STATED MEETING, OCTOBER 3, 1904.

The President, HENRY R. WHARTON, M.D., in the Chair.

LARGE MULTILOCULAR OVARIAN CYST; OPERATION; THROMBOSIS OF THE RIGHT PULMONARY ARTERY; DEATH.

DR. ROBERT G. LE CONTE reported the case of a woman, aged sixty-four years, who was admitted to the wards of the Pennsylvania Hospital, December 21, 1902, under the care of Dr. Scott, with an abdomen enormously distended, dome-shaped, and very tense. From the umbilicus upward the superficial veins prominent, but no œdema of the skin. From umbilicus downward no veins visible; skin quite œdematous, pitting on pressure. The entire abdomen from the ensiform cartilage down was dull over the anterior aspect, but above the iliac crests and in the flanks there was a high-pitched tympanitic note. Distinct succussion wave. Both legs very œdematous, the left a little more so than the right, with great dilatation of the smaller veins and capillaries, giving the legs a rosy appearance. Urine, amber, cloudy, brownish precipitate, acid; specific gravity 1010; marked amount of albumen; no sugar; quantities of pus and epithelial cells, hyaline casts, and a few small granular casts. Blood hæmoglobin, 88 per cent.; white blood-corpuscles, 16,200.

A trocar and cannula were introduced two inches below the umbilicus in the median line; no fluid was withdrawn, but after the cannula was removed a small amount of gelatinous material exuded from the wound. The trocar was again introduced at another position in the median line with the same result. The next day a three and one-half-inch trocar was introduced to the hilt, and again failed to draw any fluid, although a gelatinous material exuded on its removal.

December 27 the abdomen was opened in the median line. An ovarian cyst immediately presented, which filled the entire abdominal cavity, and was adherent to the parietal peritoneum,

liver, spleen, intestine, etc. It showed three trocar openings from which gelatinous material was exuding. Quite a large quantity of this material was found free in the peritoneal cavity, the cyst not being adherent in the region of the trocar openings. The cyst was opened, and as much of this yellowish, gelatinous material scooped out as possible; the adhesions to the surrounding organs broken up, the pedicle ligated, and the cyst removed. Several quarts of the gelatinous material were then removed from the peritoneal cavity, but, as all the organs within the abdomen were thickly coated with it, its stickiness made it impossible to remove it all, and quite a large amount was allowed to remain. The incision was closed without drainage. The total weight of the material removed, together with the cyst wall, was estimated at about sixty pounds. The patient's condition during operation was at times very poor, but she seemed better at the close of the operation than at the beginning. Reaction was good, and for several hours her condition was quite good; pulse slow and of good volume; respirations normal. At 11 P.M., without any prodromal symptoms, she suddenly became very restless, gasping for air, with failure of the pulse, and death ensued in a few moments.

The pathological report of the specimen showed it to be a multilocular ovarian cyst, with locules ranging from the size of a hickory-nut to the enormous one which was opened at operation. The contents of the tumor were for the most part a clear, yellowish, sticky, jelly-like substance, with occasional streaks of pure white, and again in small areas portions which were blood-stained.

A post-mortem examination was made fourteen hours after death, in which the findings were briefly as follows: Thrombosis of the right pulmonary vessels; general arterial sclerosis; general old adhesive peritonitis; broncho-pneumonia; chronic endocarditis; cirrhosis of the liver; chronic perihepatitis; diffuse nephritis; perisplenitis, etc.

On section all the lobes of the right lung have a dry, pinkish-gray surface. The vessels are filled with a firm, mostly red laminated clot, which is adherent to the vessel walls in places, but which can be detached and removed as a tree. The descending aorta is the seat of several thickened patches of sclerosis, from one to three centimetres in size. That vessel and the iliac arteries are free from clots. The heart contained fluid blood and no clots.

ACUTE APPENDICITIS; OPERATION; SEPTIC THROMBOSIS OF A BRANCH OF THE RIGHT PULMONARY ARTERY, FOLLOWED BY ABSCESS OR GANGRENE OF THE LUNG; DEATH.

DR. LE CONTE also reported the following case: A man, aged fifty-four years, was admitted to the Pennsylvania Hospital, September 15, 1903, who had been ill for five days with abdominal pain, vomiting, fever, constipation, the pain localizing itself in the right iliac region during the last forty-eight hours. No previous attack of this nature. On admission his temperature was $102^{2}/_{5}$° F.; pulse, 120; respirations, 32. Abdomen prominent, rigid, and tender only in right iliac region, where an illy defined sausage-shaped mass could be made out on palpation.

The abdomen was opened through the right rectus muscle, exposing an appendix very large, much thickened, inflamed, red, and standing erect. Meso-appendix very thick and board-like. No perforation was visible in the appendix, but on one side there was a greenish spot. It contained pus and a fæcal concretion the size of a chestnut. Intestines in the immediate neighborhood were in places of a gray-green color, like beginning gangrene. The appendix was removed, the surrounding abdominal cavity walled off from the green portions of the intestine, drainage inserted, and the abdominal wound partially closed. Bacterial cultures from the peritoneum showed bacillus lactis aërogenes. Reaction following the operation was good, and the convalescence seemed to be well established, when on September 25, ten days after the operation, he wakened from sleep in a condition of profound collapse. The weakness was extreme; pulse very feeble; breathing difficult and shallow; temperature one degree subnormal; sweating profuse. No pain. Later in the morning there was severe pain beneath the right scapula. No impairment of resonance; no friction sound or râles to be heard.

September 26. There was suppression of the breath sounds over the base of the right lung posteriorly. No impairment of resonance; no friction murmur. Temperature had risen to 103° F.; some cough; no expectoration.

September 27. Resonance impaired over right base, where the breath sounds were very feeble. Cough continues with some bright, blood-red expectoration. Leucocyte count, 16,000; pain shooting through lower part of right chest.

September 28. Physical signs over right base similar to those of a central pneumonia. Expectoration more free and still bright red. Pneumococcus and tubercle bacillus not found in sputum. Patient continued in this condition for about a week, and then a slow improvement set in, although the temperature never quite reached normal.

By the 19th of October a small, localized effusion was diagnosed over the right pleura. The sputum at this time was very copious, had lost its bloody characteristics, but was occasionally rusty. It was filled with pneumococci; breath a little offensive. Patient moderately septic with hectic temperature.

October 27. During a hard coughing spell a large quantity of foul-smelling, tenacious, yellowish material was brought up. An exploring needle was inserted into the chest and about a drachm of dark brown, thin fluid was evacuated, with a fæcal odor. This fluid was loaded with streptococci and staphylococci, and with bacilli which were variously described as long and thin, short and stout, and square-ended.

October 28. Under local anæsthesia, induced by Schleich's fluid, an attempt was made to open the chest. The pleura was opened and no fluid encountered. The lung within felt hard and solid. This procedure was so painful and depressing to the patient that the operation was not persisted in. His condition at the time was profoundly septic, and it was not deemed advisable to give an anæsthetic. Owing to difficulty of respiration, he was constantly in a semirecumbent position, could not lie down.

November 1. He was again tapped and purulent fluid of a very foul odor withdrawn. He positively refused any further operative procedures, and it was not until November 5 that he consented. At this time, while in a semisitting position anæsthol was administered. After he became unconscious, it was found impossible to operate with the patient in this position, and it became necessary to turn him on his left side. Just as the skin was incised there was a violent expulsive cough, and from the mouth and nostrils a quantity of fœtid, greenish pus gushed out. In a second, respiration ceased and stimulation and artificial respiration failed to revive the patient. Evidently the lungs were flooded with pus by the rupture of the abscess, and he was drowned in his own secretions.

Post-mortem examination was refused.

Dr. Le Conte said that his reasons for believing this case to be one of septic embolus of a branch of the right pulmonary artery were the following:

Suddenness of onset with collapse; difficult respiration; feeble pulse; an absolute lack of physical signs at first, these developing in the following order, pain, impaired breath sounds, fever, bright bloody expectoration, impaired resonance; at first no râles and no friction murmurs. With the meso-appendix enormously thickened and inflamed at the time of operation, it is not hard to believe that a septic clot detached itself from one of these vessels and was swept into the lower branch of the right pulmonary artery.

Dr. George Erety Shoemaker regarded the class of cases reported by Dr. Le Conte of interest as explaining some postoperative deaths. Cases similar to the one which occurred soon after operation might be due to sudden heart failure. One peculiarity about cases of sudden death is that nearly all of them occur from a week to ten days after operation and in patients that are doing well; hence they come as a surprise. Such patients move about more than do those profoundly ill. Emboli are thus formed out of otherwise innocent local vein clots. They should teach the surgeon that it is unwise, even in simple cases of major operation, to allow the patient out of bed as early as the tenth day. Some surgeons even boast of their patients leaving the hospital on the tenth or even the fourth day; this adds to the risk. These remarks do not, of course, refer to Dr. Le Conte's cases. Dr. Shoemaker's experience with embolism is limited to one case which occurred after severe hæmorrhage due to ruptured extra-uterine pregnancy. The patient was a large woman, who had a fatty heart and had previously suffered from perinephritic abscess. Ectopic rupture occurred during the sixth week of gestation. After operation the pulse and temperature were normal at the ninth day, and the patient was supposed to be in splendid condition. She died instantly, no doubt as the result of a clot in the pulmonary vessels, though no post-mortem was held. Most of the cases in which embolism occurs are simple in character, and for that reason the surgeon is apt to allow the patient early liberty. A similar variety of sudden death occurs after undue exertion during pneumonia.

Dr. Henry R. Wharton mentioned a case in which he performed Schede's operation for varicose veins of the leg. The patient recovered from the anæsthetic, but in five hours developed shortness of breath and soon died. There was in this case some question as to whether there was pulmonary or cardiac embolism, as no post-mortem examination was made.

Dr. Le Conte added that cases of pulmonary embolus might be divided into two groups, the septic and the non-septic; and these again into large emboli and small ones. In some cases where the embolus is aseptic and small, one of the smaller branches of the pulmonary artery may alone be occluded, and the patient may present symptoms not dissimilar to syncope. There will be a rapid, feeble pulse, shallow respiration, sweating, and usually pain in the lung. Such cases almost invariably recover, the attending surgeon perhaps having entirely overlooked the fact that embolus has taken place. In other instances the non-septic thrombus may be so large that the entire pulmonary artery is occluded, and death is almost instantaneous.

In the septic group, if the primary thrombus is small and only a portion of the artery is occluded, the patient recovers from the immediate shock, to develop later a septic pneumonia or gangrene of the lung. In such cases, then, the patient does not die as a result of the occlusion of the vessel, but rather on account of the septic material which has been deposited in the lung.

COMPLETE INTESTINAL OBSTRUCTION FROM A BAND AND VOLVULUS OF THE ILEUM.

Dr. Robert G. Le Conte reported the case of a man, aged forty years, who was admitted to the Pennsylvania Hospital, July 18, 1904, with a history of four attacks of appendicitis since June, 1903, culminating in an attack in April, 1904, when a large abscess in the region of the appendix was opened, but without the removal of the appendix.

On July 14, 1904, he was again seized with nausea, vomiting, and great abdominal pain. There was great prostration. His bowels moved slightly the next day and again on the morning of admission, July 18. Vomiting was more or less constant and was of a greenish hue, but not until the evening of the 17th was there any offensive odor from the vomitus. On admission the patient was pale and haggard looking, very thin, vomiting of a projectile type, every half or three-quarters of an hour, material that was

thin and stercoraceous. The abdomen was distended, rigid, universally tender, but most markedly so between the scar of the former operation and the umbilicus. Pulse weak and small; temperature normal. Diagnosis, obstruction from a band of adhesion.

The patient was immediately etherized and a four-inch incision made in the median line between the umbilicus and the pubes. The small intestine was found very much distended with numerous adhesions, the bowel being firmly adherent to the cicatrix of the previous operation. After breaking up some of the adhesions, a firm band was found compressing about three feet of the lower ileum, and this portion of the gut had taken one twist to the right. While breaking through this band and further separating the adherent gut from the abdominal wall, the friable bowel was torn. Through this perforation the liquid contents of the bowel were evacuated; the rent was then sewn up and the abdomen flushed with warm sterile salt solution and closed without drainage. The patient's condition was so precarious that no attempt was made to find the head of the colon or to explore the appendiceal region. As the abdomen was being closed, an assistant passed a stomach-tube and washed out the stomach, removing in the neighborhood of a quart of stercoraceous material. Reaction following the operation was slow, but there was no further vomiting and the sensation of nausea gradually disappeared; the pulse improved in volume and strength. Five days after operation the patient again complained of severe pain in the old appendiceal scar. The temperature, which had been normal, rose to 101° F. Inspection of the abdomen showed that there was bulging over the lower portion of the old scar, with exquisite tenderness and redness of the skin. An incision was made into this and several ounces of grumous, grayish, foul-smelling material was evacuated. A rubber tube was inserted for drainage. This material was reported by the pathologist to be more or less structureless and without leucocytes, resembling in its characteristics fæcal material. The temperature immediately fell to normal, the pain disappeared, and there was no further discharge from the cicatrix. The convalescence from this time was uneventful, the median incision healing by primary union, and the cavity in the old scar by granulation. The patient was walking about by August 25, and was discharged from the hospital on the 29th of August in good condition with both cicatrices sound.

Dr. John B. Roberts had operated upon a similar case. The patient had had his appendix removed, and a short time later obstruction necessitated a second operation. One year later, when again suffering from obstruction, he came under the care of Dr. Roberts. Operation revealed a dense matting together of all the structures in the right iliac fossa. The intestine was kinked, a loop having passed beneath a constricting band and produced an intestinal hernia. The loop was drawn out of its bed and the patient recovered.

Dr. De Forest Willard had met with several cases of obstruction following operation for appendicitis, the obstruction developing from ten days to three weeks after operation, during healing of the wound. On three occasions Dr. Willard had opened the abdomen and found cicatricial bands. In one there were two bands, one inch apart, the division of which gave the desired relief. In the second, two feet of the intestines were shut off, requiring resection; the patient recovered. In the third case, adhesions were more extensive, and in freeing them the bowel was ruptured; this patient died on the second day. In a case of inflamed ovarian cyst followed by appendicitis and obstruction after operation the intestines were found so adherent that it was impossible to separate them. Death ensued. Considering the frequency of general peritonitis, it is a wonder that obstruction does not more often follow appendicitis operations.

Dr. Le Conte said, in closing, that when a constricting band alone is present the condition is a comparatively simple one to deal with. The lumen of the intestine is cut off, but the circulation in the constricted portion is not materially interfered with. When, however, volvulus occurs, the blood supply to the intestine is cut off in the mesentery, and thrombosis of the veins will take place if the condition exists for any length of time. Thrombosis of the mesenteric veins necessitates intestinal resection, and death will follow in the majority of cases, as the patient's condition is usually so bad that a prolonged operative procedure cannot be safely undertaken. Of six or seven cases of volvulus personally seen by the reporter, the case reported this evening was the only one saved. It is difficult to understand how volvulus occurs when the intestine is free, but the mechanism is more simple when a portion of the gut is adherent, for we can readily understand how violent peristaltic movement, when suddenly checked by an ad-

hesion, might throw a loop of intestine around this adhesion. The recorder's opinion was that in the case reported this evening the band had probably lasted for several days, gradually constricting the intestinal lumen, but that the volvulus had perhaps been present only a few hours, as there was no evidence of the formation of clot in the mesentery veins.

OSTEOMA OF THE ORBIT.

Dr. William J. Taylor presented a bony growth removed from the left orbit of a boy of sixteen. The operation was done at St. Agnes's Hospital on December 21, 1903. The boy had been under observation and treatment at the Eye Department under Dr. Shoot and Dr. Perkins, who have a very elaborate history of his ocular conditions. A careful X-ray study was made also of his head, as he desires to make a more detailed report of this case in the future. The left eyeball was pushed forward, downward, and outward by a mass growing in the orbit. The boy's mental condition was gradually becoming cloudy, he was irritable, his whole disposition had changed, and he was totally unlike his former self. There were, however, no definite symptoms which could localize any growth in the brain, nor had there been any palsies other than the difficulty with the ocular muscles, which seemed to be directly due to local pressure.

An incision was made along the upper border of the eyebrow, exposing a hard bony mass, which seemed to fill the whole of the orbit. The edge of the orbital ridge was thinned out and blended in with the outline of this irregular mass of bone, which was so hard and dense, that a chisel or gouge could make no impression upon it whatever. It was, therefore, necessary to cut away the whole of the orbital ridge, and in so doing the frontal sinus was opened, from which a large quantity of glairy material exuded. It was now found that from pressure the whole of the upper wall of the orbit had been obliterated, and the bony mass extended through the nasal cavity and into the right frontal sinus. After a good deal of difficulty, and the cutting away of a large portion of the overlying bone, it was possible to remove the mass, which is of irregular shape, and measures two and three-fourths inches by two inches. It was very dense and entirely unattached, for it remained simply in place, held by overlapping bone. Its removal

left an enormous cavity and the exposure of a large area of the dura; as the pressure had entirely destroyed the borders of the orbit, there was no evidence of disease of the bone, simply erosion from pressure.

He stood the shock of the operation very well, but the wound became infected from the nasal cavities, which were exposed, and death occurred in a week from septic meningitis.

Dr. De Forest Willard mentioned the case of a woman operated upon some years ago for osteosarcoma of the nose and orbit. He removed the lachrymal, nasal, ethmoid, and vomer, and even then stopped short of the full extent of the growth. The patient died eight days later of septic meningitis. The tumor probably sprung from the ethmoid. The eye was not displaced.