

GANGRENE OF APPENDIX RESULTING IN COLIC

scopy has disappeared, but the râles are present. Middle lobe posteriorly is silent. Lower lobe posteriorly is silent. Tactile fremitus present posteriorly, most marked over upper and middle lobes.

March 23, 1923.—Right border of heart one and one-quarter inches right of median line. Beat not felt on the right so distinctly as before. Friction rub heard throughout entire right chest. Posteriorly the middle lobe is silent, hyperresonance is absent now anteriorly.

March 25, 1923.—Heart has moved over slightly toward the left. Sounds not so distinct in the right chest but still heard there. Friction sound has entirely disappeared. Incision healing, drainage very slight, and the foul odor has disappeared. There is a mass present in the right abdomen about the size of the back of a hand.

March 27, 1923.—Very difficult to feel heart and pulse on the right but probably felt one inch to right of mid-sternum. Definitely felt in fifth interspace one and three-quarters inches to left of mid-sternum. He has a definite mass in mid-abdomen below the umbilicus to the inner side of the incision, probably a secondary abscess. This would account for his febrile condition.

March 29, 1923.—Abdominal mass is still palpable, not tender, temperature is normal. Is probably going to take care of this infection himself. The hyperresonance over the left chest is disappearing. Heart dulness is at the right border of the sternum and the left border is one-half inch to right of nipple. There is a slight cardiac pulsation visible in the third and fourth interspace to the right of the sternum, but is not palpable.

April 18, 1923.—Patient's abdominal condition is entirely cured. He developed an acute otitis media, left ear April 2, 1923, the right ear April 3, 1923, for which he has been treated by the ear department with incision of both drums and the ears douched. His temperature has gradually become normal and has been so for nine days and the ears are no longer draining. Patient discharged recovered.

Stated Meeting Held January 7, 1924

The President, DR. JOHN H. JOYSON, in the Chair

HERNIA THROUGH THE FORAMEN OF WINSLOW

DR. MAURICE PICTON (by invitation) read a paper with the above title and presented the patient whose history had prompted the study.

GANGRENE OF APPENDIX RESULTING IN COLIC AND DUODENAL FISTULÆ

DR. JOHN B. DEEVER presented a young man who was admitted to the Lankenau Hospital, October 19, 1916, with the history that three days before his admission, he was seized with general abdominal pain which in a few hours localized in the lower right abdomen. He neither vomited after the onset of pain nor after the pain localized. Twenty-four hours before he came into the hospital he took citrate of magnesia, which was followed by

PHILADELPHIA ACADEMY OF SURGERY

not only intense pain, which again became general over the abdomen, but also by vomiting. Examination showed a diffused peritonitis of lower abdomen and no localized point of exquisite tenderness, but the presence of peristalsis beyond and around the area of peritoneal involvement, and the absence of peristalsis over the inflamed portion. Leucocyte count 30,000 with 89 polymorphonuclears, moderately high temperature and rapid and irregular pulse. Treatment, anatomic and physiologic rest.

Two days after admission, the diffused peritonitis having subsided to a localized peritonitis and being able to definitely localize a point of exquisite tenderness low down in the lower right abdomen and well out, the abdomen was opened. The appendix was in the false pelvis, gangrenous and ruptured; there was pus in the pelvis. Exploration of outer pericolic groove negative. Condition satisfactory until November 9, ten days after operation, when it was evident that a secondary abscess had formed in the pelvis, with incomplete bowel obstruction.

November 10, a second operation was done, evacuating a large amount of pus from the pelvis and relieving obstruction of the sigmoid due to angulation and adhesions of the bases of the limbs forming sides of triangle. Drainage.

November 17, a fecal fistula through the original incision developed with great pain in the upper right abdomen, with slight pain in left upper abdomen.

November 23, the fecal discharge was profuse and the pain in the right upper abdomen was intense.

November 25, a collection of pus beneath liver was drained. A localized necrosis of the duodenum and the hepatic flexure of colon was exposed; the necrotic areas in both duodenum and hepatic flexure of colon were turned in and oversewn. Drainage of abscess bed.

November 28, a duodenal fistula has formed, fluid taken by mouth escaped by way of fistula; still fecal drainage.

December 3, patient very weak, all fluid nourishment given by mouth escaping by way of duodenal fistula. Skin edges of upper wound much irritated. Fecal drainage through lower wound profuse.

December 4, a large opening in the duodenum was exposed, closed, and a posterior no-loop gastro-enterostomy made. At this operation a small pus collection at site of splenic flexure was evacuated and drained. Following the last operation the patient gradually improved and was discharged January 15, 1917, with slight drainage from upper wound, which was not entirely healed but granulating, and the fecal fistula still present. The drainage from the upper wound ceased in three weeks and the fecal drainage from the lower wound in six weeks after his discharge.

DOCTOR DEEVER added that he had seen a number of duodenal fistulas and had gotten away with most of them by almost immediate operation. Delay is dangerous on account of the loss of nutriment and starvation as a consequence, therefore he operates immediately, in some instances being able to close the fistula, in others making an amputation of the duodenum below the site of the fistula and removing with the upper duodenum the pylorus, and last a posterior gastro-enterostomy. These are troublesome and anxious cases, but are amenable to treatment.

DR. GEORGE P. MULLER said that in 1909, he operated on a patient with perforated duodenal ulcer and simply sutured the perforation without gastro-enterostomy. Ten days later a duodenal fistula appeared and discharged

LUNG ABSCESS FOLLOWING TONSILLECTOMY

bile and pancreatic juice, greatly excoriating the skin. Accordingly, a posterior gastrojejunostomy was done through a second incision and in a week the fistula had closed.

FRACTURE-DISLOCATION OF UPPER END OF HUMERUS

DR. JOHN B. DEEVER presented a man, age thirty-seven, who was admitted to the Accident Department of the Lankenau Hospital, August 9, 1923, complaining of pain in the right shoulder and arm. He had fallen ten feet from a scaffold, striking his right hand forcibly against a wall. Immediately after falling he found that he could not move the right arm. X-ray showed an oblique fracture of the anatomical neck of the right humerus, the head lying beneath the coracoid process.

Operation.—August 18, Doctor Pfeiffer. Head of the bone reduced and nailed to shaft. Arm dressed in extended position and plaster bandage applied. X-ray taken a few days following showed recurrence of the dislocation.

On the 27th of August, Doctor Pfeiffer and Doctor Deaver removed the nail, reduced the head of the bone and brought the shaft in line with the head, arm dressed to side.

DR. DAMON B. PFEIFFER said that he found the head of the bone had been driven deeply into the pectoral muscles and the track had contracted to such an extent it was almost impossible to get it back. It consumed time and produced much traumatism in replacing it. The head was connected to the glenoid by only a single strand of capsule. He therefore nailed it to hold it in place and replaced the head in the socket. Unfortunately during the process of putting on the plaster bandage, the dislocation reproduced itself. Had the patient been on a special fracture table, he doubted if this would have occurred, but the movement incident to transferring the patient to another room, where the bandage was applied, permitted the head, which was so loosely held by the capsule, to fall out of place. The problem in these cases is to get abduction after healing has taken place and this is what he had in mind in attempting to put up the arm in an abducted position. Possibly this can best be done by traction and counter-traction with the arm at right angle to the body, but in view of the extensive tearing of the capsule in these cases, all such measures involve considerable risk of redisplacement. The question of failure of the capsule to reattach itself to the normal points must also be considered as habitual dislocation might easily result. Of course, the bone is most easily held in position with the arm at the side and we must wait for further experience and development of means of fixation to say what is the best method of dressing from the standpoint of future function.

LUNG ABSCESS AND PYONEUMOTHORAX FOLLOWING TONSILLECTOMY

DRS. E. B. HODGE and E. R. MURPHY presented a little girl, aged six years, who was admitted to the Children's Hospital of Philadelphia, September 22, 1923, with the following history:

On August 29, 1923, under ether anæsthesia, tonsillectomy was performed. She remained in hospital 24 hours, was then taken home where she remained

PHILADELPHIA ACADEMY OF SURGERY

in bed for the next three days. On the fifth day following the operation, she was allowed to go to school, apparently well.

On September 14, 1923, sixteen days following operation, she returned from school, complaining of pain in the stomach, coughed a great deal, and was short of breath. She was put to bed and on the following morning had a chill, vomited and became blue.

When admitted to the hospital the child looked extremely ill. Temperature 105. Pulse 150. Respirations 70. She was cyanotic, and expectorating large quantities of purulent sputum. A diagnosis of lung abscess and pyopneumothorax was made. Under local anæsthesia the left pleural cavity was drained through an intercostal incision. The general condition improved and the temperature gradually fell to normal.

On November 7, 1923, bottle blowing was begun. This was followed by a sharp rise in temperature and a return of the purulent sputum. The bottle blowing was stopped, the temperature again fell to normal, and the purulent expectoration ceased.

December 1, 1923, all drainage was removed, the wound closed promptly. The temperature remained normal. There has been a rapid gain in weight. The physical examination at the present time shows no pathology in the left chest, which is confirmed by the X-ray.

DR. GEORGE FETTEROLF remarked, there are entirely too many of these lung abscesses following tonsil operations. The literature is full of them. The relation of cause and effect is often not recognized, the usual history being that the patient comes in for a "bad cold on the chest" and the fact that he has had a tonsil operation frequently has to be elicited by questioning, it eventually develops that there had been a tonsil operation and a week or so later the patient began to spit up unpleasant material. In the majority of cases the patient regards it entirely as an independent proposition from the tonsillectomy. Then, again some of these cases may be treated as tuberculosis, not as lung abscesses. As regards etiology, it has been pretty commonly accepted that they are generally of inhalation etiology, but when it is realized that in one series of 202 cases the proportion done under local anæsthesia was approximately 20 per cent., it puts a new angle in the situation, and makes one think a little more of terms of embolic origin of some of these cases. With this idea in mind last winter Doctor Fox and he did some tonsillectomies on dogs, infecting the wounds and introducing infected sutures into the wounds. As a result of these experiments they found in the paratonsillar tissues interstitial hemorrhages, many thrombi, necroses and bacteria. In other words, local conditions were such that emboli readily could loosen and travel down the internal jugular and eventually into the lung. The three factors in producing septic emboli are traumatism, sepsis and muscular action, and it would be pretty hard to find a place where these three would be more ideally combined than around the tonsil fossa; when the tonsil is taken out, a certain amount of traumatism results, the area is exposed to the constant presence of bacteria, and the throat muscles are in more or less constant action. These findings, so far as paratonsillar tissue is concerned, and again, the fact that a great many of these cases follow local anæsthesia, suggest that

LUNG ABSCESS FOLLOWING TONSILLECTOMY

more attention should be directed to the embolic nature of the affection and less to inhalation. Efforts to prevent lung complications so far have been directed towards keeping the trachea free of blood, etc., with no thought of the wound. The practical developments of these experiments would be to seek for lines of procedure which might add to the safety of the operation. In the first place every patient before tonsillectomy should be given sodium bicarbonate in the hope of preventing vomiting and acidosis, as with vomiting there might be some inhalation of the vomitus and infection of the lung. The next point is light anæsthesia to preserve as far as possible and to favor a quick return of the coughing reflex. The third point is the use of a good suction apparatus to keep the throat as free as possible and the fourth as rigid asepsis as can be secured. The fifth point and the point he wished to emphasize most of all is when the surgeon has to pick up and tie off a bleeding point not to introduce the ligature with a needle, but to use a surface tie as would be done anywhere else in the body, for it is not possible to introduce a suture into the tonsil area, without introducing some bacteria and thus greatly increasing the probability of infecting any thrombi there. An interesting point is that lung abscesses began to be reported when the type of tonsil operation changed and this was about 1912. Up to that time they used a tonsillotome or punch and sliced off the readily accessible parts of the tonsil, in each case a certain amount of tonsil being left behind as well as most of the capsule. When the complete tonsil operation was taken up, the capsule, that wall of fibrous tissue between the lymphoid tissue and the muscles, etc., and the throat, was taken away. In view of the possibilities of septic embolism that might thus be encouraged, a further deduction is that perhaps this type of tonsil operation is not based on correct principles. It may be if one could remove the lymphoid tissue and leave the firm fibrous capsule behind they would be protecting the underlying tissue. An ideal procedure would be to take out the lymphoid tissue and leave the capsule. Whether or not this is practicable only time and further study will determine.

DR. HERBERT FOX remarked as to the pathological changes that are in the paratonsillar tissues after a tonsillectomy, that if one will visualize the granulation tissue that must occur about an operation area, particularly if it is infected, it will require little imagination to see how thrombi can start about a tonsillectomy wound, perhaps extend out as far as the main branches of the veins that empty directly into the jugular. They had seen thrombi partly attached and partly loosened in veinules in the tonsillar beds. One can easily follow the extent of these thrombi in the main venous trunks; all know that thrombi grow with advancing infections of the pharyngeal wall or of the tongue. Next as to genesis of pulmonary abscess, it is only necessary to assume that there are small emboli which produce small areas of congestion and secondary to that thrombosis, local thrombosis. From such a small focus it is perfectly possible for larger patches to develop. If one realizes that it is not necessary for massive infarcts to occur, that small infarcts can produce

pulmonary abscesses, that there are two varieties of pulmonary abscesses, that which is infiltrated, massive, possibly secondary to inspiration, that which is disseminated, small and almost certainly due to emboli.

DR. JOHN B. ROBERTS said that the facts mentioned by Doctor Fetterolf had always impressed him when he had seen this operation done. The etherizer is usually giving unnecessarily deep anæsthesia. There is no necessity for a great deal of ether in this tonsil operation unless one has some other reason for wanting to obtain profound anæsthesia. The clearing of the throat is often inefficiently done, even by those who use, if they be laryngologists, suction apparatus to get blood and mucus out of the pharynx while working. The form of apparatus some otolaryngological surgeons use has seemed to him to be very unsuitable for such an easy operation. It reminds one of the crude and clumsy way by which in years past hysterectomy was done by the extraperitoneal method. Surely no crushing, clumsy ecraseur is needed to control the bleeding arising from removing tonsils.

To do the work neatly, quickly and safely, one needs an etherizer, who will not overwhelm the patient with the drug, an etherizing apparatus with a hook-like metal mouthpiece and a rubber hand blower under the control of the etherizer's own fingers. The patient should lie supine with mouth held open by means of an incisor gag, and the tongue drawn out by means of an aseptic silkworm gut thread thrust with a sterile needle through the tongue. This device is harmless and superior to holding the tip of the organ with tongue forceps. A suction tube should be in the hands of an assistant and a suction pump be attached to it to be used occasionally for drawing blood, mucus and saliva out of the child's throat. A good head mirror will give illumination.

The amygdalectomy is readily performed, under this preparatory technic, with a vulsellum to draw the tonsil up from its bed, in the surgeon's left hand, and a bistoury or a midpoint scalpel in his right. A small blade-pointed scissors, curved on the flat, will often be found a useful additional instrument for dissecting out the entire gland. Should one or two vessels bleed, a hæmostatic forceps is employed to seize the open end of the artery, left in place for a few minutes; and removed after twisting the grasped vessels two or three turns.

It must be very seldom that any serious hemorrhage can occur then unless the operator cuts very much more deeply than required. Even then, leaving the hæmostats in place a little longer is probably all that will be necessary. If by any possibility there should be recurrence of bleeding, the hæmostatic forceps may be left in position and the teeth closed on that handle sticking out of the patient's mouth. The nurse may support the chin so as to close the mouth and steady the instrument in place until the surgeon removes it. It will not be safe to bandage the mouth shut until all risk of vomiting is over.

It is well, in order to make the operation easy, to have scissors, forceps and hæmostats with long and rather delicate handles. The habit of some

PERIARTERIAL SYMPATHECTOMY FOR TROPHIC ULCER

laryngologists of stopping a bleeding vessel with a suture puckering up the tissues does not seem wise. It makes a sort of pocket at times in which secretions or blood may accumulate and become septic. Instead of torsion with hæmostats, an old-fashioned tenaculum may be hooked into the tissues alongside of the bleeding artery and given a turn, so as to twist the structures and stop the flow of blood. The flat handle of the hook-shape tenaculum protruding from the mouth may be kept from relaxing the twist of the palatal and columnar tissues by keeping the teeth shut upon it.

PERIARTERIAL SYMPATHECTOMY FOR SCLERODERMA

DR. GEORGE P. MULLER reported the case of a woman, thirty-seven years of age, who was referred by Doctor Riesman to his service at the University Hospital, October 12, 1923. About five years ago menstruation ceased after a miscarriage and shortly afterwards was first noted swelling of the fingers. Later they became blue on exposure to cold, and soon the definite appearance of sclerodactyly was noted. Recently, some evidence of the disease is noted in the face. At present the hands present the typical picture of scleroderma. She has pyorrhœa. Blood Wassermann test is negative. Basal metabolic rate +1. Blood-pressure is S. 90, D. 68 in right arm and S. 80, D. 60 in the left.

On October 18, sympathectomy was done on the right brachial artery. The artery, when exposed, was about one-quarter the normal size and contracted still further on manipulation. The wound healed perfectly and the improvement was sufficiently marked for the patient to insist on having the left side operated on; this was done October 25 and a similarly contracted artery found. On January 7, 1924, the patient was seen and expressed her belief that considerable improvement had occurred; the hands still became quite blue when cold, but she could handle things better.

Scleroderma seems to be a disease of unknown etiology and is rather rare. Lewin and Haller believe it to be an angio-trophoneurosis. Consequently sympathectomy is justifiable in view of the poor prognosis even if amelioration only is obtained. Doctor Muller has only noted one other case (Horn, 1923) in the literature so treated and the result was an improvement as in the case reported.

PERIARTERIAL SYMPATHECTOMY FOR TROPHIC ULCER

DR. GEORGE P. MULLER reported the case of a man, thirty years old, referred by Doctor Pierson to his service in the University Hospital, October 24, 1923. Eight years ago he suffered a lacerated wound of the right ankle from a mowing machine. The tendo-Achillis was severed and sutured. Since then has had disability and swelling. Four years later a fissure formed on the plantar surface of the heel which progressively grew worse until a deep ulcer developed, which now measures 3 cm. in diameter. It is undermined and suppurating. The right leg sweats profusely. On October 27, a right femoral periarterial sympathectomy was performed. The vessel contracted during manipulation. The ulcer on the heel was trimmed and treated with glycerine dressings, later with mercurochrome. The ulcer began immediately to fill with granulations and on November 15, a single Reverdin graft completed healing.

On January 7, 1924, the patient reported that the foot was entirely normal and that he was walking without discomfort.

In an experience of over thirty periarterial sympathectomies Doctor

PHILADELPHIA ACADEMY OF SURGERY

Muller thinks that this was the most satisfactory of the series. The result was so prompt in a condition of long standing as to be surprising. Bruning has pointed out that the appearance of trophic ulcers is delayed until a neuroma has formed or pressure from the cicatrix begins to act. The tonus of the sympathetic is augmented and sympathectomy acts by lowering the tonus proximal to the field of operation. Leriche states that relapse is possible if the cause of the trophic trouble has not been removed, and that the cause is not always removed by the sympathectomy. If relapse occurs in this case Doctor Muller thinks that the posterior tibial nerve must be investigated in the region of the scar for a possible neuroma.

CONGENITAL FISTULÆ AND CYSTS OF THE NECK

DR. BENJAMIN LIPSHUTZ read a paper with the above title, for which see page 499.

DR. A. P. C. ASHHURST asked whether such a thing as branchial carcinoma exists? It has been taught for many years that such a thing exists. But no less an authority than Bland-Sutton says it is a myth, and that in every case that has been called a branchial carcinoma if autopsy is done there is a primary growth in the oropharynx of which this tumor of the neck is only a metastasis. Having himself recently operated on a patient with which he diagnosed as branchial carcinoma, and having had the good fortune to get an autopsy after the patient's death, he found in the pharynx a carcinoma. He did not see why the carcinoma inside of the pharynx and the carcinoma in the neck could not have developed in different parts of the remains of the same branchial cleft.

DOCTOR LIPSHUTZ replied that it was difficult to answer with definiteness Doctor Ashhurst's question. The origin of the branchial and thyroglossal fistulæ as interpreted in his contribution is a problem of embryonal cell rests; and if one accepts Cohnheim's theory of the genesis of cancer, then these embryonal cell rests offer a tenable explanation for primary carcinoma in the neck. But until more is known about the question of the degeneration of embryonal tissue, the state of knowledge of this problem will remain where it is to-day.