TRANSACTIONS
OF THE
PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting, held November 5, 1917

DR. CHARLES H. FRAZIER, President, in the Chair

PROLAPSE OF THE RECTUM

DR. T. TURNER THOMAS said that in the *Zentralblatt für Chirurgie*, 1909, xxxvi, 1225, P. Sick offered a simple and apparently rational operation for prolapse of the rectum. Since that time Doctor Thomas had operated at the Philadelphia General Hospital on three or four cases by the Sick method besides the cases here reported, and had excised the prolapse in two others. He had not been able to follow any of these cases after they left the hospital. Very satisfactory results were obtained in the two cases in which the prolapse was excised, but the operation was time consuming, rather bloody, and in one it was observed that the rectovesical pouch of peritoneum was included in the excision. One must also consider the possibility of a stricture following this operation.

The Sick operation is much more quickly and easily performed, is more safe and is perhaps as effective. Sick describes it as follows:

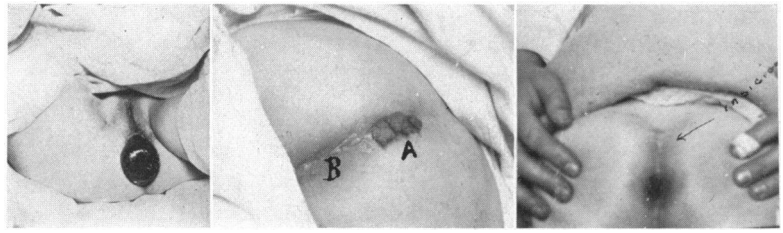
> A longitudinal incision is made in the raphe between the end of the coccyx and the circular fibres of the sphincter ani muscle, where there are no vessels, nerves or muscular fibres to be injured. The superficial fascia and deep fascia are divided, and the loose connective tissue behind the rectum exposed. The rectum is then separated on its posterior wall by a suitable instrument as high as the promontory of the sacrum. In the cavity thus made, a strip of iodoform gauze of four to six thicknesses is laid and the small external wound protected from the anus by an adhesive plaster or collodion dressing.

The reporter had extended the incision alongside the coccyx when necessary. When Sick says that no muscle fibres need be divided he loses sight of the fact that the levator ani must be cut through. With good retraction of the wound one can readily denude the posterior wall of the rectum from one side to the other with the finger and can make a wide denudation of the anterior wall of the sacrum well up into its curve. He did not use any instrument for a higher denudation, believing that that accomplished by the finger on the rectum and sacrum would be ample for a permanent cicatricial adhesion of the rectum to the sacrum. The opportunity afforded to the sphincter ani to recover its normal tone is probably an important

factor in the permanent result. He had not protected the wound from anal infection by an adhesive plaster or collodion dressing, but had in the recent cases, moistened with alcohol the gauze packed into the wound, and had depended chiefly, for protection against infection, upon the prevention by opium of bowel movements for four or five days when granulations have developed over the wound surface. The perfectly dependent drainage is also a very important factor in this connection. In no case has there been any disturbance from infection and in all cases the healing has been rapid. The first case presented was a boy, six years old, an imbecile, who was transferred to the surgical ward September 27, 1917, because of an almost constantly recurring prolapse of the rectum of about a year's duration. The mother says that when the child was at home the reduction of the prolapse was always difficult. On one occasion while in the hospital the prolapse was accompanied by "violent and profuse hemorrhage," but this ceased immediately after reduction. The Sick operation was performed October 13, 1917. Packing removed from wound five days after operation and wound not packed at all afterwards. It was completely healed in two weeks and there has not been the slightest recurrence of the prolapse.

The second case was a woman, fifty years old, an epileptic who had had a prolapse of the rectum for ten years, which protruded three to three and a half inches. At first the patient could reduce it herself, but is no longer able to do so. It comes down on every movement of the bowel and at time of operation, October 27, had been down for about forty-eight hours. The operation was performed under gas-oxygen anæsthesia, and because of the difficulty of keeping the prolapse reduced the operation had to be done without reduction, the prolapse being covered by a piece of gauze and the reduction being maintained afterward by the packing of the wound tightly with gauze moist with alcohol. Two silkworm stitches were employed to close the lower part of the wound. The packing was removed in a week. There were no signs of infection and the patient did not complain of any pain in the wound, nor of any tendency of the prolapse to recur.

Dr. John B. Roberts said that it seemed to him that this operation was adapted only to mild cases. About twenty-five years ago he himself had devised and performed an operation for prolapse of the rectum which was original. The first operation was done at the Woman's Hospital of this city. The method was described in the Annals of Surgery and in his "Modern Surgery." Other operators have since practised it satisfactorily. It is intended for severe cases of prolapse of the rectum with great dilatation of the anal aperture. The dilated orifice of the anus is reduced in diameter by cutting out a portion of the sphincter with the perineal skin at its posterior part. The skin incision, which is V-shape, has its apex at the point of the coccyx. By burrowing in the cellular tissue behind the rectum with fingers and scissors, the surgeon is able to reach the posterior wall of the rectum for a distance of several inches, thus sepa-



a. *b.* *c.*

FIG. 1.—*a.* Case II. Before operation, showing prolapse of rectum. *b.* Case II. Two days after operation. *A*, gauze protruding from wound; *B*, anus—two silkworm-gut sutures between *A* and *B*. *c.* Case I. Scar in median line three weeks after operation. Complete healing in two weeks.

rating the gut from its attachment to the hollow of the sacrum. A sufficient V-shape portion of the posterior wall of the rectum is excised, the point of the cut-out V reaching several inches upward from the external opening of the intestine. After hæmostasis, the rectal wall is sutured from apex downward with chromicized catgut sutures and the stumps of the excised sphincter similarly united; after which the skin is closed back to the end of the coccyx, leaving, however, a space for the insertion of a drain. This excision of the rectal structures, by two V's with their bases together at the anus, converts the lower end of the intestine into a funnel-shaped tube and contracts the anus by lessening the diameter of the sphincteric ring. There is little opportunity, therefore, for the intestine to be thrust downwards and through the anus. The operation is intended for complete prolapse and is satisfactory for adults and even occasionally might be used in severe prolapse in children.

Dr. George P. Müller called attention to the paper of Lockhart Mummery, describing an operation similar to the Sick operation. Doctor Müller had operated four times by this method and knew that it was successful in all of them up to thirteen months ago. This operation consists of a transverse incision an inch long between the tip of the coccyx and anus. The rectum is separated from the hollow of the sacrum and the cavity is packed with gauze to produce adhesions of the posterior wall of the rectum to the sacrum. This is the simplest operation one can do in children with prolapse. In the case of one adult in which he did this operation there was recurrence. In adults he performs the operation of Moschcowitz and had operated thus on five adult patients, with cure in all, so far as he knew. One case occurred in a colored boy who had had the prolapse for twenty years. It was eight inches long and yet was easily pulled up and for the past two years has shown no sign of recurrence. The only trouble with this operation is the difficulty in doing it. The pelvis is so deep and, especially in the male, one has to reach far to the bottom of the pelvis to insert the first pursestring suture. In males also it is difficult to place more than two and sometimes three pursestring sutures. In the female it is easier because of the ability to use the uterus to obliterate. By plastic work on the peritoneum one can cover all the opening so that the intestine cannot herniate in any little pockets afterwards.

Dr. Thomas, in closing, said that it seemed to him that the reason that in children prolapse will so often disappear permanently without operation after the bowel has been kept up for a long time, is that the sphincter regains its control, and the severe tenesmus which caused the prolapse does not recur. He could not see that merely taking a piece out of the adult sphincter, long stretched, thinned and almost hopelessly paralyzed by the prolapse, and sewing the rest together is going to help much in preventing recurrence. If any operation could keep the prolapse up long enough to permit the sphincter to fully regain its normal tone, this secondary result would assure a permanent cure. The long and wide cicatricial adhesion provided by this simple operation, between the sacrum and rectum just where

the causal relaxation between them exists, ought to give the best possible support for this condition.

NEPHROLITHIASIS WITH PERINEPHRITIC ABSCESS

DR. J. BERNHARD MENCKE presented a woman, twenty-one years of age, who ten months ago had an attack of severe right lumbar pain, which subsided after a few days. Two months ago she had a child. From the third to the seventh day after delivery she ran a temperature. When admitted she stated that she had suffered from pain referred to the right side of her abdomen for three weeks. Her temperature on admission was $100^{2}/_{5}$. Leucocytes, 8,500. In the upper right quadrant of the abdomen extending into the loin was a tender nonfluctuating mass. X-ray showed numerous calculi in the right kidney. Cystoscopic examination by Dr. Tracey showed an œdematous right ureteral orifice surrounded by a zone of congestion. No urine obtained from the right side; normal on the left side. After preliminary treatment she was subjected to operation upon August 10, 1917. Lumbar incision opened an abscess cavity from which a number of calculi were removed. In the substance of the kidney proper there was an opening large enough to admit two fingers through which three more calculi were removed. Wound closed with tube drainage. Uneventful recovery. Eventual healing without sinus.

APPENDIX IN SAC OF INGUINAL HERNIA

DR. J. BERNHARD MENCKE presented a man, twenty-two years of age, who had had a right inguinal hernia since infancy. It was now the size of a small orange when down.

When the hernia was reduced, the testicle also could be placed entirely within the abdominal cavity, apparently traversing a short inguinal canal. An examination of the blood having shown a normal coagulation time, operation was undertaken. Upon opening the sac its sole contents was found to be the appendix, the sac extending to near the base of the meso-appendix and the cæcum being far down back of the sac. An appendectomy was done. One testicle was found to be about one-half the normal size, the epididymis well developed. The testicle in its descent had come forward not as with a cord but with its peritoneal covering the wall of the sac flanging out to a broad base behind it. This was split and folded back, sacrificing the veins, and then the sac closed above and the hernial repair completed.

The convalescence was complicated by excessive oozing within the wound. This necessitated opening it superficially, closure being followed by primary union. The oozing continued for eight days, the coagulation time still being only three minutes. When the clot was evacuated capillary oozing was still taking place and a gauze wick inserted. Healing ensued and the ultimate result was good, although the testicle remained in the upper part of the scrotal sac.

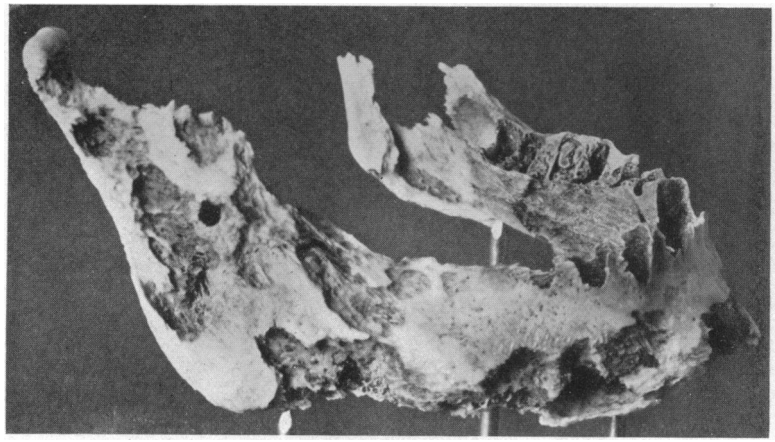


FIG. 2.—Sequestrum showing complete necrosis of mandible.

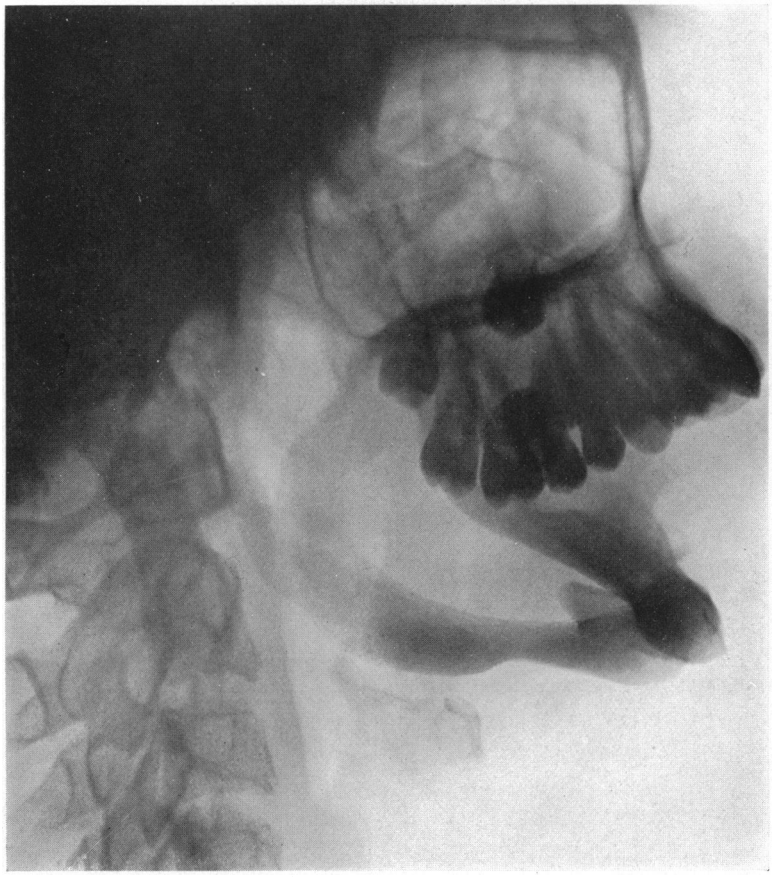


FIG. 3.—Restoration of mandible after complete necrosis.

NECROSIS OF THE MANDIBLE

END RESULTS IN EXTENSIVE NECROSIS OF THE JAW

DR. J. BERNHARD MENCKE presented an adult patient who developed an infection after the removal of a left molar tooth. There followed, however, an osteomyelitis of the jaw. The case ran a protracted course and finally there separated several fragments which he presented. One fragment is about 2 x ½ x ¼ inches. The patient shows a good end-result, and illustrates the good outcome of a case treated with extreme conservatism.

NECROSIS OF THE MANDIBLE: REMOVAL OF ALMOST THE ENTIRE BONE AS A SEQUESTRUM

DR. ALFRED C. WOOD presented a girl, aged fifteen years, who was admitted to the University Hospital, January 11, 1917, on account of swelling of the lower jaw and overlying soft parts. The trouble began twelve weeks before with severe "toothache" on the right side of the lower jaw. Subsequently ten abscesses formed, one after another, and opened spontaneously. Ten teeth were extracted at various times. The left side of the lower jaw was incised and a large amount of pus evacuated. At the time of admission the swelling was greatest about the symphysis; the mouth was very foul; there was no pain. The lower part of the face was greatly swollen, especially the chin; the swelling extending into the neck. The upper teeth were in fair condition. All of the lower teeth were missing. Almost all of the alveolar process appeared to be necrotic. The patient was able to take liquid nourishment only. Examination otherwise negative. Red blood-cells, 3,640,000; leucocytes, 23,300; hæmoglobin, 43 per cent. The urine contained albumin and a few hyaline casts. X-ray plates showed necrosis of both sides of the mandible, with an involucrum on the right side only.

The patient was ordered to use a mouth wash very frequently, and was sent home. She was readmitted July 16, 1917. The swelling of the face was much less and the general condition had greatly improved. The mouth was cleaner and could be opened more widely. The necrosed alveolar process was protruding through the mucous membrane throughout.

There was an external sinus at the angle of the jaw on the left side; X-ray examination showed necrosis of the entire lower jaw. The separation of the involucrum did not yet appear complete. She was therefore advised to continue the mouth wash and was discharged.

She was admitted for the third time October 4, 1917. The general appearance of the face had still further improved. The mandible was more exposed by extrusion through the mucous membrane. X-ray examination showed a complete regeneration of bone. Red blood-cells, 4,060,000; leucocytes, 8,320; hæmoglobin, 67 per cent. A trace of albumin and one cast were found in the specimen of urine examined. On October 13, under ether anæsthesia, the sequestrum was removed through the mouth. As Figs. 1 and 2 show, the specimen consists of the entire mandible, except the left articular process and a part of the ramus. The third molar tooth on the left side remains. Rapid improvement followed.

DR. JAMES K. YOUNG remarked that while the complete reproduction of the bone from any periosteum is a remarkable thing, the most extraordinary instance of it is the reproduction of the clavicle. The entire clavicle can be removed and, if the periosteum is preserved, it will be reproduced. All are familiar with the reproduction of the tibia, femur, and the long bones of the extremities; but, in the jaw and the clavicle this fact is often forgotten. Some years ago he exhibited to the Academy a patient in whom after the removal of the entire clavicle it had been wholly reproduced.

MAJOR DONALD MCCRAE reported two cases of total removal of the scapula including the articular surface, with complete reformation and absolutely normal function. The size of the new shoulder blade was just about half that of the other one, but there was absolutely no difference in function. The humerus was entirely separated.

ACUTE DILATATION AND SPONTANEOUS RUPTURE OF THE STOMACH

DR. A. BRUCE GILL reported the history of a girl, aged sixteen years, who had been for eight years a patient and pupil in the Widener Memorial Industrial Training School for Crippled Children. She had at the time of her death a large fixed cervicodorsal kyphosis, and had been free from any acute symptoms of her disease for four to five years. On January 28, 1916, she complained of nausea following the use of atropine in the eyes for the purpose of refraction. The nausea passed away. On the following morning she had a similar experience following the second dose of atropine. She again soon recovered from the nausea, and seemed to be as well as usual, but she was kept all day under observation on the hospital floor, and her eyes were refracted in the late afternoon. At 7.00 o'clock the same evening she complained of pain in the upper abdomen and began to vomit. Her abdomen rapidly became markedly distended. The vomiting was persistent and her distention increased. No gas or fæces passed by the rectum. The nurse attempted to pass a rectal tube but was unable to enter it more than a few inches.

Doctor Gill saw the patient about nine o'clock. Her abdomen was then in a condition of very great distention, which was general and extended into the flanks and over Poupart's ligaments. Her pulse was 150, but of good quality. She complained of no particular pain except a feeling of tightness in the upper abdomen. Her respirations were not labored and she conversed without difficulty. At intervals she vomited without effort a few ounces of brown-colored liquid. There was no desire for a movement of the bowels.

A rectal tube was passed for a distance of twelve inches without the evacuation of any gas or fæces. While arranging for opening the abdomen, to determine the cause of the obstruction, the nurse came down and said that the patient attempted to turn over in bed and immediately expired.

The following morning a post-mortem examination was made. There was fluid and gas in the abdominal cavity. The small and the large bowels were collapsed. The stomach was partially distended, but a perforation

was present in it on the anterior wall near the greater curvature about two inches below the cardiac end. The stomach contained a considerable quantity of liquid mixed with particles of food. Some of the food was identified as that which had been eaten two days previous. The stomach was nowhere adherent to surrounding structures nor did it present any evidence of ulceration. The mucous membrane was rent in several directions radiating from the point of perforation. The perforation itself was not more than an inch in length.

Evidently the patient had had a rapid formation of gas in the stomach, arising from undigested food which had been present in part for at least forty-eight hours. The stomach, for some reason or other, did not empty itself into the duodenum. It does not seem probable that the atropine placed in the eyes was sufficient to paralyze the involuntary muscles of the stomach. And yet the patient experienced nausea on both days after the use of the atropine. After the distention began the stomach could not empty itself into the bowels either because of pyloric spasm or because of a kinking at the pylorus due to the distention. As the patient lay in bed the pressure within the stomach was sufficient to force back through the cardiac end some of the large amount of fluid present in it, but none of the gas. Finally the wall of the stomach became so distended that the effort of turning over in bed caused it to rupture, with instant death of the patient.

On looking through the literature of the past twenty years, as recorded in the *Index Medicus,* he could find no case entirely similar to this one. As a matter of fact, there is but little literature on the subject. Hartmann, in the *St. Louis Medical Fortnightly,* 1906, p. 613, records the case of a woman who probably died of spontaneous rupture of the stomach. She had for three years been trying to reduce her weight by eating something and drinking vinegar, and the post-mortem examination showed extreme atrophy of the walls of the stomach. Paul Fraenckel, in *Deutsches Archiv für Klin. Med.,* 1906, lxxxix, p. 113, discusses a series of cases of rupture of the stomach following long repeated lavage of the stomach, and several following the administration of narcotics. Rupture of the stomach due to ulcer or carcinoma is, of course, excluded from consideration.

Dr. John A. Brooke related the history of a somewhat similar case which was seen by him in a hospital in New York some time ago. The child in whom the rupture of the stomach occurred had been ill for some time and had been wearing a rather high hip spica of plaster of Paris. Following a severe attack of vomiting the child went into a state of collapse and died. The autopsy revealed a rupture of the stomach. It was thought that the plaster acting as a constriction may have had something to do with the rupture.

HEREDITARY MALFORMATION OF THE EAR

Dr. A. Bruce Gill presented three patients, two brothers and their mother, who presented similar malformation of the ears, lop-ears. The mother states that her three sisters, her brother, her father, and her paternal

grandfather all had a similar deformity. There is here, therefore, an authentic history of lop-ear in four successive generations. In October, 1916, Doctor Gill operated upon the ears of these two brothers by excising an elliptical portion of skin and a half-moon-shaped piece of cartilage. As a result, the ears now lie fairly close to the skull. In these two boys the deformity of the ear is a stigma of degeneration, as both are mentally subnormal.

INGUINAL HERNIA COMPLICATED BY HERNIA OF THE OVARY AND TUBE

DR. GEORGE P. MÜLLER reported a case of a child five months of age who had been operated upon nine weeks previously for acute strangulation of the ovary and tube in a left-sided hernial sac. The ovary and tube were removed. Five weeks later her physician noticed a mass in the right side, and as it was feared that strangulation might also occur here Doctor Müller operated four weeks later, the child being then five months of age. Through the usual incision a hernia was found extending into the canal of Nuck, and in the sac was the right ovary and tube. These were gently replaced within the abdominal cavity and the hernia repaired in the usual manner. The child made an uninterrupted recovery.

FOREIGN BODY REMOVED FROM ABDOMEN NINE YEARS AFTER IT HAD BEEN SWALLOWED

DR. GEORGE P. MÜLLER reported a case of foreign body (pin) removed from the abdomen. The patient was thirty-four years of age. Nine years previously she had swallowed a pin, but thought no more of it. Three years ago she began to suffer from pain in the loin and right iliac fossa, together with frequency of urination. At the same time it was noticed that a prolapse of the uterus had occurred. In December, 1916, she was operated on by a surgeon for the latter condition. The operation was unsuccessful and the prolapse recurred. Her symptoms also persisted, and recently she submitted to an X-ray examination, and a stone was found in the lower pole of the right kidney and during the investigation of the ureter the pin was discovered at the level of the right sacro-iliac joint, and about on the course of the ureter.

Operation was performed by Doctor Müller on September 27, 1917. A loin incision was made and the kidney delivered from the wound. The stone was removed without a great deal of difficulty. A second incision was then made through the right rectus muscle and the peritoneum incised to the outer side of the cæcum and the colon and posterior peritoneum reflected from the abdominal wall. Just over the right iliac joint a mass was found which proved to be the pin, lying across, and in direct contact with, the ureter, surrounded by some exudate and containing some calcareous material. The pin and the exudate were removed and the cæcum stitched back into place. A tremendous mass of adhesions was noted in the lower abdomen, the result of the previous operation (probably a Hirst operation

through a Pfannenstiel incision). The patient made an uninterrupted recovery.

DR. ADDINELL HEWSON reported an end-result of a condition found in a cadaver. The patient had been an inmate of an insane asylum and there were found in her abdominal cavity seven hairpins. The condition presented was that apparently of a huge abscess extending from Poupart's ligament to the cartilage of the chest and confined to one side. Examination of the umbilicus showed it to be perfectly cribriform from the openings made by the introduction of the hairpins into the abdomen. Further examination showed that the abscess extended throughout the abdominal cavity, that there was an opening through the upper segment of the rectus muscle about 4 cm. in diameter and that the muscle was entirely eroded. Examining further, it was found that the hairpins, one at least, had gone completely into the intestine. The whole mass was one of intense inflammation with the intestines all bound together. One of the hairpins was entirely within the lumen of the intestine, apparently without doing harm. There was the history that at the institution in which the patient died she had been found in the act of driving these pins into the umbilicus. Some of the pins had not been divested of their shiny covering. They were the usual 2½ and 3 inch pins; some of them with the fluted margins and not absolutely straight.

DR. J. M. SPELLISSY said that Doctor Müller's report reminded him of an operation that he had performed years ago and in which the pre-operative diagnosis had hesitated between an inflammatory condition and a chondroma of the crest of the right ilium. Dr. G. G. Davis saw the case in consultation and advised exploration, as the result of which there was found at the bottom of a very deep extraperitoneal dissection a torpedo-shaped mass of lime salts having a pin as its nucleus. The incision was drained and before the resulting sinus healed the patient left St. Joseph's Hospital. Several months later he was readmitted, this time to the service of Doctor Davis, who, operating for the closure of the sinus, found that it terminated in a perforated appendix, which he removed, with subsequent healing of the abdominal wall.

DR. CHARLES H. FRAZIER said, at the risk of going too far afield into a discussion of foreign bodies found in the appendix, he would mention the case of a little girl upon whom he operated a good many years ago for appendicitis. Upon putting his finger through a small incision to take out the appendix he felt a pin prick. After having made the incision wider and, picking the appendix up with a pair of forceps, he saw a black rusty pin protruding half an inch beyond the lumen of the appendix. The child made an uneventful recovery. He referred also to the case of a well-known colored employe of the University who succumbed to pneumonia. The autopsy revealed a large rusty nail in the appendix.

MAJOR DONALD MCCRAE said that a number of years ago a case was brought to him as one of appendicitis and with the history of having had several attacks. He made the usual incision and found the appendix quite normal. Of course, the appendix was removed, but a little higher up he found quite a little mass, and in separating this there was seen a rather in-

flammatory adhesion between the cæcum and a loop of small intestine from which he evacuated a few drops of pus and in the centre of which was a tooth-pick. The tooth-pick had perforated the ascending colon, made its way into the loop of small intestine, and was in position to pass out the other side of the loop. It was pulled out through the second opening in the wall of the intestine. The opening was closed, a cigarette drain inserted, and the patient recovered. It struck him that there might be no end of the wanderings of this tooth-pick, having seen it actually passing through the cæcum into the small intestine and headed for the other side. Nature had shut off the other end. Having almost seen the process taking place he could imagine how such a body might under certain conditions wander about in many ways.