Enthusiasm has always been and will always be the spirit of progress. Its correct meaning is not always in the mind of the man who uses the word. The term crank or maniac would aptly apply to some who are miscalled enthusiasts. If we mean what we say when we call a man an enthusiast, we should have a feeling when before him, akin to that which possessed Moses when he stood before the burning bush, for he knew that God was in it. Not less certain is God in the genuine enthusiast, burning within him but not consuming him, a marvel to angels and men. It was in the power of Moses to have laughed at the bush ablaze, and to have walked from it with covered feet, but if he had so acted he would never have learned the lessons that made him the leader of his people, and the framer of laws for the nations of all subsequent time. The wisest as well as the humblest may learn lessons from the enthusiast that will be both helpful and enduring. Deliver medicine from cranks and maniacs who can but retard her progress, but give her more men who believe that God is the author of all truth; and, that for the general good of mankind, he sometimes takes up his abode in a man, firing him with an almost consuming zeal. When studying the firmament of medicine would that we could all cry out with the astronomer, as he gazes upon the stars, "O God! I am reading thy thoughts after thee." The plan of redeeming the people from disease is of Divinity, as is the saving of their souls from damnation.

The general progress in medicine is only the sum total of progress of individual medical men. Throughout the history of medicine there have been men who have created epochs and inaugurated eras. Harvey's discovery of the circulation of the blood was an epoch, prior to which medical thought groped in an uncertain light. The era of rational medicine dawned when Harvey enunciated the result of his investigation. The wonder has never ceased that the circulation of the blood remained so long unknown. Jenner's discovery of vaccination marked an epoch; but the era of immunization starting with it, continued in its morning twilight until the work of Pasteur caused it to break forth into the brightness of day. The noon-day of this era has not yet arrived. Throughout the coming centuries men imbued with the spirit of Pasteur's work, will go on investigating with the microscope and the test tube, and experimenting on the lower animals, until in due time, the people who will, may become immune from disease. The medical world stood still when told the story of McDowell's daring, and she has not yet recovered from the astonishment excited by the brilliancy of the era of abdominal surgery, which he inaugurated. The wonder will never cease that, for so many centuries, appendicitis and ovarian growths were permitted to send their victims trooping to an untimely grave, because of the unfounded fear that a puncture of the peritoneum meant death to the victim.

Thus we might speak of scores of epochs and the eras that have followed them. The men who moved in these matters simply uncovered principles as old as creation. The streams which they tapped when opening these well-springs, had always been connected with the great ocean of truth, and were only just beneath the surface. Thirsting for these waters, God-guided they digged deep enough to find them. Medicine and the world have been made richer by their labors.

Not all the hidden streams of truth have yet been

found. May it be the happy fortune of some who hear me to open up new fountains for refreshing the world.

Do we look longingly to the proud position of men who have attained eminence in medicine, without a thought of the rugged pathway they had to travel? We could not enjoy the one, if we would shrink from the other. Men must labor to climb, and wait to reach, the mountain tops of greatest usefulness.

Throughout the centuries medicine has been building her own monument. Before Harvey the work done only served to clear the ground and prepare the foundation. The corner stone of the superstructure is Harvey's discovery. Stone after stone has been added as discoveries have been made. As each tier stands completed, there is room for fewer stones in the one to follow. Some unenduring stones have been placed, but these have served to let the building go on. The rain of observation, clinical experience and legitimate criticism will cause the inscriptions on unsound stones to fade away and the stones themselves to crumble. Other workmen will be ready to remove these and in their places put material that will be more enduring. Some inscriptions will grow dim from the accumulated dust of neglect; but some one will come along and, with the breath of enquiry, will blow the dust away and make the reading clear and sharp again. The work of building goes on, some of the workmen preparing stones to place in the superstructure, but the great majority furnishing the uplifting power of encouragement and the cement of coöperation. The time will come when this monument will be ready for the placing of the capstone. This ceremony commemorating the final discovery necessary for making the science of medicine complete, will be performed as the millenium dawns, amid the applause of a world redeemed from disease.

ORIGINAL ARTICLES.

SPLENECTOMY STATISTICALLY CONSIDERED, WITH REPORT OF CASE.

Read before the Southern Surgical and Gynecological Association, at Washington, D. C., November, 1895.

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Assuming that the Association is deeply interested in the evolution of abdominal surgery, I presume to trace the history of splenectomy which will reveal forgotten facts established by the surgeons of old, which challenge the criticism and shame the technique of the most modern.

Physiologists are yet discussing the rule that the spleen plays in the animal economy, a question that was practically settled by Viard about the middle of the sixteenth century, he having removed the spleen from three patients, all of whom made perfect recoveries. Some twenty years before, Zacarelli appears as the first surgeon who successfully removed the spleen. These cases were not generally published, and but few had the temerity to follow such brilliant leaders. As a consequence in the next two hundred years we find but twelve splenectomies. A large percentage of these were for wound with a protrusion of the organ. From 1800 to 1876 I find 28 splenectomies recorded with wide intervals. The next decade

yielded about seven per year. In 1888 it was the fad of the day, 21 operations being reported in that year, the work chiefly of Italian, German and French surgeons. Their mortality, over 50 per cent., was not encouraging, and since that date we have had only 45 operations, a very small number when we consider the rapid progress of abdominal surgery and the immense amount of work done in this special field. We must conclude then that splenectomy is not a popular operation, at least with those surgeons who operate for statistics. The consensus of surgical opinion seems somewhat adverse to this operation. I hold that such a position is erroneous as it is based upon statistics considered in the aggregate. If the proper analysis of these statistics be made and due consideration be given to the associate general condition, we can establish the fact that under certain circumstances the operation is justifiable.

Gathered from all sources I can find on record 194 splenectomies. Of these 126 were females, 57 males and in 11 cases the sex was given. Furthermore we find that in 46 cases the operation was undertaken for wounds or injuries. Of this number 26 were males, and 14 females. If we deduct these we find that the ratio of splenectomies for disease is 31 males to 112 females, showing the latter sex to be much more predisposed to disease of the organ.

Recalling that the weight of the adult spleen is only about seven ounces, we are awed by the pathology that so perverts nature as to magnify it into 8½ pounds, the largest spleen ever removed. The operator was H. S. Brown of England; the condition was leukemic hypertrophy. The patient died five hours after the operation, probably from hemorrhage. The largest spleen ever removed successfully weighed 11 pounds; the operator was Franzolini.

The size of the diseased organ has an important bearing upon the prognosis. In 41 cases in which the spleen weighed 2 pounds, or more, the mortality was 68 per cent. We should at least consider these figures in advising operation. Of the 194 cases eight are not entitled to be ranked as splenectomies, the operation in these cases being partial splenotomy for the removal of the protruding portion after wounds and herniæ. This reduces the total number of splenectomies to 187.

We may make a pathologic classification of these cases as follows: Leukemia, 36 cases; 31 deaths, 5 recoveries. In only 7 of these cases do the data show a microscopic examination of the blood. Doubtless this investigation was made in many others but it is not so recorded and I am forced to accept such statements as "leukemia," "leucocythemia" and "leukemic spleen" for the diagnosis and classification. In this class we are at once confronted with a mortality of 86 per cent. which unless we can discern something radically wrong in the technique, places the leukemic spleen out of the pale of operative possibilities, and we dare not charge this when such masters as Péan, Czerny, Wells and our distinguished American, Roswell Park, were the operators. Of the 31 deaths 16 were positively stated to be secondary hemorrhage, 9 others died from shock, and we all know that in abdominal work this term is only too often synonymous with hemorrhage. Should not this establish the fact that leukemia is a general blood disease of which the hypertrophied spleen is an effect and not the cause? These patients are hemophiliacs and leukemic spleen should be eliminated from the field of operative inter-

ference. Since we have only 5 successful cases of removal of leukemic spleen, their paucity entitles them to detail record.

Case 1.—Operator, Franzolini; date 1881; time of operation, twenty minutes. Patient, female, laborer, aged 22.

Diagnosis: Abdominal tumor from childhood, suffered from gastralgia, from 12 to 14 ascites and edema in lower extremities. Menstruated at 17, scarce and irregular. Symptoms of jaundice, no intermittent fever. At the beginning of 1879 dull pain in upper quadrant to left of stomach. Tumor hard, very little or not at all movable, obstinate vomiting, acute pain prevented rising to feet. Blood rich in leucocytes five times to normal. No albumin in urine.

Operation: Prepared by purgative pills; diet exclusively flesh for three days. Incision in linea alba 22 c. long leaving umbilicus to right, one half above, one half below. Splenic artery size of index finger, could introduce thumb into splenic vein. Ligation with phenicated silk; little blood lost; suture. Complete recovery.

Remarks: First successful operation in Italy. Spleen normal in color, quintuple in size. Removing 200 gr. of blood it weighed 1,526 gr.; 26 c. long, 16½ c. wide, 7 c. thick. There occurred forty hours after operation small dripping of blood from vulva; one year later blood almost normal.

Case 2.—Operator, Assaky; date, 1888; time of operation, 1¼ hours. Patient, female, age 26, married at 18, several children.

Diagnosis: Abscess of breast after first delivery, edema of limbs after last. Malarial fever at 12, inflated abdomen after the disease. Tumor in the splenic region, constitution weak, mucous surfaces pallid. Both pupils dilated, temperature normal, no edema except varicose veins. Mammæ voluminous. Intestinal functions normal. Linea alba pigmented, superficial veins dilated.

Operation: Incision on the median lines of the umbilicus to near pubis, 12 c. long, hemostasis. Incision prolonged above the umbilicus 4 c., catgut, chlorid of zinc, cautery. There were 18 superficial ligatures, 14 more profound, 9 in the peritoneum. Recovery.

Remarks: Blood, 5,000,000 corpuscles in cubic mm. White to red in proportion 3 to 100; weight 2,410 gr., size 35 c. long, 42 c. wide; measure on concave side 28 c. long, 17 c. wide; 7 c., 1½ c., 5½ c. thick.

Case 3.—Operator, Ceci; date, 1893; time of operation, one-half hour. Patient, female, age 13 years.

Diagnosis: Tumefaction of the stomach from infancy. At three years put on milk diet until stomach became normal. The malady began two years back, attributed to a fall. She became pale, gums bled easily. Ossa normal, muscles weak, but little developed, adipose tissue thin, aspect meagre, senses normal. Abdominal tumor hard, smooth, roundish, oblique. Lower temperature over tumor.

Operation: Chloroform anesthetic, median incision to left of umbilicus 28 c. from xiphoid appendix to three fingers of pubis; a second 14 c. transverse and oblique parallel to left costal arch; distance 6 c.; ligation of splenic artery, excision of much splenic substance so as not to injure stomach; catgut ligature. Liver normal. That part of the capsule that was in contact with the stomach was left intact so as to avoid hemorrhage. Recovery.

Remarks: Weight of spleen without blood 1,300 gr., 25 c. long, 15 c. wide, 6 c. thick. Blood before operation, red corpuscles 3,592,000, white 15,000, hemoglobin 60. Blood after operation, red 4,250,000, white 15,000, hemoglobin 65. Removal of pus after operation by puncture, hemorrhage, fever, 300 gr. purulent fluid removed from splenic cavity.

Case 4.—Operator, Lindfors; date, 1892. Patient, female, age 20, peasant.

Diagnosis: Constitution weak, temperament lymphatic, five years before noticed increase of abdomen, specially of left side. Very round, acute pain, left part of abdomen occupied by tumor. Elastic, ovoid, very movable, 29 to 17 c.; circumference 25 c. Blood, 1 white to 250 red.

Operation: Chloroform, afterward ether. Incision 18 c. above umbilicus from right to left, a vertical incision from upper angle 6 c. to left side of angle. Abdominal walls divided successfully, hemostasis with care before opening peritoneum. Single adhesion to omentum. Omentum, etc., retained by sterilized gauze. Ligation of pedicle with aseptic silk in six divisions. Almost no loss of blood; suture completed. Recovery.

Remarks: Treatment four weeks previous to operation fortifying and stimulating. Weight without blood 116 gr.; length 25 c., breadth 15 c., thickness 7 c. Histologic examination: hypertrophy of fibrous element and diminution of pulp. Result:

augmentation of white globules, diminution of red, especially hemoglobin. No augmentation of thyroid and lymphatic glands.

Case 5.—Operator, Hartman; date, 1894. Patient, female, age 40, two miscarriages, no children.

Diagnosis: In iliac fossa and ascending to within one-half inch of costal arch, tumor flaccid, movable transversely from one fossa to the other. No area of dullness of normal position of spleen. Swelling of abdomen, continual vomiting. Was suddenly seized with meteorism. Headache of frontal type and so severe as to prevent sleep.

Operation: A sub-umbilical incision was made in median line, no attachment of spleen was found except by pedicle. It was lamelliform. The splenic artery was ligated, and then three other threads were passed, the last one constricting the whole pedicle *en masse*. The distal end of the pedicle was then tied near the spleen and cut between the last ligature and the others.

Remarks: April 7, hemoglobin 108, leucocytes 1 p. to 150, red 4,850,000; April 9, hemoglobin 90, leucocytes 1 p. to 137, red 4,400,000; May 20, hemoglobin 105, leucocytes 1 p. to 200.

The fortunate operators of these were Franzolini, Assaky, Ceci, Landfois and Hartman. That you may form some idea of the hemotaxis demanded in these cases chlorid of zinc, actual cautery and 41 ligatures were required to control the hemorrhage, from the pedicle alone. In Assaky's case there were no adhesions.

In forming the second class, that of malarial hypertrophy, I accent the diagnosis as given in the report and if it is not expressed I have relied upon the history and symptomatology. In none of these cases was the plasmodium malarie found. Under this head we have 40 cases, 24 recoveries and 16 deaths. To these I wish to add my own case which I trust I may be permitted to report in detail.

Mrs. J. S., age 33, housewife, multipara; native of Tennessee, family history good, has suffered occasionally with menorrhagia, but more recently from amenorrhoea. She had malarial fever when 12 years of age, for the last three years she has lived in the western portion of the State on the banks of the Mississippi. She has suffered during this time with frequent attacks of intermittent malaria. In July, 1895, she had remittent fever lasting five weeks, from which she apparently recovered. About August 1, last, she suffered from acute pain in the left side. A tumor was then discovered in that region about the size of the fist. The tumor grew rapidly, and on October 8 she consulted me. Physical examination revealed a smooth, elastic, movable tumor, filling the left lateral region of the abdomen. Edges sharp and notched. It frequently changed its form; at times it appeared flat and smooth; again it would rise up into a sharp ridge extending from ribs to symphysis pubis. There was absolute dullness over the tumor. Vaginal examination revealed the uterus forward, the pelvis filled with a smooth hard mass, which upon change disappeared from the pelvis and occupied the left iliac fossa. She suffered with paroxysmal pain, a sense of weight and dragging in the left side, flatulency, nausea and occasional vomiting. There was some emaciation and slight anemia. There was no adhesion, ascites, vertigo or insomnia. The blood examination was conducted by Prof. W. M. L. Coplin in the laboratories of Vanderbilt University, and appears as follows: Blood examination case of Mrs. S. by Prof. Coplin: Date of examination, Oct. 9, 1895; number of red corpuscles, 3,800,000; number of white corpuscles, 31,000; ratio, 1 to 123; per cent. of hemoglobin, 65. The red cells normal in configuration; no large or irregular cells; leucocytes almost exclusively of the large polynuclear type, only a few mononuclear white cells being present.

The diagnosis was malarial hypertrophy of the spleen, and after due preparation the abdomen was opened by lateral incision at outer border of left rectus. The incision was about six inches long. The spleen was found displaced and free from adhesions, its pedicle was secured by interlocking ligatures. The pedicle was severed close to the organ. As additional security against hemorrhage ligatures *en masse* were employed, also individual deligature of splenic artery. After removal of the spleen bleeding from the abdominal incision, which before was insignificant, now became very profuse and required several ligatures. The peritoneum was closed by separate silk sutures, the abdominal wall coated by the usual interrupted silkworm gut sutures. The post-operative history is a very

stormy one. For the first twenty-four hours after operation the behavior of the patient was very satisfactory, pulse 122, temperature 100, respiration normal. The stomach quiet, urine secreted, 9 ozs. During the second day the patient restless, occasional vomiting, pulse 130, temperature 99, respiration 28, abdomen flat; urine secreted, 16 ozs. On the third day the patient became very weak, extremities cold, pulse 150, temperature 100, respiration rapid, 40, very shallow with attacks of dyspnea. During the twenty-four hours of the third day, only 2 ozs. of urine secreted. Some pain in the lumbar region, slight tympanitic distension of the abdomen. This was very peculiar, being entirely subumbilical. On the fourth day patient very dull, sleepy and slightly delirious, pulse improved, 120, temperature 100, respiration 36, but no dyspnea. Complained of severe pain in right side of abdomen and chest, depression and vertigo. Urine secreted 12 ozs. Fifth day general condition much improved, pulse 92 and full, temperature normal, respiration still rapid. Peculiar subumbilical sausage tympany marked. Bowels acted copiously. Urine secreted, 30 ozs. in twenty-four hours.

During the succeeding ten days patient suffered intensely with pain in left hypochondric region and adjacent area of the thorax; uncontrollable diarrhea, was drowsy and occasional vomiting. Tongue became dry and red, sordes appeared and rapid emaciation occurred, picturing in every way the closing scene of typhoid fever.

On the 14th and 15th days she passed a number of large, bloody and fluid stools, her pulse and temperature remained the same. The pain was relieved, tympany subsided and the brain symptoms disappeared. She expressed herself as much better. Marked and rapid improvement in general condition followed. All functions become normal.

One month after operation she was out of bed and looked ruddy and well and was in infinitely better condition than before the operation. Aseptic union of the wound throughout. Seven months later the patient is in good health.

The blood of Mrs. S. was examined by Professor Coplin and gave the following results:

Oct. 9, 1895, red corpuscles, 3,600,000; white corpuscles, 31,000; per cent. of hemoglobin, 65. The red cells normal in configuration, no large or irregular cells. The leucocytes are almost exclusively of the large polynuclear type, only a few mononuclear white cells being present.

October 13, operation.

October 19, red corpuscles 3,000,000; white corpuscles, 6,000; per cent. of hemoglobin, 60. Red cells somewhat irregular; a few microcytes and megalocytes and many of the normal-sized red cells pale, a few almost phantom. While the leucocytes are almost diminished in number their character is also changed; instead of the large polynuclear cell of the previous examination, the white cells are mostly of the lymphocyte type.

November 2, red corpuscles, 2,500,000; white corpuscles, 16,000; per cent. of hemoglobin, 50. Red cells more nearly normal in type; very few irregular cells. Leucocytes mostly of the large polynuclear type, and very much as they appeared before operation.

November 9, red corpuscles, 2,640,000; white corpuscles, 18,000; per cent. of hemoglobin, 50. Same corpuscular condition to be noted as that recorded in examination of November 2.

The third series of cases which I find it difficult to classify, for want of a better name, I designate as simple hypertrophy. In these cases there is no associate blood diseases, yet I would suggest that sufficient attention has not been given to the condition of the other viscera, especially the pancreas and the liver. In an investigation upon anatomic conditions alone we could assume that splenic hypertrophy would follow disease obstructing circulation in this organ. In a careful analysis of the recorded cases of simple hypertrophy, I can find allusion to the liver in only three. I question if this organ is not entirely overlooked in the diagnosis. In seeking to discover a

cause for this so-called simple hypertrophy we note that the organ is found to be "displaced," "wandering," "movable," "ectopic." At once the question arises: Is this displacement the result of the increased weight, traction and elongation of the pedicle, or have we in some instances, a congenitally long pedicle whose vessels are constricted by the mobility and changed position of the spleen, leading to pulp engorgement. Of 59 cases of splenectomy for simple hypertrophy 34 recovered, 25 died, a mortality of 42 per cent.; 9 of the deaths were due to hemorrhage, a preventable accident. With due precaution the mortality should have been 28 per cent.

Neoplasms from the fourth group: As primary growths they are rarely met with in the spleen, I can collect only five cases of sarcoma which may be thus tabulated: Billroth, female 43, primary sarcoma, recovery; Wagner, female 27, primary sarcoma, recovery; Helmouth, child, primary sarcoma, death; Frisch, female 31, primary sarcoma, death; Flothman, male 44, primary sarcoma of mesentery and spleen, death.

In all of these cases the diagnosis was corroborated by microscopic examination and can not be questioned. We note that four of the patients were in middle life, only one a child. Billroth in recording his case remarks upon the infrequency of primary sarcoma in the spleen.

The next pathologic condition demanding splenectomy is echinococcal cystoma of which there are six cases, four recoveries and two deaths. Simple cystoma of the spleen has been met with by three operators, Péan, Wells and Gussenbough. Péan's and Wells' patients were women. The tumor was diagnosed as ovarian. Gussenbough's patient was a boy of 14. All these cases recovered.

In 1581 Viard is reported to have removed three displaced degenerate and dried-out spleens; just what that pathology is I leave you to imagine. All these cases recovered and were the second series on record. Of primary abscess and sloughing of the spleen, not due to traumatism, there are three cases with three recoveries. I found throughout the literature of this subject, one case each of syphilis, primary tuberculosis and fibroid degeneration of the spleen. Death occurred in each case.

Two cases of floating spleen, normal in size, are reported; one death and one recovery followed their removal.

One of the most frequent conditions demanding splenectomy is injuries to the organ by contusions or stab wound. After wounds of the abdominal wall, the spleen often herniates. The protruding part quickly becomes gangrenous. Under the head of wounds we have 43 cases, 32 recoveries and 11 deaths. While these cases appear in literature as splenectomies, in 8 of these the protruding part was removed; all of this number recovered.

Clinical memoranda are not always as clear as one would like upon the question of diagnosis. In many records the reporters are most artful in their phraseology, not declaring a diagnosis nor confessing error nor ignorance. In a summary of cases extending over a period of three and a half centuries it is a little difficult to gather exact data. I find only 99 cases recorded sufficiently in detail from which we may draw conclusions as to a diagnosis. Of this number it appears that a diagnosis of splenic enlargement was fully determined in only 57 cases. In 24 cases it is questionable if a diagnosis was made, in the remain-

ing 19 cases there was absolute error of diagnosis. I can gather only 15 records of blood examination. In these the investigator seems to confine his work to estimating the relation of white and red corpuscles, without considering the character of the corpuscles or the amount of the hemoglobin. From this table we note that in three cases there was decided increase in white corpuscles after operation, with a diminution of the red. In three other cases there was a gradual decrease in the number of white, while the red remained as before operation. These data in part accord with the conclusion of Vulpins, who claims that after the removal of the spleen there is a leucocytosis, a temporary increase of white corpuscles.

It is held by physiologists that the spleen in the adult in conjunction with the red marrow of the bones plays an important role in the formation of red blood cells, yet in the few cases analyzed in which an accurate account of the blood was made before and after operation, in two there was slight increase in the number of red cells, in two others there was decided diminution. Concerning the function of the spleen with relation to the red blood cells, Emelianoff, in a recent number of the Archives of Biology of St. Petersburg, asserts that in the fetus the function of the spleen is the production of red cells, which function at birth is transferred to the marrow of the long bones. The change in function takes place gradually, that is through several weeks. But it is very doubtful if the organ in the adult, even after copious hemorrhage, takes part in the formation of red cells. One never sees red cells in the process of formation in the spleen. "It is very probable," says the same authority, "that the spleen takes an active part in the formation of hemoglobin." Vault and Jolyet, speaking from experiments upon animals, say that the removal of that organ is never productive of any derangement and therefore its function can be assumed by other organs, probably by the lymphoid glands. A careful examination of all cases recorded fails to yield a single case in which there was lymphatic enlargement following splenectomy. Upon like grounds I am prepared to accept the conclusions of Vulpins which is "The thyroid gland is not vicarious to the spleen." Exactly what division of extra labor is made among the various glands after removal of the spleen one cannot say; yet a few autopsies held upon the patients from one to three years after they have been deprived of their spleen, give us this information. Accessory spleens which at the time of operation were too small to attract attention have grown to the size of a walnut. Furthermore, fragments of the splenic tissue left upon the stomach and other viscera grew and preserved their normal characteristics. Schiff and Heitzen have endeavored to point out relationship between the pancreatic digestion and the function of the spleen. The pancreas of an animal deprived of its spleen loses its digestive properties. In contemplating splenectomies the surgeon must now feel he is sacrificing two organs. Since, however, beyond the cavil of the physiologist one can do fairly well without the spleen we are not likely to be deterred by their experiments. How well one's functions can be conducted without spleen is excellently illustrated in Tantoni's case in 1700 (Morgani, De Sedibus et Caus. Morb. 111 ep. LXV), in which the spleen was removed from a child. She grew to womanhood and bore children. It does not appear in this case that the splenectomy in any way influenced the anatomic and physiologic develop-

ment of the endometrium or Johnson's lymphoid structure; yet ample evidence is obtainable that endometrial diseases frequently occur in the history of splenic disease.

The symptoms of splenic hypertrophy are divided into two classes, first constant and second occasional. Of the first we have progressively enlarging abdomen, pain, weight and dragging sensation, anorexia, nausea and frequently most obstinate vomiting, vertigo, insomnia, dyspnea, emaciation and anemia. The occasional symptoms are hematuria, epistaxis and hematemesis. I wish in this connection to remark upon the constancy of insomnia as a symptom. In almost every detailed report it is mentioned and may be explained, I think, by the existing anemia.

I do not think it necessary to discuss here the physical diagnosis of splenic tumors and hypertrophy.

Our acquaintance with intra-abdominal disorders is so much more intimate than formerly that in the future errors in diagnosis will be quite the exception. There are two complications which occur in the life history of enlarged spleen deserving special mention, torsion of the pedicle and ascites. I am able to gather altogether eight cases of torsion of the pedicles. To these if it were proper I would add a case reported by me in the *Medical News*, April 1890, of splenic hypertrophy with torsion of the pedicle, diagnosed as uterine fibroma with torsion of the pedicle. The woman died while preparations were being made for operation, the autopsy revealed the true nature of the case. Of the eight cases I reported all were women, six were multiparæ, two may have been though were not so stated. In four cases symptoms of torsion became quite manifest after labor or abortion. The symptoms of rotation of the spleen briefly stated are the following: Acute paroxysmal pain of the twisting character, more or less sharp; nausea, vomiting, frequently obstinate constipation so much so as to suggest intestinal obstruction; sausage tympany; tumor enlarges rapidly, becomes hard, tense and very tender. These symptoms remarkably simulate hemorrhagic pancreatitis.

The second complication to which I would call your attention is that of accumulation of ascitic fluid. It was present in eleven cases; nine of these patients died. Death was due to hemorrhage no doubt, though it is not so stated. The splenic hypertrophy in these cases was associated with, if not due to, hepatic cirrhosis, and after removal of the spleen by reason of the obstruction offered to the portal circulation there were double causes for increased vascular tension. Therefore a patient presenting this complication is predisposed to hemorrhage, a fact that should have due weight in determining the propriety of an operation. The first operation done in America was performed by Alston. Subsequently there were 28 additional operations performed, resulting in 11 deaths and 17 recoveries. Our honored fellow, Prof. E. S. Lewis of New Orleans, appears as the most successful American operator, he having removed the spleen in two cases of malarial hypertrophy. In one case the physical signs warranted the diagnosis of uterine fibroma. When the abdomen was opened he quickly discovered his error, but drew up the spleen, ligated its long pedicle and removed it. The second case was correctly diagnosed as an enlarged and displaced spleen. Both patients recovered.

Our honorable president Dr. Louis McLean Tiffany kindly gives me the following notes of his case:

Mrs. —, age 45, came into my care December, 1893, suffering from a tumor in the left side of the abdomen. It was freely movable from side to side as well as up and down, but always extended six inches below the left ribs. When standing the tumor presented below the navel in the middle line; toward the linea alba the finger could be pressed underneath the tumor recognizing a more or less sharp border, broken in two places by depressions which suggested that the tumor was an enlarged spleen. The history of the patient showed that she had suffered for years from irregular attacks of malarial fever and that the tumor had grown for seven or eight years slowly. It was thought at first that the attacks of malarial fever were accompanied by pain in the tumor. At present not only is discomfort complained of, but inability to eat and digest food also. Examination of the blood showed slight relative increase in white blood cells. The spleen was removed Dec. 29, 1893. An incision sufficiently long was made from the umbilicus downward to the left of the linea alba, and from the umbilicus upward and outward as far as necessary. The spleen at once came into view with a long pedicle. The omentum was adherent to the under surface and was tied off in segments. The vessels entering the spleen at the hilum were separately uncovered and tied. Two small spleens not larger than walnuts were left. All went well, the patient recovered without trouble. Examination of the tumor showed that it was 25 c. long, 14½ c. wide, 7 c. thick and weighed 11,000 gr. It was hard and inelastic; the capsule tense and much thickened. In places it was very opaque, apparently by fibrous deposit. On section it was of a dark red color, nearly black; the pulp could easily be pressed out leaving large and prominent trabeculae which crossed in all directions. Microscopic sections were stained with eosin and hematoxylin. They showed enlarged blood vessels, the spaces between the trabeculae contained large numbers of red corpuscles and a good many white ones. The sections looked like hemorrhagic infarctions, the walls of the blood vessels were thickened and infiltrated with small round cells. The capsule was thickened and infiltrated similarly, the glomeruli were seen with difficulty. Trabeculae were increased in size and number and infiltrated with round cells. There was much coloring matter present and there appeared to be a general increase in connective tissue throughout the whole organ. The appearance justified the diagnosis of subacute indurate splenitis. The blood was normal when the patient left the hospital.

AMERICAN OPERATORS.

Goodell, leukemia, death; Markoe, simple hypertrophy, recovery; Miner, simple hypertrophy, death; Powell, wound and hernia, recovery; Alston, wound and hernia, recovery; Myers, malarial hypertrophy, recovery; Markham, wound and hernia, recovery; Markoe, malarial hypertrophy, recovery; Strong, leukemia, death; Willien, wound, death; McGraw, malarial hypertrophy, recovery; McGraw, simple hypertrophy, death; Nilsen, simple hypertrophy, recovery; Deaver, traumatism, death; Simmons, malarial hypertrophy, death; Rod-dick, traumatism, death; McCann, simple hypertrophy, recovery; Conklin, simple hypertrophy with torsion, recovery; Bond, simple hypertrophy with torsion, death; Pane, malarial hypertrophy, recovery; Bark, leukemia, death; Saurason, malarial hypertrophy, recovery; Penrose, simple hypertrophy, death; Yourkin, simple hypertrophy, recovery; Stephen, simple hypertrophy, recovery; Lewis, malarial hypertrophy, recovery; Lewis, malarial hypertrophy, recovery; Tiffany, malarial hypertrophy, recovery; Douglas, malarial hypertrophy, recovery; total number 29, deaths 11, recoveries 18.

THE EXTENSION CORSET AND ITS INDICATIONS.

BY ALEX. C. WIENER, M.D.
CHICAGO.

Lewis A. Sayre revolutionized the treatment of tubercular processes of the spinal column by the propagation of absolute immobilization and freedom from pressure of the diseased portion. That the results obtained by his method were unprecedented is amply evidenced by the fact that his principles have made a triumphal tour around the civilized world and that the use of the plaster of paris corset has come to be considered indispensable in the treatment of Pott's disease.

The symptoms of tubercular infection of the spinal