

## INSTRUMENTS FOR OPENING THE SKULL.

DR. WILLIAM W. KEEN exhibited an apparatus, consisting of a brace with four bits, devised by Dr. W. H. Hudson of Montgomery, Alabama. The peculiarity of the first two (the smaller) bits is that one can penetrate through either a thick or thin skull as far as the dura and the bit will go no farther. The others are globular bits and they will penetrate, but they are provided with a slight button on the end so that when the entire thickness of the skull is penetrated, even if the middle meningeal be directly under the drill, it will be pushed off, provided it is not in either a narrow groove or in a foramen. If it is, of course any drill would cut it just exactly as the ordinary saw or chisel would. The advantage of these bits is that one can very quickly make four openings and then can add three more, intermediate openings if desired, and introduce from one to the other a Gigli saw or bite the bone between them by Devilbiss' or other forceps as desired, turning down a flap in a very few minutes.

In Dr. Keen's opinion these bits provide the best means yet devised for opening the skull, having the safety of the chisel and the speed of the saw.

## STATED MEETING, HELD OCTOBER 4, 1909.

The President, DR. WILLIAM J. TAYLOR, in the Chair.

## STRANGULATED INGUINAL HERNIA IN A TWO-WEEKS' OLD INFANT.

DR. JOHN H. JOPSON reported the case of a two-weeks' old infant seen by him June 24, 1909, with a history indicating that a hernia had been down about 24 hours. Under taxis, reduction seemed to be effected, and a wool truss was applied. On the following morning the infant was brought to the Presbyterian Hospital with the hernia again protruding and fecal vomiting. Under chloroform, herniotomy was done. The edges of the sac were sutured with the edges of the canal and the external ring, a typical Bassini operation not being possible. Uncomplicated recovery. Dr. Jopson remarked that the strangulation of a hernia while not a very common accident in children, was proportionately more common in early infancy than in older children. It has been his experience that an operation is less frequently required to reduce a strangulation in infancy than is the case with adults. Hence taxis should always be given a trial in cases seen early, unless there is some distinct contra-indication. With regard to the frequency with which operation is required, it would seem that there has been a tendency to underestimate rather than to overestimate the number of cases that have called for operations. Coley quotes the statistics of Estor in this connection. Estor was able to collect 225 cases of strangulated hernia in children under two years of age, but found that in nine of the largest of the largest clinics of Europe the records showed not a single case. At the Hospital for Ruptured and Crippled only 17 had been operated upon in children, and of these 12 were under two years of age. Telford, as quoted by Ashhurst, collected 224 cases under four years that had been operated, and of these 112 were infants under six months, and 13 were given by Ashhurst as one month old. Fifteen cases were added by Ashhurst, the youngest 14 days, and the oldest 14 months. Dowd analyzed 125 cases under one year. It will thus be seen that the number of cases available for study is quite respectable. Mortality has been quite



low. While Estor's tables show a mortality of 23 per cent., much the same as in adults, both Coley and Dowd agree that this should be lower, the latter stating that it should not exceed 10 per cent. when the operation is done promptly. The case here reported is seen to be among the youngest, although operation has been done for strangulated umbilical hernia as early as the second day. Dr. Jopson had seen two other cases in very young children, one aged one month being under Dr. Wharton's care, and the other, aged two months, was seen with Dr. Hodge. The latter case was a case of strangulation of the ovary, which puts it in a class by itself, as the gut was not involved. All of these cases recovered.

DR. ASTLEY P. C. ASHHURST said that during the last year he had seen three children, one of six weeks, one of eleven months, and one of three years, in which he had diagnosed strangulated hernia and on whom he had operated with recovery. A fourth child, but four months of age, was then seen, with a history of the sudden appearance of a lump in the right groin, pain, vomiting, obstipation, and fever. Taxis had been tried but the lump could not be reduced. He thought this also to be a strangulated hernia, but on operation found a hydrocele of the cord!

DR. J. B. CARNETT said that the youngest patient he could recall ever having seen with incarcerated or strangulated hernia was a child about four years of age. For several days before admission to the University Hospital the child had abdominal pain, rigidity, fever, frequent passage of stools composed of mucus and associated with severe rectal tenesmus. On examination just prior to operation the child exhibited symptoms of extensive peritonitis. Tenderness was noted over the entire abdomen but was most pronounced over a right inguinal hernia which did not give any impulse on crying and which very gentle taxis failed to reduce. Under ether the hernia slipped back spontaneously. On opening the abdomen through a median incision there was found a wide-spread peritonitis due to a perforated appendix which was adherent by its tip to the rectum.

The hernia in this patient was not seriously considered as the primary cause of the patient's trouble. The child had been seen outside of the hospital by several competent physicians who could not have failed to observe the very obvious hernia had it been present from the onset of the illness. It therefore seems

probable that the hernia in this patient was forced out sufficiently to become incarcerated by the abdominal straining incident to severe rectal tenesmus.

The case belongs to a type of hernia which may easily lead to an error in treatment, viz., that class of cases in which a very evident strangulated or incarcerated hernia might account for all the symptoms presented at the time of examination but in which careful questioning will elicit the fact that the hernia developed secondary to some other cause for abdominal straining. Operative treatment may be necessary for relief of the hernia but is often more urgently imperative for the primary abdominal condition, the symptoms of which have been masked by the strangulated or incarcerated hernia. In the absence of an exact history the underlying primary condition may readily be overlooked and may be the cause of a lethal termination despite a skilfully performed operation for hernia.

#### ILEUS DUE TO GALL-STONE.

DR. CHARLES F. MITCHELL exhibited a gall-stone removed at the Pennsylvania Hospital, in the service of Dr. Hutchinson, from a woman, aged 61, who gave a history of having been sick ten days, the only symptoms being vomiting. On admission she had a normal temperature; pulse 120, very weak and compressible. The vomitus was fecal in character. This had been going on for some hours. She had no abdominal distention or tenderness, and no rigidity, the only symptom being the fecal vomiting. She said she had a distressed feeling in the abdomen. The abdomen was opened by an incision in the upper right rectus; the peritoneum was found perfectly normal; she had very fat abdominal walls, about four inches in thickness and took ether very badly. The hand introduced into the abdominal cavity immediately came down on a mass in the small bowel high up either in the upper part of the ileum or in the jejunum, and this mass proved to be a gall-stone. A small incision was made in the bowel wall, over the stone, through which the stone was removed, but the patient died a few hours later.

DR. JOHN H. GIBBON said that last spring he operated upon a case presenting symptoms quite similar to those of Dr. Mitchell's case. The patient was an old lady 68 years of age, in whose case, three months previously, he had diagnosed gall-stones and ad-



vised operation. She was taken rather suddenly ill with severe abdominal pain, persistent vomiting, and marked exhaustion. Dr. Stengel saw her on the day of operation with her physician, Dr. Mary Griscom, and thought that in addition to the gall-stone condition she probably had an acute pancreatitis. When seen by Dr. Gibbon she was very much exhausted, but her circulation was good and there was a very little rigidity and tenderness in the upper right quadrant; the rest of the abdomen was soft. The tenderness was not as marked in the gall-bladder region as it had been during the three months previous. On opening the abdomen through the upper right rectus the gall-bladder was found densely adherent to the duodenum. On separating the structures a large hole was found in the duodenum and a corresponding one in the gall-bladder. There was considerable induration around the openings; and on closing it was found that the duodenum was practically obstructed, so that a gastro-enterostomy was done. The patient continued to vomit considerably during the next twenty-four hours but gradually improved in spite of an infection of the wound. On the sixth day she passed two gall-stones, one of enormous size, quite as large as the one shown by Dr. Mitchell. The patient made a good recovery and is well to-day.

Persistent vomiting, with a flat and soft abdomen, is indicative of some obstruction high up in the intestinal tract.

#### INTRAPERITONEAL HERNIA OF ILEUM THROUGH RENT IN MESENTERY.—ADHERENT MECKEL'S DIVERTICULUM.

DR. A. P. C. ASHHURST reported the history of a boy of 12 years who had never been sick, who fell and hurt his hip. On the following day he ate two large bunches of grapes, a quantity of chocolate cake, and soon afterward developed pains in his stomach, then vomited. For three days symptoms of obstruction of the bowels continued unrelieved by medical treatment. He was then admitted to the Episcopal Hospital in the service of Dr. Frazier, to whom Dr. Ashhurst was indebted for the privilege of operating. On admission the patient had a temperature of 103°, the abdomen was distended, he was vomiting feces and passing blood and mucus from the bowel. When this child was examined, the umbilicus did not look normal,—it seemed large and thin, suggesting the possibility of the presence of a Meckel's diverticulum. An incision was made in the middle line below the

umbilicus. On opening the abdomen the omentum was adherent. On freeing the omentum there was a gush of fecal smelling bloody fluid, from the escape of which a black coil of gut was seen lying in the pelvis. This was pulled up, and seemed like a volvulus; on turning it up there appeared on the under side a Meckel's diverticulum about as thick as two fingers, not quite as long. Something snapped, and the diverticulum with a long cord attached to its tip came out of the wound. The gut was then carefully packed off and examined. There seemed to be some constriction preventing reduction of the volvulus, and as the entire loop was gangrenous and the constriction could not be relieved, it was decided to take the whole thing out. When the

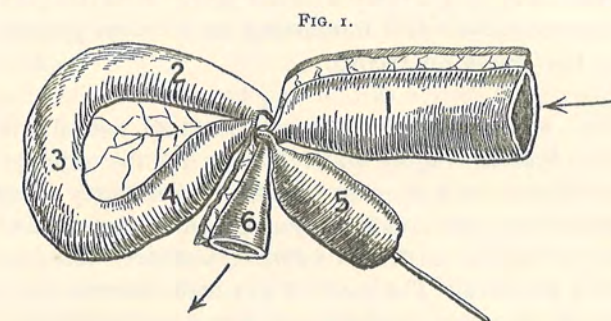


FIG. 1.  
Volvulus of loop of ileum strangulated in opening in mesentery, complicated by Meckel's diverticulum. The arrows show the normal fecal current. The loop of ileum (2, 3, 4) has passed through an opening in mesentery until arrested by drag on Meckel's diverticulum (5), which springs from ileum at junction of 4 with 6, and which is attached, through fibrous cord running from its tip, to anterior abdominal wall in left hypogastric region.

clamps were applied for resection the gangrenous bowel burst, but the discharge occurred only on the gauze packs. The affected portion of intestine, from 14 to 18 inches, was resected, and an end-to-end anastomosis was done; the pelvis was drained by a glass tube, and the operation hastily completed (time 40 minutes) as the child was in very bad shape. Death occurred three hours later.

It took a long time to determine what the specimen was. Finally the conclusion was reached, after careful study, that there had been a hole in the mesentery and through that the ileum had gone from the upper surface of the mesentery downward as far as it could until it was caught by the base of Meckel's diverticulum. As the diverticulum was attached to the abdominal wall it could not get through; the loop which had passed through the rent then became twisted on itself and gangrene followed.



**CERVICAL SUBCUTANEOUS CAVERNOUS  
HÆMANGEIOMA.**

WITH REPORT OF TWO CASES.

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INTERMUSCULAR cavernous hæmangeioma of the neck is sufficiently uncommon and interesting to warrant placing the following two cases on record.

CASE I.—A young woman, twenty years of age, first came under observation in August, 1907. Except for the ordinary diseases of childhood she had never been ill. Immediately following convalescence from an attack of mumps when the patient was eight years of age, a small soft swelling was first noted on the right side of the neck. The swelling gradually increased in size. Since 1905 it has been intermittently larger and smaller. The variations in size were apparently causeless and did not bear any relation to the menstrual periods. When small the swelling was symptomless except for the deformity, when large it produced moderately severe shooting pains in its immediate vicinity.

On examination the patient presented a tumor the size of a small hen's egg in front of the right sternomastoid muscle, just beneath the angle of the jaw. The overlying skin projected a little above the surrounding area, but was non-adherent and was normal in color. On palpation the swelling imparted the sensation of an accumulation of fluid under slight tension. During direct pressure by the fingers the tumor projected less prominently, but at the time of the examination this was supposed to be due to its being flattened. Except for its long duration the tumor corresponded to a deep-seated cold abscess. The possibility of hæmangeioma was not considered. A diagnosis of cyst probably of congenital origin, but possibly originating in the parotid gland secondary to the attack of mumps, was made before operation.

At four examinations covering a period of two months no appreciable change in the size of the tumefaction was noted.

The patient was operated upon at the University of Pennsylvania Hospital, October 30, 1907. A transverse incision through the skin and platysma exposed the tumor which presented an appearance similar to a vascular goitre. The dissection of the tumor from the surrounding tissues did not present any difficulties. Bleeding was free from one point where the tumor was nicked with the knife, but was easily controlled. The bleeding caused collapse of the tumor and facilitated its removal which was accomplished after clamping hæmostats on two small veins above and one below the tumor. On cross section the tumor resembled the erectile tissue of the corpora cavernosa. The platysma and skin were sutured in separate layers. The wound healed by first intention.

CASE II.—The second patient was a man twenty-eight years of age who had recently come to this country from Turkey. He had had a swelling of the neck from early childhood. The tumor increased slowly but steadily in size. At the age of fifteen years an exploratory incision was made under local anæsthesia but the removal of the tumor was not attempted. An immigration commissioner brought the patient to the Philadelphia Hospital to ascertain if the tumor constituted a legal barrier to his remaining in the United States. The patient was admitted on the service of Dr. Edward Martin through whose kindness I was permitted to operate.

The examination disclosed a rounded slightly elevated non-pulsating tumor of indefinite outline situated on the left side of the neck. It extended from the median line to the sternomastoid muscle and from just beneath the inferior maxilla to a line two inches above the clavicle. About the middle of the tumor was an unsightly ovoid scar resulting from the exploratory incision. The overlying skin did not present any abnormalities in color and was not adherent to the deeper tissues except at the scar. On palpation it simulated a fibrolipoma, being composed chiefly of soft tissue in which could be felt irregular fine bands and small nodules of firmer tissue. The tumor could be diminished in bulk by pressure but promptly regained its original size on relief of pressure. The most striking symptom was an enormous increase in size produced after deep inspiration by forced ex-



piratory efforts with the glottis or the mouth and nose closed. This is well illustrated by comparison of Figs. 1 and 3 with Figs. 2 and 4. The tumor would increase in size during the entire period of a single expiratory effort prolonged to the point of fatigue, but would not gain its maximum size until the patient had quickly taken a second inspiration and repeated the straining effort at expiration. In the short interval between the two expiratory efforts the tumor decreased but little in size. On cessation of straining the tumor shortly returned to its original outlines. Deep inspirations or direct pressure hastened the subsidence of the swelling. Pressure over the course of the internal jugular vein at the base of the neck caused a slight enlargement. Percussion over the tumor in its passive state yielded a tympanitic note practically identical with the corresponding area on the opposite side of the neck. When the tumor was fully distended the percussion note over it was still tympanitic but somewhat higher pitched than on the opposite side. Auscultation over the tumor during quiescence and during alterations in its size failed to elicit any adventitious sounds. The tumor did not give rise to any pressure symptoms. Examination of the mouth, pharynx and larynx failed to reveal anything abnormal. Examination of the pharynx while the tumor was fully distended was not made, but, as shown by the findings at operation, it probably would have revealed a bulging of the lateral pharyngeal wall. A diagnosis of hæmangioma was made prior to operation.

In March, 1908, a transverse elliptical skin incision so placed as to remove part of the old scar was made across the central part of the tumor. The platysma over its area of attachment to the tumor beneath the scar was not disturbed but elsewhere was dissected back with the skin flap. The angiomatous tumor thus disclosed was approached at its lower border and gradually enucleated from below upward. The anterior projection of the tumor lay in direct contact with the wall of the pharynx between the superior and middle constrictor muscles. After removal of the tumor from this region the pharyngeal mucosa flapped in and out with each respiration. The posterior portion of the tumor was situated beneath the sternomastoid muscle in close contact with but not adherent to the internal jugular vein and carotid artery. Seven veins about the size of the median basilic vein entered the tumor at various points along an arc extending

FIG. 1.



FIG. 2.

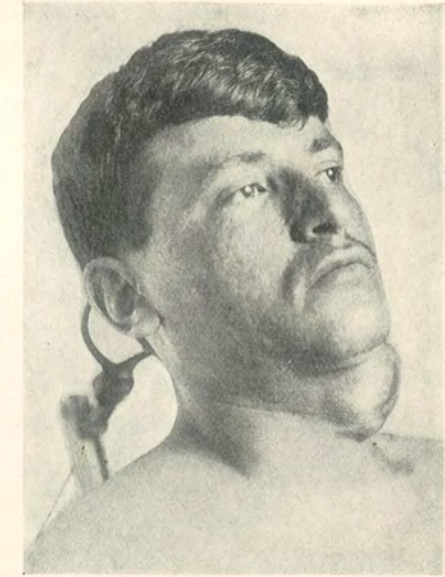
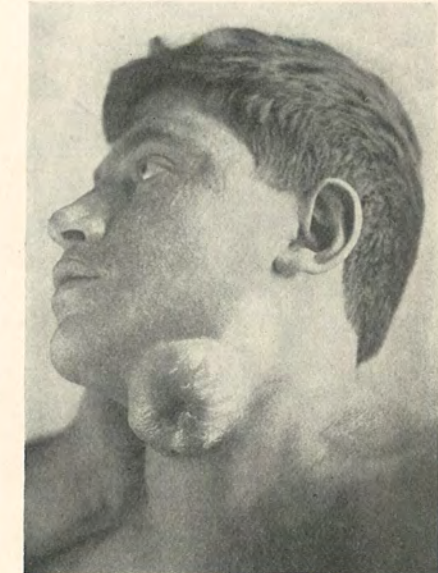


FIG. 3.



FIG. 4.



Figures 1 and 3 represent the tumor in passive state, and figures 2 and 4 the distended tumor.



from immediately below the hyoid bone to the angle of the jaw. A large venous trunk about three-fourths of an inch in length connected the deep surface of the tumor with the internal jugular vein on a level with the hyoid bone. Except for a few very fine arterioles there were no arteries entering the tumor. There was no true encapsulation of the tumor but the line of cleavage between it and the surrounding tissues was distinct and easily followed during the dissection. The operation was not difficult and was practically bloodless, but was somewhat tedious owing to the uncertainty of the conditions to be encountered. After excision of the tumor, the middle and superior constrictors were approximated with a few sutures to support the wall of the pharynx, and the platysma and skin were united in separate layers. The patient made an uneventful recovery.

Microscopical examination of the excised tumor revealed typical cavernous angioma with an admixture of fibrous and fatty tissue in both cases.

Cavernous hæmangioma is a vascular tumor having a structure similar to that of the corpora cavernosa. The intercommunicating blood spaces are punctiform to a pea size or larger and are lined with endothelium. The supporting connective tissue network in some instances may contain a small amount of smooth muscle fibres and elastic tissue. The blood spaces of the tumor have no connection with the capillaries of the surrounding tissues (Ribbert). The blood which circulates through the tumor is supplied usually by the venous system, rarely by the arterial. Cavernous hæmangioma may involve the skin, subcutaneous tissues, intermuscular tissues, muscles, bones and viscera. It occurs more commonly in the female sex. An hereditary tendency has been observed but not with sufficient frequency to be worthy of any great consideration. Trauma has been ascribed as a predisposing factor but it probably has served to direct attention to the lesion rather than to cause it.

Pathologists are by no means agreed as to the mode of origin of cavernous hæmangioma. Some regard it as a primary neoplasm and others advance numerous theories to



account for its development secondary to changes in the vascular and lymphatic systems and the connective tissue. Cavernous hæmangioma may be single or multiple. If multiple the individual lesions may be adjacent to one another or may occupy widely remote regions. Subcutaneous and cutaneous hæmangiomas occasionally coexist either in the same region or in widely separated areas. A cavernous hæmangioma may arise primarily as such or it may develop secondarily by transformation of a simple hæmangioma.

Subcutaneous cavernous hæmangioma has frequently been observed at birth, thus proving that it may be congenital. More commonly, however, it first comes under observation during childhood and occasionally later in life. Even these cases may be and probably are congenital in origin but escape attention owing to their deep situation and early latency or slow growth. As a rule, the first symptom to attract attention is the presence of a swelling which projects above the surface. The overlying skin is normal in appearance and is not adherent. A bluish tint is sometimes apparent through the semitranslucent skin of young children, particularly when the tumor is distended. Neuralgic pain from nerve pressure is sometimes present but is an inconstant symptom. The tumor is characterized by transient variations in its size depending upon the amount of blood contained in the cavernous tissue. Factors causing an increase in the general or local venous blood pressure as crying, coughing, straining, dependant position of the affected region and pressure on the efferent vessels produce an enlargement of the tumor which subsides as soon as the venous tension returns to normal. The size of the tumor can be diminished temporarily by direct pressure, by elevation of the part or by compression of the afferent vessels. The extent to which the tumor can be made to disappear by manual pressure depends upon the number and size of the blood spaces, the thickness of their intervening walls and the amount of connective tissue stroma. When fully distended the subcutaneous tumor imparts to the palpating fingers the sensation of a tense cyst. Depending upon

the relative proportion of vascular spaces and connective tissue stroma the flaccid tumor on palpation may simulate a cold abscess, a lipoma or a fibroma. Phleboliths when present are palpable as shot-like bodies. There may be a transmitted pulsation from an underlying artery and in the exceptional instances in which the hæmangioma has an open communication with an artery expansile pulsation and bruit are present. Hæmangiomas yield a flat note to percussion.

The clinical course of these tumors varies greatly in the individual cases. They may enlarge slowly or rapidly from the first or they may remain quiescent for years. Periods of rapid growth may alternate with periods of slow growth, latency or actual diminution. They rarely exceed the size of a man's fist. Continued growth may lead to coalescence of the central blood spaces and the formation of a blood cyst having a shell of cavernous tissue at its periphery. As the result of traumatism or infection a cavernous hæmangioma may become swollen, hard, tender, and irreducible. The inflammatory process may subside completely without having caused any demonstrable alterations in the angioma. Thrombi, however, may form in the blood spaces and in the blood-vessels connected with the tumor, and their subsequent organization will lead to a partial or complete cure. Some of the thrombi may become calcified and persist as phleboliths. Even in the absence of inflammation a hæmangioma may undergo retrogressive changes and spontaneous disappearance. A cavernous hæmangioma not infrequently may participate in the formation of a mixed tumor, particularly with a lipoma or fibroma. Rarely a hæmangioma may be the starting point of a sarcoma or an endothelioma. Cavernous hæmangioma of the neck may originate in the skin, subcutaneous tissues or intermuscular tissues. Intramuscular hæmangioma has never been reported in the cervical region. The deep seated hæmangiomas tend to extend toward the surface and the superficial to extend deeply so that long standing large tumors are prone to involve all three planes of tissue. Those which begin superficially, however, commonly show



a much greater extent of cutaneous involvement than those which originate in the deeper tissues. Strictly speaking, the two cases here reported, being situated beneath the platysma, belong to the intermuscular variety, but in the further description of these cases no attempt will be made to differentiate the intermuscular from the subcutaneous forms.

The subcutaneous cervical hæmangiomas when large may give rise to dysphagia, dyspnoea and dysphonia. An angioma is affected by respiratory straining in the cervical region to a greater degree than in any other part of the body. A hæmangioma located anterior to the sternomastoid muscle lies in such intimate relation with the trachea, larynx or pharynx that the percussion note over it is resonant or tympanic. A higher pitched note is obtained, however, (1) by percussion over the tumor than over a corresponding point on the opposite side; (2) by superficial than by deep percussion and (3) by percussion over the fully distended tumor than over the compressed tumor. The lesions most apt to be confounded with a cervical subcutaneous cavernous hæmangioma are aërocele, lymphangioma, aneurism, cysts, hernia of the lung, cold abscess, fibroma and lipoma.

A hæmangioma at the front of the neck may resemble an aërocele, in being resonant or tympanic, compressible and distensible; in causing disturbances of speech and respiration and in having its volume influenced by respiratory straining. In my second case it was only after repeated examinations that aërocele was definitely excluded. An aërocele, however, is somewhat more frequent in males and it occurs with about equal frequency at all ages, whereas hæmangioma is more common in the young of the female sex. Aërocele may give a preceding history of violent straining as during childbirth, prolonged coughing, traumatism, intralaryngeal or intratracheal ulceration or cervical abscess rupturing into the air passages. An aërocele has a direct connection with the trachea (tracheocele) or larynx (laryngocele) from which it cannot be displaced, whereas the angioma may not present any such intimate relation. Examination of

the interior of the larynx and trachea may reveal an opening communicating with the tumor in aërocele or possibly a bluish discoloration of the mucous membrane in angioma. The aërocele is more completely reducible than the angioma and its distention can be prevented by pressure over the point of its communication with the air passages. The size of the angioma is influenced by pressure over the vessels. As a rule, respiratory efforts produce a more prompt change in the volume of the tumor in aërocele than in angioma.

A lower pitched resonant or tympanic note is obtained by percussion over an aërocele than over the surrounding area or over the corresponding region on the opposite side of the neck. The percussion note is likewise lower pitched when the aërocele is distended than when it is collapsed. The reverse is true with an angioma.

Auscultation demonstrates adventitious sounds coincident with respiration in the aërocele and is negative in angioma except in the rare cases where the tumor has an open communication with an artery and then a bruit will be heard coincident with the pulse. A skiagraph may reveal the presence of phleboliths in an angioma. An exploratory puncture with a hollow needle will obtain blood from the angioma and a gush of air from the aërocele. The escape of air usually is sufficiently forcible to be manifest, but may be demonstrated by attaching to the needle a rubber tube one end of which is held beneath the surface of a liquid. Aërocele does not enter into the question of differential diagnosis in the case of an angioma situated posterior to the sternomastoid muscles.

Cavernous lymphangioma may present symptoms identical with cavernous hæmangioma with the exception that the exploring needle will withdraw a serous or milky fluid in place of blood. Cavernous lymphangioma, however, usually occupies a superficial position in the neck and is adherent to the skin, in which case the absence of skin discoloration points to the diagnosis of lymphangioma as against hæmangioma.

Aneurisms of the neck usually assume an elongated form in the course of the larger vessels and are found in patients



beyond middle age. Hæmangiomas usually assume a globular or flattened outline and are found in the young. In traumatic aneurisms the history points to the diagnosis.

Hæmangioma can be diagnosed from the majority of cysts and solid tumors of the neck by the alterations in its volume during compression and distention. The diagnosis from air cysts having an open communication with the respiratory passages has been discussed under the term *aëroceles*. In cases of cysts and diverticula communicating with the pharynx or œsophagus diminution in size from direct pressure is associated with a regurgitation of mucus or food.

Vascular goitre may simulate hæmangioma by its variations in size incident to alterations in the local blood pressure, but the position and outline of the growth and the associated solid enlargement of the thyroid serve to exclude it. Intermittent enlargement of a salivary gland from incomplete obstruction of its duct might suggest hæmangioma, but its situation, the swelling coming on during or immediately after meals, often accompanied by salivary colic, the diminution on direct pressure causing a flow of saliva from the affected duct, and the associated signs of a stone or stricture in the duct, serve to differentiate this condition.

The differential diagnosis of hæmangioma from blood cysts which have preserved their communication with the blood-vessels is impossible. The more nearly complete the disappearance of the tumor by direct pressure the greater is the probability of its being a blood cyst. The presence of other angiomatous tumors favors the diagnosis of cavernous angioma as opposed to blood cyst.

Hernia of the lung is always found at the base of the neck, is usually completely reducible, can be prevented from recurring by pressure over the opening through which it escapes, yields crepitation on palpation and breath sounds on auscultation. Hæmangioma is more common in the upper cervical region, is incompletely reducible, may be affected in size by pressure over the blood-vessels connected with it, usually presents the signs of an admixture of fatty and fibrous

tissue, may contain phleboliths and is negative to auscultation, except in rare instances when bruit may be obtained.

Subcutaneous cavernous hæmangioma is such a comparatively rare tumor that the possibility of its occurrence was not considered in most if not all the reported cases erroneously diagnosed as cold abscess, lipoma, fibroma or fibrolipoma. In none of these cases was the erectility and compressibility of the tumor noted. Had tests been employed to determine the presence of these symptoms a faulty diagnosis might have been avoided. It is also probable in these cases that the clinical picture was not in perfect accord with the condition diagnosed. In my first case, for instance, the local findings simulated cold abscess, but the history of its beginning as a soft painless swelling and the duration of twelve years excluded that diagnosis. In the second case the collapsed tumor resembled a fibrolipoma on palpation but was atypical of the latter neoplasm by reason of its flaccidity. The difficulties of diagnosis are illustrated by Fisher's case of angiofibroma involving the tongue, floor of the mouth and upper part of the neck. Fisher recognized the fact that he was dealing with an unusual tumor and made repeated punctures from the skin surface with a hollow needle. Blood was obtained but once. The point of the needle apparently was buried in the fibrous tissue in the remaining trials.

The clinical history of a hæmangioma resembles that of a cold abscess in those cases in which the angioma has escaped observation up to the time of its developing an inflammatory induration which may resemble a lymphadenitis, and the subsequent softening on subsidence of the inflammation may be mistaken for the breaking down of glandular tissue.

The occurrence of a fibroma or lipoma in the form of a mixed tumor tends still further to obscure the presence of the angiomatous elements.

The clinical features of a cold abscess, lipoma and fibroma are too well known to require discussion. In any given case suspected of being one of these conditions, but which in any way is atypical, the examination should be conducted with a



view to determining the possible presence of the compressibility and distensibility characteristic of angioma.

A subcutaneous hæmangioma of the neck which is quiescent or undergoing spontaneous resolution may be treated expectantly but should be kept under observation. A continued increase in size calls for active interference.

Electrolysis, the injection of coagulating fluids, the introduction of magnesium darts, subcutaneous ligation and similar forms of treatment are attended by serious risk of damage to adjacent important structures, particularly if persisted in to the point of complete disappearance of the tumor. One or more of these methods might be employed in cases of very large angiomas, to reduce their size preliminary to excision, but their beneficial effect is apt to be counterbalanced by the production of adhesions.

If the claims made for radium be substantiated it will prove the most acceptable form of treatment, otherwise complete excision is indicated. Complete destruction or removal is necessary to guard against recurrence.

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## OVARIAN CYST WITH TWISTED PEDICLE.

DR. GEORGE G. ROSS reported the history of a woman aged 35 years who for eight years had been aware of the presence of a palpable tumor—an ovarian cyst, for which she had refused operation. Three days before admission to hospital she had been treated by an electrotherapist; following this treatment she was attacked with violent abdominal pains, nausea and vomiting, for which condition she was brought to the hospital. Upon opening the abdomen a large quantity of free chocolate colored material escaped, and a cyst, the size of a man's head, springing from the right ovary, was exposed. The cyst was gangrenous, twisted about its pedicle, and a rupture in its wall of about 2½ inches in diameter was revealed. The cyst was densely adherent to adjacent structures. Its removal was successfully accomplished, but patient developed general peritonitis with double bronchial pneumonia, resulting in death after 36 hours.

## OVARIAN CYST WITH TWISTED PEDICLE; CHRONIC APPENDICITIS.

DR. ROSS reported the case of a girl aged 12 years, who was brought to the hospital on the sixth day after the onset of pain in the right iliac region, she had also a palpable mass in the left lower abdomen, extending to the median line. Upon opening the abdomen the mass on the left side proved to be a cyst of the right ovary, twisted on its pedicle two and one-half turns. It was very dark in color and evidently was approaching gangrene. It was extensively adherent to the surrounding structures. Adhesions were separated and the tumor removed. The appendix was found in a state of chronic inflammation and was likewise removed. The reporter was of the opinion that a twist of a pedicle of an ovarian cyst had been occasioned by the active peristalsis of the bowel produced by an acute exacerbation of chronic appendicitis.

## OVARIAN CYST COMPLICATED BY UTERINE MYOMA UNDERGOING MALIGNANT CHANGE.

DR. ROSS reported the history of a woman, 45 years of age, who for five years had been aware of the presence of a tumor within her abdomen. Recently the tumor had increased rapidly



in size. Upon admission her appearance was very striking, with drawn face, emaciated arms and chest and greatly swollen abdomen; circumference in largest part 54 inches. The weight of patient with tumor was 217 pounds. An abdominal incision exposed a multilocular cyst which was removed, bringing to view multiple myomatous tumors of the uterus, the largest one the size of a man's head, which were removed by partial hysterectomy. The operative shock was controlled by saline infusion. Subsequent uneventful recovery. After the removal of the tumors the patient weighed 115 pounds, making 102 pounds as the approximate weight of the tumors. Among the myomatous masses removed was a small nodule of tissue of a cellular constitution with comparative little intercellular substance and no well defined connective tissue aside from a small amount around a few of the larger blood-vessels; the cells making up the growth were ovoid and spindle shaped, to some extent arranged in fasciculi, particularly the spindle-shaped cells, while the ovoid cells were without such definite arrangements. These cells stained well, showing good nuclei and nucleoli; a few mytotic figures were seen.

DR. WILLIAM J. TAYLOR stated that many years ago he was present when Dr. Keen removed from the abdomen of a girl of 15 a tumor which weighed 118 pounds. The girl weighed 90 pounds after the tumor had been removed. The appearance of the abdominal cavity after the tumor had been removed was most extraordinary, suggesting a disembowelled subject. The girl made a good recovery.

### STATED MEETING, HELD NOVEMBER 1, 1909.

The President, DR. WILLIAM J. TAYLOR, in the Chair.

#### BULLET WOUNDS OF THE CHEST, INVOLVING THE LUNG.

DR. JAMES A. KELLY reported the histories of three cases of bullet wounds of the chest, involving the lung, which had recovered after thoracotomy.

CASE I.—*Bullet wound of lung: Hæmothorax resulting in empyæma: Thoracotomy with resection of eighth rib sixteen days after injury.*—A man, aged 21 years, was admitted to St. Mary's Hospital, September 6, 1907, with this history: While in the act of robbing a freight car he was detected, and while running away was shot in the back, about 12.30 A.M. by an officer. He was admitted to the hospital about one-half hour later. Patient stated that after being shot he was able to walk about one square when he became faint and fell to the ground.

When admitted he was in a state of marked collapse—pale, covered with a cold perspiration, extremities cold, voice weak, markedly dyspnoëic. Temperature 94, pulse 140, and respirations 36. When seen about one hour after admission patient was in a state of extreme shock, and symptoms presented were about the same as on admission. Examination of the chest showed an irregular punctured wound about 1½ to 2 inches below the lower angle of the left scapula. Anteriorly, above and at the junction of the third rib and the costal cartilage there could be felt a small hard mass which was apparently the bullet. This could be felt just beneath the skin. Examination of the left lung showed the presence of moist râles at the apex, and an area of dullness extending upward to the sixth rib posteriorly. Marked cellular emphysema of anterior and lateral aspects of the left chest wall. On account of the patient's condition operative interference was not considered. He was given morph. sulph. gr. ¼ hypodermatically and an ice bag was placed over the left chest. From this time the case was treated expectantly, as he had reacted considerably by 8 o'clock the morning of admission. The tem-