TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting Held December 5, 1927

The President, Dr. Charles F. Mitchell, in the Chair

HÆMOPHILIA IN AN ADULT

Dr. Paul A. Loefflad, by invitation, presented a man, aged forty-four, from the Surgical Service of Dr. Alfred C. Wood at the Philadelphia General Hospital, who was admitted November 7, 1926, complaining of pain and swelling of the right hand. Two weeks before admission he had struck the little finger of the right hand, resulting in an infection which involved the hand and forearm. Hot applications of magnesium sulphate were applied and the infection subsided without any incision, which was delayed due to his hemorrhagic disease. Physical examination revealed several lacerations of the scalp resulting from previous injuries. There were many missing teeth and the remaining ones were carious. Examination was otherwise negative, except for a small mass in the left inguinal region. The external abdominal ring on the left side admitted the examining finger and an impulse was felt upon straining. A blood count revealed: hæmoglobin, 80 per cent.; red corpuscles, 3,500,000; white blood corpuscles, 10,000. A differential count: polymorphonuclears, 59; lymphocytes, 29; transitionals, 4; eosinophiles, 8 per hundred cells. Coagulation time, 12 minutes; bleeding, 2 minutes; platelet count, 30,000. Blood sugar, 118; urea, 14; uric acid, 3.4 per hundred mg. of blood. Wassermann negative. For one week before operation Ceanothyn in four dram doses was administered by mouth every 4 hours. After four days the coagulation time had fallen from 12 to 8½ minutes. On the day previous to operation 500 c.c. of citrated blood was given intra-abdominally. The coagulation time on morning of operation was 6 minutes and the bleeding time 2 minutes. December 15, the left direct hernia was operated upon following the Bassini technic under open-drop ether anæsthesia. On the day following the operation 500 c.c. of citrated blood were again given. The patient developed a large hæmatocele post-operatively, but otherwise there was no bleeding or other complication. He was discharged January 26, at which time the coagulation time was 7 minutes and the bleeding time 2 minutes.

The patient was readmitted October 14, 1927, with a large bleeding wound of the scalp and pain in both knees. While sleeping in a cot he had fallen to the floor, striking his forehead and both knees. Examination revealed a lacerated wound of the right side of the forehead and swelling, pain and limited motion of both legs. Considerable difficulty was encountered in attempting to arrest the bleeding. Parathormone, 1 c.c. intramuscularly, was administered daily, which lessened the amount of oozing. Tight bandages were applied to the knee-joints in preference to tapping for fear of more hemorrhage. After a week of oozing from the scalp wound, the bleeding subsided. There was considerable limitation of motion in both knees upon discharge. X-ray of both knees revealed no changes in the bony structures. The coagulation time on admission was 12 minutes and on discharge 10.

At the present time there is full motion of the left leg with some limitation of flexion and extension of the right leg. There is also a small mass about the size of a walnut in the left scrotal sac, just above the testicle, which is probably an organized blood clot, the remains of the hæmatocele. There is no evidence of recurrence of the hernia. The family history of this patient shows that one brother died following a nephrectomy. He was also a bleeder. A sister has one son now under treatment for hæmophilia while another sister has lost a son following a circumcision. The patient's own history is that he has been admitted ten times to the Philadelphia General Hospital suffering either from lacerations or hæmatomata. Twice he was admitted following the extraction of teeth with resulting uncontrollable hemorrhage. Another time he was admitted with an incarcerated hernia. At the time of admission there was no evidence of obstruction or gangrene of the incarcerated loop, so that it was deemed advisable, in view of the hemorrhagic disease, not to interfere surgically. At present he has still a slight oozing from his scalp wound whenever the dressings are changed.

UNDESCENDED TESTICLE—TOREK OPERATION

Dr. K. P. A. Taylor, by invitation, presented a patient, a negro boy, aged five, from the Surgical Service of Dr. A. C. Wood, at the Philadelphia General Hospital, with an undescended testicle. The first stage of an operation for its correction had been done six weeks before. The procedure used was that devised by Torek and later used by Willy Meyer and others and described by Meyer in *Surgery, Gynæcology and Obstetrics,* January, 1927. The operation differs in no way from the Bevan operation, except in so far as the measures undertaken for the control of contraction of the cord and testicle post-operatively. The usual hernia incision is made with dissection of the vas and cord, with complete separation of the blood-vessels of the cord from the surrounding fascia; by way of retention of the testicle, an oblique incision is made in the undeveloped half of the scrotum and another corresponding incision through the skin of the thigh, exposing the fascia lata. The posterior margins of these two incisions are united by interrupted sutures. The anterior margins of the wound are closed so that the testicle is covered in a pocket and secured to the fascia lata. The testicle appears to be in the scrotum. Special precautions were taken to avoid soiling; an indwelling catheter being used and the wounds sealed with collodion. Moskowicz reported the end results of 405 cases of undescended testicle and expressed disappointment with the end results secured. The operations were conducted according to the principle of Bevan; in some cases, the vessels of the cord, with the exception of the artery accompanying the vas itself, were dissected in order to permit the necessary lengthening of the cord. Coley in a paper two years ago expressed disappointment with the end results of the operation. The operation under discussion devised by Torek has been employed in 64 cases reported from the Lenox Hill Hospital in New York with satisfactory results. The speaker regarded Doctor Meyer's conclusions as ambiguous, in that he states that all the patients were satisfied with the results obtained and yet he admits that only 35 cases were followed to a logical conclusion. The results in these cases, however, were satisfactory. This is a higher percentage than usual. Meyer thinks that the second stage of the operation should be undertaken five or six months after the first. It is his opinion that from three to five months are necessary to insure the cord against final retraction.

DR. JOHN H. JOPSON remarked there is no reason to be dissatisfied with the results of the Bevan operation in the majority of cases. The speaker has been following the development of this operation for a number of years and has been amused by the change of ground taken by certain men as to the finer details of the operation. He considered it a mistake to divide the spermatic artery and vessels of the pampiniform plexus before puberty, when everything would seem to indicate the necessity for conserving the blood supply. One very necessary step consists in lengthening the cord by anatomical dissection and severing of all the fasciæ included in it. Davidson advised following the vas deferens into the extraperitoneal space, and abolishing its curve over the peritoneum. A still more useful development was the contribution whereby the spermatic artery was followed up and freed behind the peritoneum, its shortness being the main obstacle to bringing the testicle down. There have been very amusing suggestions for correction by traction, such as a suture through the testicle and scrotum with a rubber band attached to it and attaching the rubber band to a child's toe so that constant traction would correct the condition. Any attempts to retain the testicle in position by suturing it to the bottom of the scrotum are futile, unless the cord has been properly lengthened. In only a few cases has it been found impossible to bring the testicle well below the spine of the pubes. If it is gotten there and if the external ring is made small enough, it will stay outside the canal.

DR. A. P. C. ASHHURST remarked that no one has mentioned Ombredanne's operation. This procedure is popular in France but is not followed much in this country. It is based on the principle that if the mountain will not go to Mohammed, then Mohammed must go to the mountain. It consists of an inguinal incision and dissection, as usual, and then the making of an incision in the opposite side of the scrotum, and drawing the testicle through this buttonhole to the other side of the scrotum. The testicle is fixed to the septum, and the opening in the septum is reduced in size by sutures, so that the testicle will be unable to draw back again. If the testicle will not reach the scrotum, the scrotal septum is pulled up to the testicle at the external ring; but gradually the testicle is drawn down during convalescence. If the condition is bilateral, then the right testicle is placed in the left scrotum and the left testicle in the right scrotum. The speaker never had much success with the ordinary operation, in making the testicle stay down where it belonged, but since using Ombredanne's method he has found the testicle stays well down in the scrotum. Doctor Ashhurst has done the double operation upon one patient only, but the testicles seem to be staying down nicely. The patient and his parents are entirely satisfied with the result. It is a simpler operation than the method described by Doctor Taylor, being done at one sitting; and as far as he knows the procedure has been found to accomplish the desired result.

DR. K. P. A. TAYLOR remarked that Doctor Meyer in reporting his cases pointed out that the operation was not to be considered one of traction.

Keetly had described a similar incision several years before, using a longitudinal instead of an oblique incision and suturing the testicle to the fascia lata under tension. In the present instance, emphasis was placed upon the importance of very high dissection of the cord, complete separation of the vas from the spermatic vessels and pursuit of the vas as close to its termination as possible and following of the vessels of the cord to at least two and one-half or three inches retroperitoneally—as far as could safely be accomplished. This is not in any sense an attempt to lengthen the cord by traction; it is simply an attempt to hold the testicle in place until such time as the structures become accustomed to their new position.

DEFORMITIES OF THE MANDIBLE

Dr. Robert H. Ivy presented two patients with deformities of the mandible.

Case I.—A boy, fourteen, who when eleven months old fell out of a baby coach, after which it was seen that he had bruises on the left side of

Fig. 1.—Profile view before operation showing retrusion of skin.

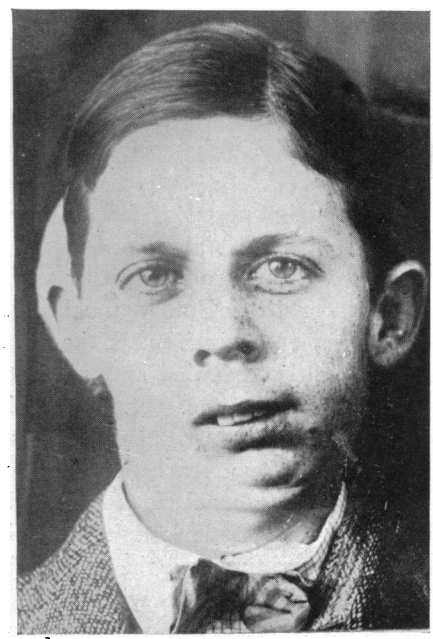

Fig. 2.—Deviation of chin to left.

the face. An abscess developed in the temporal region shortly after the accident, but no bone was exfoliated. As he has grown older his parents have noticed that his lower jaw has not grown straight.

Examination on November 30, 1926, showed with the mouth closed, a deviation of the chin to the left side, with a rounded appearance of the left side of the face and flattening of the right side. (Fig. 2.) The upper front teeth protruded far in advance of the lower, and the chin was markedly

retruded. (Fig. 1.) The patient could open the mouth to about the normal extent, indicating no lesion of the mandibular joint, but the whole lower jaw and teeth swung toward the left on opening. (Fig. 3.) The distance from the left mandibular condyle to the symphysis menti was about 2 cm. less than that from the right condyle to symphysis. The X-ray showed no evidence of a lesion of the condyle. The left ascending ramus appeared to be thicker and shorter than normal.

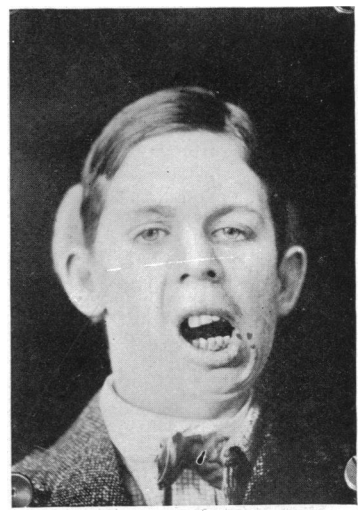

FIG. 3.—Deviation of jaw to left on opening mouth.

The appearance of the boy's face was typical of that seen in cases of unilateral ankylosis of the mandibular joint occurring in early childhood. The absence of ankylosis made probable a diagnosis of old fracture of the left ascending ramus somewhere below the joint with shortening and good union. This case bears out my observation that ankylosis is only to be feared in fractures involving the joint and head of the condyle, and that in fractures through the neck of the condyle and below, it is unnecessary to take any steps to avoid ankylosis, although with union, lateral deviation of the chin from shortening may occur.

The problem in this particular case was to lengthen the left side of the mandible bringing the chin to its normal position forward and medially, and by this at the same time to correct the malrelationship of the lower dental arch with the upper. This was accomplished by section of the left side of the jaw, allowing the chin fragment to be drawn forward, and subsequent filling of the gap thus produced by means of a bone graft. The first molar teeth having been previously lost by caries, this edentulous region seemed to be the most favorable site for the section. Before the operation, wire arches were attached to the upper and lower teeth to provide for fixation in the corrected position. December 10, 1926, under ether anæsthesia, small skin incision was made at the left lower border of the mandible beneath the first molar region, and a Gigli saw was introduced on the lingual side of the bone until one end protruded into the mouth. By this saw the bone was divided vertically, thus permitting the chin to be pulled forward and to the median line,

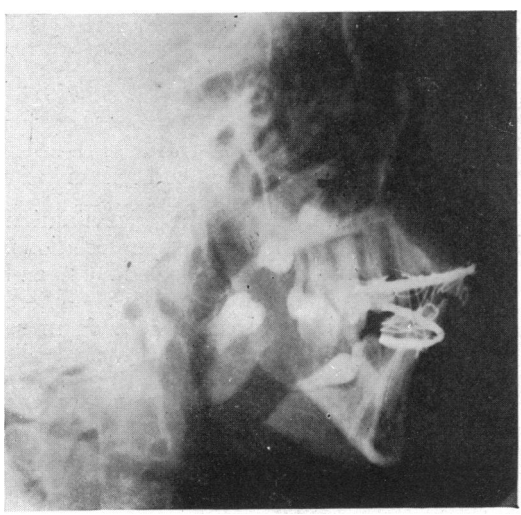

FIG. 4.—Radiograph showing gap in mandible after osteotomy.

bringing the teeth into approximately correct occlusion. The teeth were then fixed in occlusion by means of wires connecting the upper and lower arches. The external incision healed by primary union. After twelve weeks of fixation in this manner the mucous membrane had thoroughly healed over the site of the osteotomy and the X-ray showed a gap of 2 cm. in the mandible caused by drawing forward the chin. (Fig. 4.) March 11, 1927, under ether-oil colonic anæsthesia, the gap was exposed by an incision beneath the border of the jaw, the bone ends were freshened and three flexible strips of osteo-periosteal graft from the left tibia were laid between the fragments. The wound was closed without drainage and healed with no complications. (Fig.

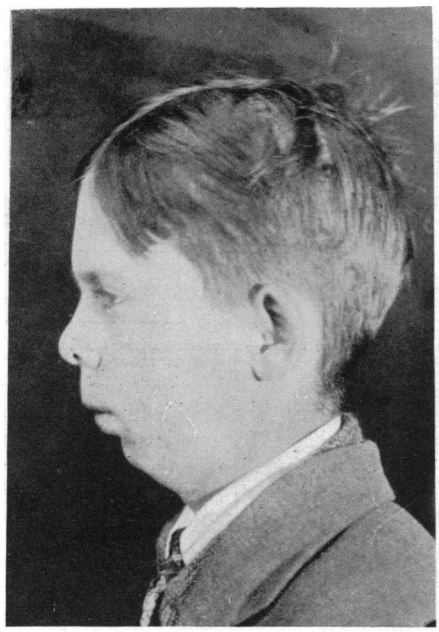

FIG. 5.—Profile after operation. Chin has been drawn forward.

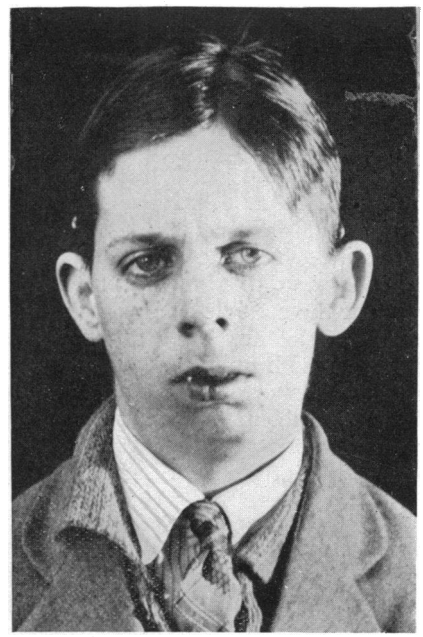

FIG. 6.—Chin restored to median lines.

7.) Union was found to be complete in 12 weeks and the wire fixation was removed from the teeth, which then maintained their proper relations. The chin stayed in its forward and median position (Figs. 5 and 6), and there was no interference with opening and closing of the mouth. There remained a flattening of the right side of the jaw, which was made more symmetrical by laying over its outer surface a strip of osteoperiosteal graft from the right tibia, on July 8, 1927. Examination at the present time shows great improvement in the appearance of the face and in the relationship of the teeth for mastication. Further correction of the malocclusion can be brought about by orthodontic means.

Particular attention to the correction of this type of deformity has been given by V. P. Blair and V. H. Kazanjian in this country, and by A. Limberg, Leningrad, A. Lindemann and C. Bruhn, Dusseldorf, and H. Pichler, Vienna.

CASE II.—A man, twenty-eight, July 20, 1924, met with a very serious automobile accident, sustaining comminuted fractures through the body of the mandible on both sides. Loss of bone by sequestration left ultimate healing with about 2.5 cm. loss of substance on each side. During the period

of healing, collapse of the symphysis was prevented by fixation of the upper and lower teeth with interdental splints. This part of the treatment was carried out by Dr. Joseph D. Eby, of New York. In August, 1925, he had a double iliac grafting operation in New York. The graft on the left side exfoliated, while that on the right underwent some absorption and did not bring about union.

On May 20, 1926, examination showed the symphysis portion of the mandible to be freely movable, with a gap in the left side of the body about 2.5 cm. long. On the right side the X-ray showed the partly absorbed remnant of an iliac graft without union to the mandibular fragments. Even though the lower teeth were held in relation to the upper by splints, some retrusion of the chin was visible externally owing to slight backward displacement and to atrophy of overlying soft tissues. Hollows in the soft tissues were also visible externally over the ascending ramus on each side.

May 21, 1926, under ether-oil colonic anæsthesia, through a skin incision beneath the lower border of the mandible on the left side, the gap in the bone was exposed, the ends of the bone fragments were freshened and a graft from the crest of the left ilium was laid in the defect, with its ends in good contact with the mandibular fragments, being attached to the latter by means of soft brass wire sutures. The wound was closed without drainage. On the right side, a similar incision was made and scar tissue over the remnants of the old iliac graft and the mandibular fragments was dissected out, exposing fresh bone surfaces. The partly atrophied graft was not removed. The fresh bone surfaces were then overlaid with three strips of osteoperiostium from the right tibia, and the wound was closed in two layers without drainage. Doctor Eby's splints were left in position for three months, fixing the upper and lower teeth together. At the end of this time firm bony union was found on the right side. On the left side some motion was still present at the posterior end of the iliac graft and the latter was reënforced by a strip of osteoperiosteum from the left tibia, laid over it. After two more months of fixation by the interdental splints, the latter were removed and firm union on both sides was found. The function of mastication was quickly restored as motion was permitted. There still remained the retrusion of the chin and the hollows over the posterior portion of the mandible. In November, 1926, the prominence of the chin was restored by a piece of costal cartilage suitably shaped and inserted in contact with the anterior surface of the symphysis through an incision just beneath the point of the chin. Uncomplicated healing followed. February 25, 1927, the hollows over the ascending rami were plumped out by embedding strips of fascia lata from the left thigh into subcutaneous pockets.

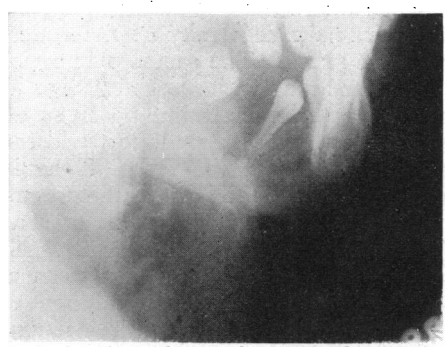

FIG. 7.—Radiograph showing gap in bone filled by osteoperiosteal graft.

The nature of this man's occupation (life insurance) demands a good personal appearance. Though perhaps physically able to gain a livelihood after union of the mandibular fragments, it was only after the cosmetic chin operation that his morale was sufficiently restored to enable him to return to his work with full confidence.

The case is somewhat unusual in that we were obliged to transplant tissue from four different sources.

MASSIVE COLLAPSE OF THE RIGHT LUNG FOLLOWING NEPHRECTOMY FOR LEFT-SIDED HYDRONEPHROSIS

DR. LEON HERMAN reported the case history of a lad of seventeen years, who had an initial attack of left-sided renal colic three years ago. Since that time he has had six attacks, the last one June, 1927. He was admitted to the Pennsylvania Hospital, September 22, 1927. There has never been gross hæmaturia. A cystoscopic examination was made on the day of admission with the following findings:

The urethra is small, admitting only a Number 18 F. scope. The bladder is tolerant and of large capacity. There is a deformity of the trigon which in the absence of scarring is in all probability of congenital origin. The left urethral orifice is normal in appearance but is small and displaced upward and to the left. The right ureteral orifice is in the midline of the bladder. The vesical mucosa is normal throughout. The interureteric bar is greatly thickened and there is marked generalized trabeculation present. There is an extraordinary deformity of the outlet due to the intravesical invasion of the prostate gland. The cystoscopic appearance of the sphincteric margin is that of an aged man with marked benign hypertrophy of the prostate—there being a deep anterior cleft but no signs of median bar of lobe formation. The gland by rectum is small, soft and smooth. A Number 5 catheter met with an obstruction at the level of the left uretero-pelvic junction. This was easily overcome and the catheter entered a large hydronephrotic sac from which 160 c.c. of clear urine was aspirated but the sac was not emptied. This urine was normal and sterile. The differential functional studies showed a faint trace of the dye in sixteen minutes and less than five per cent. in one-half hour. The right kidney was normal and apparently supporting life unaided. Following this instrumentation which included the production of a pyelogram, the patient developed abdominal pain and distention, a large tender mass in the region of the left kidney, fever, leucocytosis and vomiting. The pyelogram had been made after injecting 75 c.c. of twenty-five per cent. sodium iodide solution, the strong solution having been used in the belief that it would diffuse through the contents of the sac and give a more detailed picture. September 26 a catheter was introduced into the left kidney and ten ounces of cloudy bloody fluid aspirated. This contained forty-five pus cells to the high power field and a non-hæmolytic staphylococcus was cultured from the fluid. The catheter was retained in the kidney for several days for drainage and the patient rapidly improved.

October 1, nephrectomy was performed under ether anæsthesia. The pre-operative diagnosis of hydronephrosis due to an anomalous vessel crossing the ureter was not confirmed, but the upper ureter crossed a band of fibrous tissue which in all probability contributed to the obstruction. The patient was cyanotic from the outset, and when the adherent kidney was freed from the discharge and opened during the procedure the condition of the patient became alarming. The operation was completed quickly and after stimulation with atropine and subcutaneous salt infusion he reacted. After being kept in the operating room for one hour after the conclusion of the operation, conditions were entirely satisfactory. The convalescence was uninterrupted until October 3, when the patient complained of pain in the right chest and dyspnœa. There was some cough with blood-tinged sputum and it was found that expansion of the right chest was very limited. The physical examination revealed consolidation of the right lung and hyperresonance of

the left one. The heart was displaced far to the right. X-ray examination confirmed the clinical diagnosis of massive collapse of the lung. The patient was treated expectantly; no bronchoscopic examinations or treatment being employed. Recovery was uneventful and the patient was discharged November 1. X-ray examination at that time showed the lung to be normally expanded.

DR. C. F. MITCHELL said that it is always a grave question in such cases whether or not to use the bronchoscope. It is a temptation to leave them alone in the hope that they will get well, but there is no doubt that they are benefited by bronchoscopic treatment and recover sooner if this sticky mucus is removed.

DR. D. B. PFEIFFER said that Sante, of St. Louis, recently reported that he had been successful in clearing up collapse of the lung by the simple expedient of rolling the patient onto the unaffected side and having him cough. In several cases reinflation of the collapsed lung occurred within a few minutes in very dramatic fashion. This is a simple measure, almost always practicable and is worthy of extended trial. It is noteworthy that the atelectasis in Doctor Herman's case occurred on the contralateral side from the lesion which seems to be the invariable rule in operations upon one kidney. The significance of this seems to lie in the fact that collapse occurs in the dependent lung; the operative and frequently the post-operative posture being the lateral one. Scott and Joelson, in the last issue of the *Archives of Surgery,* have reported a case in which massive collapse occurred in the same patient following successive operations for bilateral renal calculus. In each case collapse developed in the dependent lung. Whatever influence may be ascribed to nervous reflexes in the development of this curious condition, it is certain that the dependent position favors both venous and capillary congestion and bronchial occlusion by retained secretions. The reverse position, therefore, has much to recommend it in both prevention and cure.

OPERATIVE RELIEF OF EXTRA-UTERINE PREGNANCY

DR. HENRY P. BROWN, JR., read a paper with the above title, for which see page 581.

DR. JOHN M. FISHER said that very early in an ectopic pregnancy, as early as four weeks, blood can be found extravasated into Douglas' pouch; and when in doubt as to diagnosis an incision can be made in the posterior cornu, and if blood is found, it is a strong evidence of the existence of ectopic pregnancy. Another thing to which Doctor Brown did not call attention is the tenderness of the cervix which is found as a rule in cases of unruptured ectopic pregnancy. Quite frequently, we find such a condition present at the third or fourth week. Another feature is that pulsation of the uterine artery on the pregnant side is much more distinct than on the opposite side. Since accurate diagnosis of the location of rupture cannot be made, Doctor Fisher feels that the best thing in ruptured extra-uterine pregnancy is to do an immediate operation. Regarding the giving of blood transfusion or intravenous injections before operation, he thinks this is a mistake; if there

is a bleeding point in the abdomen, the vessels are filled the more the bleeding increases. If given at all, the best time is just before operation is begun and then by the time the surgeon gets into the abdomen, the transfusion will have been given without detriment to the patient. As to leaving blood in the abdomen following operation, this is quite the proper thing to do. It avoids unnecessary delay in getting the abdomen closed; the sterile blood is absorbable and aids in the patient's recovery.

HARELIP AND CLEFT-PALATE

DR. WARREN B. DAVIS read a paper entitled "A Study of 425 Consecutive Harelip and Cleft-Palate Cases," for which see page 536.

Dr. R. H. IVY said that his experience with this work is limited as compared to the essayist, covering not more than a hundred cases. He can recall at least three colored children in his series, as compared to only one recorded by Doctor Davis. This is accounted for by the fact that most of his work has been done at the Polyclinic Hospital, where a large proportion of negroes are seen. Doctor Davis brought out an interesting observation bearing on heredity, which the speaker had not seen mentioned elsewhere, viz.: the large proportion of cases where collateral members of the family lacked maxillary second incisors. Doctor Davis mentioned three cases in his series in which the lip and palate cleft was accompanied by pits in the lower lip. The speaker has observed these in at least a dozen cases. Enlarged thymus is not infrequently found in babies with clefts of the lip and palate, and of course adds to the operative risk. Attention is called to this in a recent paper by J. A. Henske, of Omaha, in the *Journal of American Medical Association,* November 12, 1927, page 1666, who advocates routine X-ray examination for this condition. Pre-operative X-ray examination for enlarged thymus in cleft lip and palate cases is also routinely carried out in the clinic of Lyons, of Ann Harbor. One enlarged thymus has occurred in the last four cases in Doctor Ivy's clinic.

Regarding the technical procedures, the time of operation suggested by Doctor Davis for the various types of deformity is in accord with the general opinion, *i.e.,* to close the anterior part of the cleft in the lip and alveolus before three months of age, and the posterior part from eighteen months to two and a half years of age. Closure of the lip alone in most cases will take care of the cleft in the alveolar process without making a greenstick fracture or putting wire through this portion of the bone. If extreme care be not used in bringing back the protruding premaxilla, either in single or double cleft, it is apt to be carried too far back, with resulting flat upper lip. Where a V-shaped piece of the vomer is removed in double cleft with protruding premaxilla, rotation is apt to cause the incisor teeth after eruption to project backward instead of downward and slightly forward. The speaker prefers to slide the protruding bone downward and backward without rotation. He has not found that on-end mattress sutures for the mucoperiosteum of the hard palate cause sloughing, but rather favors union by bringing broad

raw surfaces together. In bringing the horizontal bony plates of the palate together, the speaker wished to ask how the holes through the bones for introduction of the wires were made.

DR. W. B. DAVIS remarked that there are many points which show the individual differences in operative technic. Doctor Ivy's experience with the mattress sutures differs from his; also the different types of cases in the two series. In regard to rotation of the premaxillary bone, the speaker is careful not to remove too large a section and estimates the base of a triangle just sufficient to allow the rotation necessary. In one case seen several years ago, in which an attempt had been made to repair the lip deformity, the incisor teeth were going through the upper lip; that is the other extreme. The suture through the bony flaps is another advantage in the two-stage operation. Some years ago Doctor Davis tried the method of Rowe who advocated operation in one stage; he had little drills and put the sutures through with small straight needles and a specially devised needle holder. It is surprising how much these pieces of bone soften up in one week, as shown by the two-stage operation. Now the speaker uses a curved needle and carries the wire through from one side and catches it with a specially devised hook like a crochet needle on the opposite side.