(4) Finally, we have certain signs more or less special to drowning which, taken in connection with the signs already referred to, make our diagnosis in many cases positive. Some, perhaps all, of these signs, yet require investigation to thoroughly determine the limits to which their value is confined; and I shall take the liberty, even in this assemblage of experts, of calling some attention to this part of the subject.

(1) Bilateral lacerations of the sterno-cleido mastoidei and pectorales majores. These are mentioned by Paltauf only; more observations are needed.

(2) Liquid in the pleural cavities; lesions to which this might be due being absent. Comparative analysis ought to be made of this fluid, of pleural effusions, and of the liquid that collects in the pleural cavities in consequence of putrefaction.

(3) A fine-bubbled, watery, whitish or rosy froth, non-adherent to the walls of the air-passages, in which it is found. Inasmuch as the most eminent authorities are not agreed that this can, by any physical characteristics, be distinguished from the similar froth found in other forms of suffocation and in certain diseases, let us make comparative analyses of all these froths and determine, if we can, any chemical differences that exist between them.

(4) The presence of the drowning fluid in the very small bronchi and the alveoli, with or without suspended foreign substances. The question still at issue here is, How deeply can fluids penetrate into the bronchi after death?

(5) An infiltration of the pulmonary parenchyma with fluid. The presence of pleuritic adhesions will enable us to distinguish this condition from edema in many cases.

(6) Subpleural extravasations of the drowning fluid mixed with a little blood.

(7) Increase in the volume of the lungs, associated with increase of absolute weight, increase of specific gravity and a peculiar doughy consistence.

(8) Demonstration of hemorrhagic foci where the bronchioles enter the alveoli.

(9) Presence of water in the stomach. The very fact that this may enter after death is still contested, and we only know in regard to the conditions necessary for such entrance that it is favored by pressure, for example, by the body being sunk deep in the water.

(10) Water in the intestine. Unless great pressure is brought to bear on the body, water will not pass from the stomach to the intestine. How much pressure is required and the influence exerted by putrefaction upon this pressure, we have yet to learn.

(11) A special and extreme hydremia of the liver. I cannot believe that it accords with the true scientific spirit to ridicule, as some authors do, the statements of Lacassagne on this point. Careful comparison of the condition in this respect, of livers of persons dead of all sorts of violent deaths would be much more to the point.

(12) An actual dilution of the blood with the drowning liquid.

In conclusion, gentlemen, I wish to say that I have refrained from enumerating my sources of information, with the object of shortening the time required for the reading of my paper. I shall be pleased to give any who wish to consult them all the references at my disposal.

Clinical Department.

A CASE OF ABDOMINAL NEPHRECTOMY FOR CYSTIC KIDNEY; RECOVERY.

BY CHARLES A. ATWOOD, M.D., TAUNTON, MASS.

J. R., a tailor, age twenty-seven years, a native of Scotland, received an injury to the right side eight years ago while playing football. He was at once taken to the infirmary at Edinburgh, Scotland; where he remained six weeks suffering from pain in right lumbar region and profuse hematuria. He has been in this country about five years, and has had at irregular intervals attacks of pain and hematuria.

In February, 1894, he complained of loss of appetite and indefinite symptoms, was pale and emaciated, but noticed that his abdomen was much swollen. In this month he was aspirated, and over one gallon of clear, serous, ascitic fluid withdrawn. The fluid was free in the abdominal cavity. There was no pain whatever. Examination of the urine at this time showed it to be large in amount, color pale and contained considerable abnormal blood and pus. After the aspiration he regained strength and was able to take some exercise. The ascites reappeared, but not to as great an extent as before. He felt better. In a few weeks he returned to Scotland and remained until September, 1894.

In the meanwhile all the abdominal enlargements had disappeared. He gained appetite and strength and returned to this country looking fairly well and expressing himself as never having been in as good health in his life.

In May, 1895, the patient first presented himself at my office, complaining of pain and soreness in right flank. He was ordered to his home at once, as trouble with the right kidney was suspected. This advice he did not follow; but on the 17th of May I was called to his house, and found him nearly pulseless and in horrible pain, and that he was passing a large amount of bloody urine. The pain was relieved by hypodermics of morphia.

May 18, 1895. Had to be kept under the influence of morphia all the time. Some sleep. Constant vomiting. Pulse 140, temperature 100°. Has retained no nourishment. Urine contained large amount of blood and pus, reaction acid, slight trace of albumin, which could be all accounted for by the amount of blood. The patient to start with, was extremely thin, weak and emaciated. In fact, I do not think I ever saw a more ill-nourished man in my life.

May 19th. Temperature 101°, pulse 140. Vomited nearly all food. Urine same in appearance. Morphia given for pain.

May 20th to 23d. No great improvement.

May 24th. Pulse 120. Slept some. Urine same. Less pain. Retained some bovine, milk and lime-water.

May 25th. Pulse 120. Slept. Urine same. More comfortable. No vomiting. Physical examination was now made of the abdomen. Flatness occupying the whole upper right quadrant of the abdomen was detected by percussion. This area extended a slight distance on the left side and half a hand's breadth below a horizontal line drawn around the body on a level with the umbilicus. Fluctuation was easily demonstrated.

Patient was ordered liquid diet and the following mixture: Digitalis three drops, strophanthus two drops,

nitro-glycerine one-hundredth of a grain every three hours. From this date to June 6th no great change. June 6th Dr. W. S. Robinson, of Taunton, was called in consultation. The advisability of an operation was considered, but the patient's condition forbade all idea of its immediate execution although it was thought to be the only feasible method of giving him a prospect of permanent relief.

June 7th. Temperature normal, pulse 120. Urine nearly clear in color, but containing some shreds of fibrinous material. Takes liquid nourishment freely and feels better.

June 7th to 20th. Pulse ranged from 110 to 120. Sleeps well. Takes semi-solids and is free from pain. Able to sit up on the 20th and eat solid food. June 20th Dr. W. S. Robinson was again called in consultation. The man's condition was so much improved that he was given his choice of an operation as being his only chance and that a very poor one.

June 24th. His condition has been one of gradual improvement. Patient made up his mind to have operation performed, and I took him to the Morton Hospital. He was barely able to walk with my assistance a few yards from my carriage to the hospital door. Prepared for operation. Temperature 98.6°, pulse 88, respiration 30. Slept well.

June 25th. Temperature 98.6°. Slept fairly well.

June 26th. Temperature normal. Patient was etherized at 10.15 A. M. by Dr. Arthur V. Goss, of Taunton Lunatic Hospital Staff, and much of the success of the operation is due to his care and skill in the administration of the anesthetic. I received much valuable aid from Dr. W. S. Robinson who very materially assisted me during the operation.

The patient being anesthetized a diagonal incision was made a hand's breadth to the outer side of the right rectus abdominalis muscle, extending from the free border of the ribs to the crest of the ilium and measuring seven inches in length. The incision was parallel to the fibres of the internal oblique muscle. The peritoneum was opened in the usual manner when a large cyst presented. The ascending colon was displaced to the median line and the meso-colon dissected through on its outer border. Great difficulty was found in separating the cyst, which was very thin and firmly adherent to the mesentery and small intestines, and it was only by repeated ligating and cutting between ligatures that the intestines could be separated from the sack. It seemed at one time as though the operation would have to be abandoned. At length the adhesions having been completely broken down, the cystic mass was lifted out of the wound. The pedicle of the cyst was made tense and the renal vessels ligated by pedicle silk. The ureter was divided. Its cut ends were ligated with silk and seared with the actual cautery. Its distal end was dropped back into the abdominal cavity. The abdomen was wiped dry with sterile sponges and sewed up tight without drainage. The wound was united by deep silkworm-gut sutures and a superficial silk skin suture. Baked gauze dressing and swathe applied. Operation completed and patient put to bed at 12.30 P. M. He recovered from ether at 1.15 P. M. Evening temperature 99.6°, pulse 120, respiration 17. Slight nausea.

June 27th. Morning temperature 100.6°, pulse 124, respiration 18. At 1 P. M. calomel ordered, one grain every hour till six grains or there is defecation, and followed by citrate of magnesia one ounce every hour

until free defecation, or one bottle has been taken. During the day, however, the pulse went up suddenly to 160 and over, and at times could not be counted. Had nausea and vomiting. Ordered one-thirtieth of a grain of strychnia sulphate in brandy, given hypodermically every hour till pulse came down to 100, or there is evidence of muscular twitching. Digitalis was also given. Urinated eleven ounces.

June 28th. Morning temperature 101.2°, pulse 135. Urine eight ounces. No defecation. Enemata of turpentine, egg and water given with no result. Followed later by high rectal enema with no result. Vomited. Temperature at 4 P. M. 101.2°, pulse 165, respiration 25. The vomiting now became continuous. Gave one-thirtieth of a grain of strychnia every half-hour. Gave champagne by the mouth, one drachm every half-hour. At 11 P. M. no improvement. Twitching of the muscles noticed. Ordered strychnia omitted. Patient very restless. There is no abdominal distention or pain. The patient is in my opinion still suffering from nervous shock. Strychnia does not seem to meet the indications, and does not steady the pulse. I ordered one-quarter of a grain of morphia, with atropia, every three hours if awake and restless. The morphia was given twice. Patient slept nearly all night.

June 29th. Temperature 100°, pulse 122, respiration 18. Magnesia sulphate again tried, but again caused vomiting. High enema given without any result. At 12 M. one drachm of compound liquorice powder was given. 1 P. M. milk and lime-water alternating with beef-juice, one drachm given every hour. At 7 P. M. vomited, and was much nauseated. Omitted nourishment. Was very restless. One-quarter grain morphia given. Slept five hours. Flatus passed by rectum. Urinated eighteen and one-half ounces.

June 30th. Temperature 100°, pulse 124, respiration 14. No nausea. One drachm of peptonized milk and one drachm of champagne given every hour. Slight subsultus of the hands noticed. Pulse at my visit was of good character. No defecation. Had comfortable night.

July 1st. Had nausea, and at 1.30 A. M. vomited. Very restless. Complained of pain in right side. One-quarter of a grain of morphia given with relief. Temperature 101°, pulse 139, respiration 18. No nausea or vomiting during the day. Retained liquids in teaspoonful doses, and champagne one drachm hourly. Had a comfortable night. The urine was examined by the pathologist. Albumin absent; a few hyaline and granular casts found.

July 2d. Morning temperature 98.4°, pulse 135, respiration 20; pulse very weak. Peptonized milk, two drachms, and champagne, two drachms, given every two hours. No nausea, no vomiting.

July 3d. Morning temperature 100°, pulse 140, respiration 18. Nutritive enema consisting of peptonized milk, whiskey and bovine, three ounces given every three hours in addition to other nourishment. Patient was turned on his side. During day a turpentine enema was given, resulting in a large, loose defecation.

July 4th. Temperature 99.2°, pulse 145, respiration 16. Dressing done; superficial stitches removed; wound looked well with the exception of few superficial stitch-abscesses. In afternoon patient had some abdominal pain; nauseated and vomited; nourishment omitted. He was delirious during the night.

July 5th. Flatus passed by rectum. Fair amount of urine. Pulse averaged about 140.

July 6th. Pulse 140. Slept at intervals. Took peptonized milk and beef-tea, two drachms every two hours; half an ounce of champagne every three hours. Flatus by rectum. Thirty ounces of urine in twenty-four hours.

July 7th. Pulse averaged about 140. Peptonized milk, coffee and malted milk were given in small quantities. Complained of some pain in the side. During night was delirious. Morphia given. Passed comfortable night.

July 8th. Temperature 102.2°, pulse 140, respiration 35. Dressing done. All stitches removed; several stitch-abscesses. Baked gauze dressing applied. No nausea. Given four ounces of liquid nourishment every two hours. Pain in the side. Was delirious at night. No vomiting. One-quarter of a grain of morphia given to quiet him. Had several hours' sleep.

July 9th. Wound looked well. Had large semi-solid defecation. Was very nervous and delirious.

July 10th. Temperature 100.6°, pulse 130, respiration 28. Two defecations. Wound looks well. Some sleep. Six ounces of liquid food given every two to three hours — egg-nog, broths, malted milk, peptonized milk, tea and coffee. Eighteen ounces of urine voided in twenty-four hours.

July 11th. Morning temperature 99.4°, pulse 118. Slept fairly well. Vomited at 2 A. M. Retained a fair amount of liquid nourishment during the day.

July 12th. Temperature 98.6°, pulse 120, respiration 18. Omit rectal feeding for the first time, if there is no vomiting. If pulse is below 120, omit hypodermics of digitalis and strychnia which have been given twice a day. Eight ounces of liquid diet was ordered every two and a half hours. Evening temperature 99.8°, pulse 116.

July 13th. Several copious semi-solids defecations. Slept about six hours. Urine normal in color.

July 14th. Temperature 98.7°, pulse 100. Dressing done. Wound healed. No abdominal tenderness. All nourishment retained.

July 15th. Ate soft toast and dropped eggs in addition to liquid food. Had a good day.

July 16th. Temperature normal. Semi-solids given. Champagne, which has been given at intervals of two or three hours, omitted, and one ounce of sherry wine given four times a day.

July 17th. Allowed steak. Temperature normal. Bowels moved.

July 19th. Measured for abdominal belt. Patient convalescent, and will be discharged from hospital in a few days.

I here append a photograph of the cyst, which was removed June 26, 1895.

The pathologist, Dr. F. A. Hubbard, made the following report: "Case of J. R. Cyst weighing four and one-half pounds, growing from the kidney, which was practically obliterated — only a few trabeculae and a thin wall of kidney tissue was left, in thickness one-half to one-and-one-half centimetres. Contents of cyst: a dark, albuminous fluid, watery and containing a quantity of muco-pus. Diagnosis, cyst of kidney."

I here want to thank in terms of the highest praise the matron, Miss Ella Sears, and all the nurses of the Morton Hospital, for their hearty co-operation and untiring zeal and care in this case.

Medical Progress.

REPORT ON GYNECOLOGY.

BY F. H. DAVENPORT, M.D.

THE CAUSES OF THE NORMAL AND PATHOLOGICAL POSITIONS OF THE UTERUS.

A. MACKENRODT,¹ in this interesting article, gives the results of his investigations as to the cause of the normal and pathological positions of the uterus. He gives the views of a large number of well-known authors and writers, which differ widely, many considering the round and broad ligaments, others the peritoneum, others the harmonious working of the retractors of the uterus and the round and vesico-uterine ligaments as the cause of the normal position. Still others deny that the ligaments have any influence in holding the normal uterus, and only come into play when pathologically affected. Emmet considers the pelvic connective tissue an important factor, and Ziegenspeck and Winckel are of the opinion that the pelvic vessels play an important rôle.

Mackenrodt from observation on the living subject and direct experiment has come to the conclusion that the round ligaments have nothing to do with holding the uterus forward, nor have the broad ligaments as far as they are inserted into the sides of the body of the uterus.

The cause of the antevesio-flexion of the fetal uterus depends upon the fact that it is crowded into the pelvis, that the long, firm neck is tightly held in the pelvic structures, while the free body is exposed to the abdominal pressure, which mainly comes upon the posterior wall.

With the beginning of the extra-uterine life other influences come into play. The varying conditions of bladder and rectum, respiration and other causes of intra-abdominal pressure are at work. Again, the pelvis becomes more roomy and the corpus uteri grows out of proportion to the cervix. While the uterine body admits of considerable motion, the cervix is held firmly in the position in which it developed, namely, curved, with the concavity directed forwards by the pelvic fascia, which sends strong bands to the cervix and vagina.

The normal anteversio-flexion is the result of a bending of the neck in which the angle of flexion lies, the body being straight and only following the direction of the upper part of the cervix.

¹ Archiv. für Gyn., vol. xlviii, 1894.