk &c. might pass into and between the deeper structures of the

neck, and I accordingly had recourse to the first. The tube having been passed by the mouth, a pint and a half of custard was given. The patient complained bitterly of the discomfort of the tube; but for several days she was fed by this method three times in the twenty-four hours.

Aug. 5th.—The patient has passed a quiet night, but has not slept much. Both wounds were dressed. The abdominal wound has healed; the œsophagotomy wound looks healthy, there being no undermining.

8th.—She had a very bad night, with some delirium.

9th.—The patient had another bad night, wandering considerably. During the day she was very restless and talkative. Her attention can be fixed by questions, but she has delusions.

This condition continued for four days, and her strength, notwithstanding much nutritious food and some stimulant, gradually diminished. Diarrhoea had begun on the 6th and was not amenable to treatment.

14th.—The abdominal wound is healed, and there is no sign of peritonitis. The wound in the neck has opened out a little superficially, but there is no evidence of undermining, and very little fluid escapes from the œsophageal wound. The wound is dressed after each meal; it is first sponged out with weak carbolic lotion, then dusted with boric powder and plugged loosely with iodoform gauze. The patient now refused all food and resisted the introduction of the stomach tube, which had eventually to be forcibly introduced. She on this day seemed to be distinctly maniacal, and Dr. Affleck, who kindly saw her with me, agreed that she very probably suffered from lactation mania. She had previous to admission been nursing twins for six months. As her condition had been gradually becoming worse, and as the symptoms were so pronounced at this time, it was deemed advisable to have her removed to another ward. Fortunately, on the following day she distinctly improved, and from that date she progressed more and more favourably to recovery.

The œsophagotomy wound was completely cicatrised on Sept. 8th, and she was dismissed recovered on the 13th of that month.

Remarks.—With regard to the mania which manifested itself, no history of insanity was discovered. Iodoform had been used in very small quantities and was stopped at once when delirium occurred, boric powder being substituted. It seems most probable that the condition was due to a severe operation, followed by loss of strength from insufficient nourishment, in a patient already much worn out by nursing. Mania after operations on the abdomen is a recognised complication in a small number of cases.

The liability for foreign bodies to become fixed in the pharynx or œsophagus is widely recognised both by the profession and the public, and that their presence is fraught with immediate danger in some instances is also understood. Such foreign bodies vary greatly in their nature,² but, broadly, they can be divided into two great classes: (1) those which may with safety be pushed into the stomach when extraction by means of the fingers, forceps &c. has failed; and (2) those which cannot be thus safely forced into the stomach. The bodies which can be classified under these headings readily suggest themselves, but I propose to draw attention to the special form typified in the case which I have detailed. For æsthetic reasons, and in order to maintain health by efficient mastication, plates carrying artificial teeth are supplied in great numbers, and the desire for them is not restricted to the wealthier classes; unfortunately, however, poor persons are unable to obtain expensive plates and have recourse to inexpensive forms, which are frequently synonymous with defective and insecure plates. These plates, liable to break or badly fitting, soon become insecure, but the dread of further expense and ignorance of the danger incurred by their use prevent the individual from purchasing a new plate. A not unusual method of fixing the plate is to fix wires round neighbouring teeth, a method liable to the twofold danger that the wire may break or the tooth come out. The former occurred in the case quoted. From time to time in the journals or daily papers the accident of a plate of artificial teeth passing into the pharynx or œsophagus is reported (within the past week I have observed the report of two such fatal cases in the public prints), and many museums contain artificial plates which have been obtained by surgeons as a result of such accidents. Dr. W. S. Church³ quotes several cases in which

² Poulet: *Foreign Bodies in Surgery*, vol. i., p. 71.

³ St. Bartholomew's Hospital Reports, 1883.

such accidents have occurred, and since the date of his paper numerous cases have been noted.⁴ The point at which the plate may become fixed in its downward progress to the stomach is variable and depends on various factors—e.g., size, shape, and irregularity of plate, and the axis at which it enters; but if it passes beyond the pharynx there are two points at which it is especially liable to be caught—viz., opposite the cricoid cartilage or immediately above the œsophageal opening into the stomach—these situations corresponding to the narrowest points of the œsophagus. The cardiac orifice of the œsophagus is firm and sphincter-like. When the finger is introduced into it from the stomach the finger is grasped, and resistance is offered to its introduction in a manner similar to that experienced on examination of the rectum. The resistance is readily overcome and does not appear to be present more than an inch above the orifice. When it is definitely ascertained that a foreign body has become impacted it is now universally recognised that without unnecessary delay an endeavour must be made to remove it, even when no symptoms such as pain, or dysphagia, or dyspnoea are present. Very numerous cases are cited by M. Poulet, Dr. Church, and others, of disastrous results when this has not been done, death resulting sometimes months afterwards from hæmorrhage, ulceration having occurred into large vessels. M. Poulet has collected thirty-three cases of death from hæmorrhage due to ulceration or perforation of vessels; in seventeen of these the aorta was the source of the bleeding; in other instances operative interference under unfavourable circumstances was necessitated several months after the accident. That abscess formation should occur in certain cases very rapidly is not to be wondered at when it is remembered how septic such plates must be and how readily septic infection occurs through the abraded surface of the œsophagus. The above remarks do not only refer to such irregular bodies as artificial plates, as any hard substance may cause ulceration. M. Poulet figures a specimen from the Dupuytren museum in which a five-franc piece had caused perforation of the œsophagus and aorta.

The treatment to be adopted for the removal of foreign bodies from the œsophagus varies in different cases, but probably in all an endeavour to extract with instruments should be attempted in the first place, and for this purpose various apparatus may be tried. If the body is in the gullet, first the finger and then forceps should be used; if beyond the reach of the former, forceps are necessary. When it is known that the body is round or at least regular in outline considerable force may be used to dislodge it; but if it be irregular or sharp very little force should be employed, as in all probability it has caught in the mucous membrane; its removal by force is accompanied by laceration and tearing of the œsophageal wall, and even then, perhaps, it catches immovably at a higher level. Similar care must be adopted in the use of the coin-catcher, &c. In preference to a continuance of such haphazard attempts at removal, the operation of œsophagotomy should be at once performed, the opening in the œsophagus being made directly over the body or as near it as possible. In this way the surgeon may be enabled to use his finger—it may be to loosen the hold of the foreign body in the œsophageal wall—or at least he can use shorter instruments to manipulate the object; and further, if the body be above the opening in the œsophagus, he can push it up or draw it down as seems most expedient for its removal. If, on the other hand, the body be below the opening, it has a much shorter distance to travel to the point of exit. The operation in itself is easy of execution in the majority of instances, and the mortality from it is small.⁵ Thus Markoe, quoting from statistics supplied by Gross, states that in 82 cases there were 63 of recovery and 19 deaths. Of 16 deaths 3 were from abscess provoked by the lodgment of the foreign body, 2 from exhaustion, 2 from septicæmia, and 1 from pneumonia. The cause of death in the other 3 is not clearly stated. In these cases, however, it is not stated how long after the foreign body became impacted an operation was performed, or what previous endeavours had been used for its extraction. If some days had elapsed before the operation, or if injudicious attempts were made to remove the body, the risk of a fatal result was greatly increased.

When the foreign body is impacted above the level of the manubrium sterni it is known that by œsophagotomy the body can be reached, but when it is at a lower level

it has to be decided whether it can be reached from above, and whether œsophagotomy or gastrotomy should be performed. Our decision is aided if we can gauge the position of the body by means of a probang or other instrument, and it is important, therefore, to recollect the exact distance from the teeth to the cardiac opening of the œsophagus. In the adult the distance varies, but fourteen and a half inches is the average.⁶ The distance from the cricoid cartilage to the stomach is seven inches, and one can thus easily gauge the distance of the impacted body below the manubrium sterni or above the stomach. It is well to be careful that all instruments used to detect the presence of the body are marked in inches. If the body is found to be near the stomach the question arises, Should œsophagotomy or gastrotomy be performed? The decision must depend partly on the shape of the impacted object, partly on the patient who is to be treated, and partly on the facilities for operative measures. If the patient be one in whom either operation can be performed with equal facility, and if the armamentarium, in the widest sense, be complete for thorough asepsis, the chief desideratum is, I think, the character of the impacted object. If it is known to be rounded and that there are no sharp irregularities, œsophagotomy is indicated (*vide supra*), but if it be irregular, and if it is believed to have been partially withdrawn and then to have become fixed, I think that gastrotomy is undoubtedly preferable, as probably any endeavour to pull the body upwards causes further tearing of the soft parts, and perhaps even then failure to extract it, while its extraction downwards will be easier, as the sharp processes are most likely projecting upwards. If they had been pointing downwards the body would have become fixed at a higher level. The case which I have recounted shows that, if need be, the double operation may be performed at one time on the same patient. Dr. Richardson⁷ has shown experimentally, on the cadaver, that the fingers can touch each other when introduced the one through the œsophageal wound and the other through the stomach. In gastrotomy the incision into the stomach must be of sufficient length to permit at least one finger to be introduced to search for the œsophageal opening. I had difficulty in finding the orifice of the œsophagus with one finger introduced and found it necessary to insert the whole hand, a proceeding which others have also found to be requisite.

A question of great importance, and one which is still debatable, is the best procedure to adopt in the after-treatment of the œsophagotomy wound. The difficulty is chiefly dependent upon the alimentation of the patient. I believe that, if possible, the edges of the œsophageal mucous membrane should be accurately brought together by silk sutures, and then the muscular coat accurately stitched, while the superficial parts should be left perfectly open and allowed to heal by granulation. My reasons for this view are that (1) the œsophagus may be so injured that healing by first intention may not occur; (2) swallowing of saliva is a necessity, while still greater strain may be applied to the wound by the act of vomiting; and (3) it may be necessary at a very early date to give gastric alimentation either through a tube passed into the stomach or by allowing the patient to swallow. Any one of these may cause the œsophageal sutures to give way and allow the escape of septic matters into the deeper parts of the neck, with the attendant risks. The want of success in œsophagostomy, as pointed out by Professor Chiene several years ago, is due to failure to provide for free drainage and for absence of tension. In the case under review, I believe that if I had adopted this method healing would have occurred sooner. The difficulty of rendering the parts aseptic is considerable, and to stitch the œsophagus accurately is by no means easy, more especially in a thick neck where the wound in the œsophagus is very deeply situated. These questions have been discussed by Dr. Markoe.⁸

Conclusions.—1. It is extremely dangerous to leave a foreign body in the œsophagus, as disastrous results almost invariably ensue. 2. Such disastrous results may not occur for some time after impaction. 3. If attempts at removal of the foreign body with instruments fail one should at once proceed to operative interference. 4. The operation of œsophagotomy is not *per se* dangerous. 5. If the body be impacted low down near the cardiac opening of the œsophagus, gastrotomy is preferable to œsophagotomy when the body is irregular. 6. By one or other of these operations all parts of

⁴ Annals of Surgery, vol. iv.; Transactions of the Clinical Society, 1884; THE LANCET, Jan. 9th and 16th, 1886, and Nov. 5th, 1887, &c.

⁵ Annals of Surgery, vol. iv., April, 1886.

⁶ Professor M. H. Richardson: THE LANCET, Oct. 8th, 1887.

⁷ Op. cit.

⁸ Annals of Surgery, April, 1886.

the œsophagus, are within reach. 7. The danger of operative procedure is mainly due to the difficulty of alimentation. 8. The superficial parts in the œsophagotomy wound should be left freely open so as to heal by granulation.

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CASE OF TYPHLITIS, WITH PERITYPHLITIC INFLAMMATION AND ABSCESS; OPERATION; RECOVERY.

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THE patient was a boy eleven and a half years of age, who had always enjoyed good health until June 18th, 1893, when his mother, thinking that he was suffering from biliousness, gave him a dose of castor oil, which acted well. He appeared to be going on satisfactorily until the evening of the following day, when he complained of sudden severe pain in the right iliac region, and the medical adviser, Mr. Davies of Newton Abbot, found him to be suffering from an attack of perityphlitis; his temperature was 102° F., his pulse was full and bounding, his tongue was furred, there were great pain and tenderness with some resistance to pressure over the right iliac region, and he lay with his legs drawn up. He was ordered fifteen minims of opiate every four hours and hot fomentations containing tincture of opium over the abdomen were directed to be applied. No exciting cause of the attack could be discovered, but there was a marked history of phthisis, as his father's father, two brothers, and one sister died from that disease. From this date the boy gradually became weaker, and the resistance and tenderness over the right iliac region were increasing. He was given an enema on July 7th without result, and on the following day I saw him for the first time, as I had come down to act for Mr. Davies for a time; on examining the boy with him I thought the symptoms pointed to suppuration round the appendix. The tincture of opium was changed to solid opium (half a grain every six hours), and belladonna fomentations were used instead of the former ones; he was taking milk (a pint and a half) and champagne during the twenty-four hours. His abdomen was distended, and the tenderness was more acute over the region of the appendix, where the percussion note was dull; his tongue was glazed and dry. The temperature for the next three days varied from 101° to 102°. On July 12th the boy complained during the day of pain in the left leg, which was drawn up more than its fellow, and I found that the sigmoid flexure was somewhat distended, but as he was very sleepy when I saw him I decided to give him an injection the next day; however, at 3 A.M. that morning word was sent to me that he had two hours previously passed a very large quantity of hard, dryish, light-yellow fæces, which had caused him much pain in passing, and when I saw him at 9 A.M. his temperature was 104·8°. I immediately ordered twelve grains of sulphate of quinine; his evening temperature registered 102·2°. There was dulness on percussion over an area of about three inches in diameter, situated above the outer half of Poupart's ligament on the right side, where the pain was intense; the abdomen was less distended and much flatus was being passed. His tongue was very dry and cracked, sordes were on the lips, and he complained of intense thirst. His temperature from now to the date of operation averaged 102·2°. On July 14th I gave a copious enema of soap-and-water with olive oil, with very satisfactory results, large quantities of fæces, of the same character as before, though smaller in circumference, coming away. The pulse was 110 and very thready, small, and easily compressible. The region of greatest tenderness and resistance was circumscribed to an area about three inches in diameter, situated about two inches and a half below and two inches to the right of the umbilicus. However, the whole of the right side and lower part of the abdomen was rigid and painful. On July 18th the appearance of the boy seemed to point to suppuration in the right iliac region; his face was pinched and drawn and he complained of great headache, his pupils were widely dilated and sluggish in reacting, he complained of a "throbbing sensation" in the region of the appendix, his legs were well drawn up and abdominal respiration was

absent, and he was sweating very profusely. Considering the bowels had acted so well; that there was still much distension; that the area of greatest resistance and tenderness, situated over the region last mentioned, though somewhat nearer the umbilicus—viz., two inches below and to the right of it—appeared to fluctuate, though this was difficult to ascertain positively owing to the great pain and tenderness caused by the least manipulation; and that around the umbilicus there was a thin halo of redness: considering these facts, I came to the conclusion that an examination under chloroform would help the diagnosis of suppuration, and consequently I consulted Dr. Scott and Mr. Margrave (both of Newton Abbot). On the following day (July 19th), under chloroform, fluctuation was easily felt, and I proceeded to operate. An incision two inches long was made from above downwards over the fluctuating spot and as much to the right of it as possible in order to escape the sheath of the rectus abdominis. Directly on passing through the abdominal wall the abscess cavity was entered, from which came twelve ounces and a half of most offensive yellowish-green thick pus. I enlarged the orifice into the abscess cavity by Hilton's method and subsequently by scissors. After most of the pus had been removed, on introducing my finger into the cavity, I found that the appendix was uniformly swollen and soft; it was about half an inch in diameter. No foreign body being detected I decided to leave it alone. A few adhesions were broken down, but these were of no consequence. Copious irrigation with a 1 in 40 carbolic solution and a 1 in 2000 perchloride of mercury solution was used and a double drainage-tube was inserted. Wood-wool tissue and cyanide gauze dressings were used. A quarter of a grain of morphia was given hypodermically after the operation. The patient was slightly sick in the evening. From this date he began to improve rapidly. The temperature regained the normal three days after the operation, and his pulse became regular about the same time. On discontinuing the opium on July 22nd his tongue commenced to improve, and the sordes disappeared about a week after the operation. I ordered two grains of sulphate of quinine three times a day. His bowels were regulated by enemata for the first two weeks, and by small doses of castor oil afterwards; the discharge was always quite sweet and free after the third day. The abscess cavity healed well, and the drainage-tube was left out three weeks after the operation; the wound closed in about four weeks and a half. He was allowed to be up on Aug. 12th, and his diet consisted of milk puddings, beef-tea, and food of a light description. During his illness the boy suffered from inflamed spots over the bony prominences of his back, which were greatly benefited by painting with a 5 per cent. solution of silver nitrate.

Remarks.—The case is interesting in many ways. 1. What was the cause of the attack? Was it tuberculous or was it an ordinary simple attack of a very acute form? I am inclined to take the latter view, as the onset and course of events were too rapid and the healing process too straightforward for a tuberculous lesion. 2. The rapid formation of the abscess. 3. The absence of any œdema or redness of the skin over the abscess cavity. 4. The incomplete obstruction. This, I think, was in part most probably due to the pressure of the abscess on the intestine in the right iliac region, as within four days after the operation the bowels acted well. 5. The absence of vomiting throughout the illness, except just after the operation. 6. The absence of rigors at any period.

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A CASE OF TRIGEMINAL NEURALGIA OF MALARIAL ORIGIN.

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ON Dec. 23rd, 1883, I was consulted by a gentleman, a lieutenant in the Royal Navy, who was suffering from a severe attack of neuralgia affecting the left orbit, frontal region, and surrounding area of the face. The pain most complained of was that situated at the back of the eyeball. There were lacrymation, photophobia, and some slight iritis. On making inquiries into his previous history he volunteered the following information as regarded his previous health. He had always enjoyed very good health—the only illness that he had suffered from being acute rheumatism some years ago—until he joined the East Coast of Africa station. His duties whilst