

TRANSACTIONS
OF THE
PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting, held April 2, 1917

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

**RESULT OF TREPHINING FOR COMPOUND FRACTURE OF
FRONTAL BONE**

DR. P. G. SKILLERN, JR., presented a man, aged thirty-five years, who was admitted to the Polyclinic Hospital, service of Professor G. P. Müller, on January 18, 1917, at 12.01 A.M., and was discharged cured on January 27, 1917. Shortly before admission to hospital he was attacked by a man who struck him a blow upon the right side of the forehead with an ordinary hatchet. When admitted the patient was perfectly conscious and talkative, but somewhat under the influence of liquor. Physical examination revealed a vertical wound on right side of forehead three-quarters inch from median line and with its lower angle at the supra-orbital eminence, whence it extended upward one and one-quarter inches. Beneath the cut scalp edges the skull was laid open, the outer edge projecting forward, while the inner was depressed. Pulsations of the underlying dura were plainly visible. Dark blood flowed from the wound. Under ether anæsthesia and iodine preparation the wound was enlarged downward to the orbital margin, revealing extension of the line of fracture below the limits of the trauma wound. The outer table was bitten away with rongeur forceps, revealing more extensive splintering of the vitreous than of the outer lamina of the skull. Adjoining the deep margin of the hatchet cut these splintered vitreous fragments were depressed upon the dura, which was not, however, lacerated. To gain more room a horizontal incision was added, beginning at the lower angle of the vertical incision and extending two inches outward just above orbital margin and parallel with it. The fracture in its lower portion had opened the frontal sinus. All splinters of vitreous were removed. While withdrawing a splinter from the inner side of wound bleeding arose from the superior sagittal sinus, which was controlled by two strips of iodoform gauze packing, to prevent infection of meninges from nose. There was now a gap in the skull with rounded, even margins; the dura was still unopened. Over this gap the scalp was sutured lightly. Dr. Skillern remarked that this case emphasized the importance of performing exploratory operations upon skull injuries. This patient when admitted was conscious and talkative in spite of the gaping wound made by the hatchet, and there was but a moderate amount of bleeding from the wound; yet the vitreous table was extensively shattered and depressed upon the dura. One of these vitreous splinters had penetrated the wall of the superior sagittal

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sinus; it plugged the hole it had made in the sinus, as was shown by the profuse hemorrhage ensuing upon its removal under gentle manipulation. The opening of the frontal sinus developed a source of infection from the nasal cavity to the meninges. The advantages of the operation, therefore, were that it revealed the extent of injury, permitted relief from the pressure of the inner table upon the dura, prevented secondary hemorrhage from spontaneous dislodgement of the splinter which plugged the sagittal sinus, and facilitated disinfection of the frontal air space, which, although not harboring bacteria when not diseased, yet at operation must be considered diseased until proven healthy, and which, even when healthy, for a path for the transmission of infection from the nasal chamber to the meninges.

INTUSSUSCEPTION IN AN INFANT : RESECTION : RECOVERY

DR. JOHN H. JOPSON presented an infant, aged seven months, who was admitted to the Children's Hospital May 12, 1916, being referred by Dr. A. G. Mitchell, with a diagnosis of intussusception. He was breast fed up until three months of age and then bottle fed on cow's milk mixture. He was well until thirty-six hours before admission, when after a bowel movement he developed colic followed by vomiting, and had continued to vomit everything taken, including milk, water and barley water. The vomitus was expelled with considerable force and was at first green and later somewhat brown, containing some mucus, but was not of a fecal odor. There had been no bowel movement since pain began, and no attempt to cause any by enema had been made. When first seen (by Dr. Mitchell shortly before admission) the child was quite sick. He had a strong cry, the skin was loose, showing evidence of rapid loss of weight and fluids. The throat, heart and lungs were normal. The abdomen was soft and scaphoid, not tender, and presented in the lower portion, median line below the umbilicus, a visible and palpable sausage-shaped tumor 2 inches by $3\frac{1}{2}$ inches, apparently in the region of the small intestine. Rectal examination revealed no tumor, but blood and mucus were voided. There was no history of frequent bloody and mucus stools, the bowels being closed since the development of the pain and vomiting. This is significant in view of the operative findings.

On admission to the hospital the temperature was $100\frac{3}{8}^{\circ}$; pulse 152; respirations 38. Operation the same evening under ether anæsthesia. A right rectus incision downward from the umbilicus exposed an intussusception immediately beneath the wound, which when delivered was found to be entirely in the small intestine. The exact location was not sought for or determined. The peritoneum was smooth and shining over the bowel, the deeper layers of which were dark and congested. There was marked constriction at the upper end of the tumor, the entering point of the bowel. All attempts at reduction failed, the peritoneum splitting on slight pressure when attempts were made to express the bowel from below upward. Resection was at once performed, the mesentery being cut close to the edge of the intussusception and a small-sized Murphy button used to perform end-to-end anastomosis. The snug closure was then reinforced by the Cushing

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suture, interrupted at one point. The abdominal wall was closed by through-and-through sutures of silkworm gut. The time of operation was forty minutes, and the condition on the table at times was poor, and strychnia and camphorated oil were used hypodermatically. After the operation proctoclysis with glucose and soda solution was used and small amounts of nourishment given by mouth the following day. The patient vomited at intervals for the first thirty-six hours, and there were several movements which contained blood, or mucus, or both, for forty-eight hours after operation. The movements became fecal on the second day, when several dark brown liquid stools were obtained, and the vomiting practically stopped. Attempts at feeding by peptonized milk were not very successful and it was later rendered possible to obtain breast milk from one of the wet nurses employed by the hospital, which agreed well with the infant. The temperature rose sharply after operation, as is usual in these cases, reaching 105°, and declined gradually, touching the normal in six days. The promising convalescence was suddenly interrupted by an accident which threatened for a time to result fatally. This complication was due to failure of union in the abdominal wound which opened up when dressed on the seventh day, and a couple of loops of small intestine protruded from the abdominal cavity. The child was taken to the operating room and given a little chloroform, the intestines replaced, a cigarette drain inserted in the peritoneal cavity, and the wound re-sutured. It healed thereafter by granulation. The button was passed on May 20. The child was transferred to the Medical Ward for treatment by Dr. Hand on June 4, where, with the aid of breast milk, the weight chart showed a steady gain, and the patient was later sent to the country branch of the hospital from whence he was discharged June 21.

The patient was readmitted to the medical wards in Dr. Hand's service in July, with symptoms of gastro-intestinal indigestion, marked by diarrhoea, vomiting and loss of weight. Improvement was prompt, and under proper feeding the child gained 2 pounds or more in the course of a month, when he was again discharged to his home as cured. At the time of his readmission the child weighed 10 pounds 3 ounces, and at the time of his discharge 12 pounds 4 ounces. This illness was apparently the ordinary gastro-intestinal disorder of the summer months.

The length of the entire specimen removed was 23 cm. measured along the border opposite the mesentery. Of this length 7 cm. was accounted for by the collapsed section of the ileum below the tumor, extending to the point of resection of the bowel. There was a short portion of ileum resected above the point of the entrances of the intussusciptions. The diameter of the intussusception was 9 cm. It will be seen from these measurements that between 15 and 18 inches of intestine were resected. The child, now eighteen months old, is in good condition and well nourished in spite of unhygienic surroundings and poor maternal care.

The case adds another recovery to the very small number of infants who have survived intestinal resection for irreducible intussusception. Dowd, writing in 1913, referred to eight cases besides his own remarkable

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case of recovery in an infant five days old. Reference may be made to two other cases reported by J. Fraser and Clubbe, without attempting a complete review of recent literature. In view of the rarity of recovery after resection, one might consider with favor the practice of short-circuiting the bowel by an anastomosis around the irreducible intussusception as successfully practised in two cases in children by Rutherford and Parry. The present case also illustrates the value of the Murphy button for emergency work even in infants. In four of the previously reported recoveries, a Murphy button or Mayo Robson button was used. Twice the Paul tubes were used; for a two-stage operation Dowd favors the use of needle and thread.

CHRONIC INTUSSUSCEPTION OF THE LARGE INTESTINE IN AN ADULT

DR. JOHN H. JOYSON reported the history of a man, aged thirty-six years, who was admitted to the Presbyterian Hospital with a history of illness of two months' standing. It began as slight soreness below and to the left of the umbilicus and was associated with cramp-like pains in the same region, coming on about one hour after meals and also present and more intense at bed time. Vomiting began a few weeks previous to admission and matter vomited consisted of stomach contents and bile. Pain was not relieved by eating or medication. There was some relief from pain while lying upon the left side. The bowels at first were regular and later diarrhoea developed; sometimes eight or ten movements a day. The movements were usually greenish and liquid and never contained blood. Along with these symptoms he lost weight. When admitted abdominal distention was marked; the abdomen was tympanitic, with a tender area below and to the left of the umbilicus. No mass could be felt. The abdomen was very tense, so that examination was unsatisfactory and there was no evidence of fluid. The white blood count was 6250. The patient was not acutely ill on admission. Diarrhoea was still present. No diagnosis had been arrived at during the time the patient was in the hospital but he was undergoing a systematic examination and on the third day after admission and while being prepared for X-ray examination, he developed an unusually severe attack of abdominal pain, being an exaggeration of the same type of cramps to which he was subject. He went into collapse almost at once and died within a few hours and without any sign of reaction.

At autopsy there was found a chronic intussusception in the descending colon. Probably as a result of the chronic, incomplete obstruction, a perforation had occurred, not at the site of the intussusception, but in the first portion of the ascending colon. The abdomen was full of fecal contents and death was due to shock and peritonitis. When the intussusception was opened, there was found at the apex of the intussuscepted bowel what was at first thought to be a pedunculated growth. It was only on microscopic section of the same and after a study of several sections that Dr. Pfeiffer, pathologist to the hospital, pronounced this mass to be a portion of the parietal wall of the inverted bowel.

LARGE FIBRONEUROMA OF THE MEDIAN NERVE

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DR. JOHN H. JOPSON presented a male negro, aged forty-five years, who was admitted to the Bryn Mawr Hospital in January, 1917, with the history that about thirty years ago he had noted a small swelling on the inner side of the left arm following a slight traumatism, which gave him no pain and was not tender on pressure. It underwent a very gradual enlargement. He paid little attention to it until about three months ago, when he began to have pain in the arm and a stinging, tingling sensation in the ring and little fingers. The patient was an exceptionally well-developed and well-nourished negro, otherwise in good health. There was a large, hard, round, symmetrical tumor the size of a small fist on the inner side of the left arm overlying the vessels midway between the axilla and the elbow. It was slightly movable and lay to the inner side of the biceps muscle and apparently was not attached to it. It was not tender on pressure nor did examination cause any pain in the distribution.

At operation the outer portion, or what might be designated the capsule of the tumor, was found to be made up of many layers of what appeared to be smooth, fibrous tissue. The tumor was situated in the course of the median nerve which entered it at its upper and left it at its lower pole. Each layer of the above-mentioned capsule was split and dissected back with care to avoid injuring the nerve fibres. Examination showed that the fibres of the nerve spread out after reaching the growth, and when the innermost layer was divided the tumor could be peeled out entire without cross-sectioning any nerve tissue. The sac that remained bore very much the same relationship to the unaffected portion of the median nerve that the sac of an aneurism does to the artery after incision. The layers of the sac were then infolded so as to obliterate it, using small catgut sutures, and the arm was dressed upon a splint.

Following the operation the patient was found to have a loss of sensation on the palmar surface of the index and middle fingers and the first phalanx of the dorsal surface. There was also loss of flexion of the thumb and index finger. He was discharged from the hospital February 4, 1917.

When he reported for examination five weeks later there was a soft swelling four inches long and two inches wide in the site of the tumor. He has still what he describes as "a sore feeling" along the course of the median nerve from the elbow to three inches above the wrist. Anæsthesia persists on the flexor surfaces of the thumb and index finger, across the palm to a point about one inch above the base of the third finger, the palmar surface of which is also anæsthetic. The dorsal surface of the index and of the middle finger is affected as far as the first joint. There is a small area of anæsthesia on the radial side of the last phalanx of the fourth finger. Muscular power in the thumb is largely regained. There is still some loss of flexion of the proximal phalanx and flexion is lost in the index finger. The patient is receiving electrical treatment at the present time.

The pathological report of the tumor is as follows:

Microscopic examination of sections taken from the wall of the tumor shows a dense connective-tissue stroma which contains relatively few cells and has

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undergone hyaline degeneration. The tissue is well vascularized and in a few places rather large blood-spaces are noted. There are areas in which lime salts have been deposited, minute areas containing blood pigment are seen, and considerable amounts of blood extravasation are present. Small foci of necrosis appear; these areas are found toward the innermost degenerated portion of the tumor. The major portion of the growth is composed of the dense fibrous stroma noted. Microscopic examination suggests a fibroma which has undergone the various degenerations noted.

This specimen represents a rare type of tumor, namely, a solitary neurofibroma of unusual size, originating from the endoneurium. Solitary neurofibromata of this type present the picture of a slowly-growing benign tumor which, according to Woolsey, not infrequently undergoes either myxomatous, cystic or fatty degeneration, and less commonly sarcomatous change. The multiple type of neurofibroma is more common than the solitary variety. Neurofibromata may reach the size of a grape fruit. They are sometimes hereditary, and more often congenital; the plexiform variety almost always so.

The appropriate treatment of endoneural tumor of the solitary type is incision of the enveloping nerve sheath along the course of the nerve fibres, carefully avoiding division of the same, until the adventitious capsule of the tumor is passed and the tumor itself is reached and can be enucleated. This was the procedure practised as far as possible in this case, but, as is evident, there was some disturbance of function of the nerve despite the care which was exercised. This condition is improving and if no recurrence of the tumor takes place, will probably be almost, if not entirely, overcome.

ULTIMATE RESULTS OF NEPHROPEXY

DRS. JOHN G. CLARK and FRANK B. BLOCK read a paper with the above title, for which see page 479.

DR. GEORGE ERETY SHOEMAKER said that one of the essential conditions in dealing with kidney prolapse is that the operation be undertaken for definite symptoms due to the kidney mobility and not because the kidney moves. Many of his patients had been treated satisfactorily with the corset alone. In several instances other operations have been done; for example, repair of lacerations or Coffey operation, but it has been possible in nearly all instances to separate symptoms due to the other conditions.

The operation has a somewhat limited place but a definite one; it will relieve certain very definite distress from dislocation of the kidney which produces in its aggravated form the Dietl's crisis and certain indefinable sensations of unrest which appear only in the upright position and which disappear with kidney support. The situation in life of some women prevents their wearing through the day an efficient corset.

In 1906 he published in the *Journal of the American Medical Association* a suggestion for the modification of the technic of kidney-fixation which was intended to be added to suture methods and all other methods of support which might be advised. It consists essentially in delivering the kidney as usual through the torn fascias and fatty capsule, then closing the opening

EXCISION OF THE HEAD OF THE HUMERUS

from which the kidney emerged by catgut sutures of the fat and fascia below. It will now be found that the kidney cannot be put back into the body; a new bed for it is made by blunt dissection close to the muscles of the back and above the incision, after which the usual method of suture of the kidney to the parietes is carried out and the external wound is closed. Where this technic can be carried out he believed that a better support is obtained and a better cushion of fat formed below the kidney. This does not interfere with any other technic, but is an addition to it.

He had notes on 21 cases of suspension of the kidney within the last seventeen years. Within the short time since receiving notice as to this discussion, he had been able to hear from and examine several of these and the condition of all except 5 is known. All recovered from the operation. One, performed seventeen years ago, is known to have relapsed; she, however, had a greatly relaxed and pendulous abdomen; has had 4 children since the operation. She was relieved of very severe attacks of dislocation with kidney prominence, extreme pain accompanied on one occasion by bloody urine; eleven years later there was but little descent of the kidney, but at present it has a large range of motion, although there are no crises.

One patient, with no other trouble, operated eleven years ago, writes: "I have no discomfort; have since married, and have two children, and attribute present well-being to the operation."

Another examined a few days ago was operated in 1903 (fourteen years ago); she has had 3 children since; does more work than ever before and is "feeling splendid"; present weight 145 pounds. Before operation the left kidney was below the navel; she had crises of abdominal pain usually produced by exertion; several attacks with a palpable lump over the kidney and severe pain. She was symptomatically cured and remains so to date. In this case part of the fatty capsule was removed.

Another extremely grateful patient has regained her health completely, but in addition to the kidney suspension she had a Coffey operation for viceroptosis. The right kidney was 2 inches below the navel. She has regained her health and capacity to work as a foreign missionary. She remains well; kidney was examined more than a year after fixation and found in good position.

In his general experience there has been little occasion to regret the operation largely because the cases have been selected. As far as known there has been only one absolute failure to secure improvement beyond a few months; this was in a young working woman of a highly neurotic temperament and probably many other elements entered into the condition. At the present time probably this operation would not be done.

In conclusion one might say that it is an operation to be undertaken only after careful study and where other measures have failed to afford relief; but in the selected cases it is well worth while.

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DR. T. TURNER THOMAS read a paper describing a new method of excising the head of the humerus, for which see page 492.