

REVIEWS.

ART. XV.—*Splenectomy.*—*Della Estirpazione della Milza all'uomo, e di un caso operato e guarito dal cav. dottor FERNANDO FRANZOLINI, Chirurgo Primario dell'Ospitale Civile di Udine.*

Extirpation of the Human Spleen, with a Case Operated upon and Cured. By Dr. FERNANDO FRANZOLINI, Surgeon-in-Chief of the Civil Hospital of Udine, Italy. 8vo. pp. 78. With a table of twenty-seven cases. Turin : Rowe & Favale, 1882.

ALTHOUGH located in one of the smaller towns of Italy, Dr. Franzolini has within a few years obtained a wide reputation as a bold and successful surgeon. He claims a priority of success in several forms of abdominal operation in his own country, viz. : 1. In removing a diseased uterus with the ovaries.¹ 2. In curing a case of confirmed hysterical mania by Battey's operation.² 3. In removing a hypertrophied spleen, and curing a leukæmia by the said extirpation. And he might have added, the first in the world, as far as known, to accomplish this last result.

His monograph under review opens as follows : "On the 20th of September, 1881, I performed, in this hospital, a splenectomy for *leukæmic hypertrophy* on a single woman of twenty-two years of age, who recovered perfectly from the surgical operation, as also the leukæmic condition, and enjoys full and complete health. This is *the first* total extirpation of the spleen for an abnormal condition, followed by cure, that can be incontrovertibly verified in Italy." He bases this claim of national priority upon the firm belief, that the non-fatal operations said to have preceded his were never performed in the form and manner reported ; and he holds this belief upon proofs that the claimants were empirics, whose veracity has long been called in question by able writers.

It has been customary to place at the head of the splenectomy records of the world the name of "Dr. Zaccarelli, of Naples," or his associate in the case Dr. Fioravanti, of Palermo, names which, like that of Nufer, of Cæsarean fame, have often been accepted with some misgiving. As the Palermo story reads : In April, 1549, Dr. Leonardo Fioravanti, of Palermo, was called upon by a certain Greek, Captain Mateo, residing near the garden of the Marquis of Terra Nuova, to visit his wife, Marulla, 24 years of age, and said to have been the most beautiful woman of the city, to consider the propriety of removing her spleen, which was much enlarged by disease, the nature of which is not distinctly stated, other than that it was an oppilation or obstruction (properly, a hypertrophy). The lady having been a favourite in society, and having consulted a number of

¹ Operation, May 28, 1879. Fibro-cystic degeneration of the uterus ; and a right ovarian cyst. This was the third laparo-hysterectomy in Italy, and first case saved.

² Operation, August 14, 1880. "La prima Ooforectomia completa per frenosi isterica, seguita da pieno successo in Italia." Padova, 1880.

physicians, had been urged to submit to an extirpation of her spleen as the only possible means of cure. Under this belief, her husband sought out Dr. Fioravanti, who, conceding that the method was a proper one, secured the services of *Dr. Andriano Zaccarello, of Palo*, a town in the Kingdom of Naples, then present in Palermo. Dr. Zaccarello is described as an old man, who had acquired a reputation as a lithotomist; had extracted cataracts, and was quite an expert in his profession. He had evidently never performed such an operation as was proposed, but was willing to do it, if Dr. Fioravanti would divide with him the responsibility. This being agreed to, Dr. Zaccarello took a razor, and cut open the body of the woman over the spleen, turned out this viscus, separated and removed it, and sewed up the wound, with the exception of a small portion, left for a vent.

Dr. Fioravanti then dressed the wound with compound oil of St. John's wort, and the powders of incense, mastic, myrrh, and sarcocolla, and ordered a potion of water, cooked with common honey, comfrey, St. John's wort, bettony, and carbo santo, and she was directed to take each day a dose of treacle. In 24 days the patient was well, and went to mass to the church of the Madonna dei Miracoli, near the custom-house.

The spleen removed weighed 32 ounces, and was carried to the Merchants' Loggia, where it remained three days, and all the town saw it. Dr. Fioravanti writes of himself: "and the glory of this experiment was given to me, and for this the people flocked to me as unto an oracle." He claimed in another production, that he removed the spleen himself in a traumatic case, in December, 1551, with a favourable result.

Dr. Franzolini denies that either *Adriano Zaccarello* or Fioravanti ever performed the operation. Of another operator, *Ferreri* or *Ferrerius*, he says the same, explaining that the case of Ferreri was one of abscess of the spleen, with a fistulous opening near the umbilicus, and another in the vagina; that the operation consisted in evacuating the abscess by abdominal incision; and that the tissue of the spleen having been entirely broken down, its thickened capsule was finally discharged through the wound. This case occurred in 1711, and the subject was a plethoric woman of thirty years of age, who bore a child subsequently; and died in 1716. As no vestige of her spleen was found on autopsy, the story became current that it had been extirpated. In the records of abscesses of the spleen, such cyst-like collections of pus, with fistulæ, have been found on autopsy. A third Italian case, but not mentioned by Dr. Franzolini, is that credited to Fantoni, of Turin. Its description would indicate that it could never have occurred as recorded. There are many reliable traumatic cases on record, in which partial or complete extrusion of the spleen occurred; but we are not prepared to give credence to a report in which it is related that a mother by castigating her daughter (a little girl), on or about the year 1700, opened her abdomen with a stick, and let out her spleen. Such a stroke would be much more likely to rupture this viscus than to open the abdominal cavity.

It is no simple task to set aside the claim of Zaccarello after it has been more or less credited, since the case was published by his associate Fioravanti, in Venice, in 1570, twenty-one years after the operation. We will therefore produce the arguments and evidences furnished in the paper under review, which in the opinion of its author are conclusive against it. He speaks of the operator as, "*a certain Adriano Zaccarello, a Neapolitan empiric, who, in Palermo, in 1549, extirpated an*

obstructed spleen in a Grecian lady, obtaining a cure, the case having been reported for the first time by a certain Leonardo Fioravanti, in a book entitled *Tesoro della vita umana*, published in Venice in 1570, page 25, book ii., chap. viii."

1. "In the French Surgical Dictionary of Louis¹ (1818), at page 176 of the third volume, under the head of *the spleen*, we read, "Leonardo Fioravanti claims to have extirpated the spleen for a woman of Palermo with entire success, and that the spleen weighed more than thirty-two ounces.² Several authors who have regarded Fioravanti as a charlatan of the first class, hold the operation under some suspicion." Here it will be noticed that the case is credited to the reporter, a not uncommon error in statistical records at the present day.

2. Ribes, the author of the article, "*la Rate*," in the large *Dictionnaire des Sciences Médicales*, Paris, 1820, vol. xlvii., page 24, writes, that "by many, Fioravanti is regarded as unworthy of belief, and they doubt his having performed this operation."

3. "Hyrtl," in his celebrated *Anatomia Topografica*, page 744, vol. i., "doubts the evidence of Zaccarello having extirpated the spleen."

4. Prof. Alfonso Corradi, in his *Commentario della Chirurgia in Italia*, page 425, says, "but Mr. Leonardo Fioravanti was not such a man as to secure one's confidence."

5. "Prof. Gustav Simon, in his monograph upon extirpation of the human spleen (Giessen, 1857), at page 6, makes the following critical observations upon the case of *Zaccarelli*: The authenticity of this case is held in doubt by almost all writers (see Dieffenbach, Hyrtl, etc.), and, second, Heinrich (Diseases of the Spleen, page 228). Mappus,³ in his meritorious dissertation, *De Lienosis*, Strasburg, 1692, demonstrates satisfactorily, that the attestation of Fioravanti does not appear to be worthy of the least credit." This judgment of Mappus is approved by Heinrich after reading the evidence. "We read in the report (Fioravanti's) of the tumour of the spleen; that it was so large that the body would not be able to contain a greater; and still we are told that it weighed but thirty-two ounces." The *uncia* was a fraction less than a pound avoirdupois.

It would appear then probable that both the operator and reporter were charlatans. Fioravanti would certainly in this day be regarded as a travelling quack doctor, and one who used secret compounds and cure-alls with high-sounding titles; but in the day when he flourished the practice of medicine and surgery was largely empirical and mysterious. It has been objected to, that writers have assigned different reasons for the operation on the Greek lady; but these all point towards the same condition. "To cure her of a melancholy," meant that the enlarged spleen was due to a quartan fever, which Fioravanti taught had its origin in a disturbance of the melancholic humours.⁴ At the time of the said operation, he believed a quartan ague to be incurable, but later in life he publishes the formula of a secret and wonderful medicine, which he states was a sure cure. The claim that these men were charlatans is rather in their favour, except for

¹ Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers par une Société de gens de lettres, Berne et Lausanne, 1808.

² Collier, in his table, gives the weight as 2 lb. 15 oz., and says that six years afterwards there was no trace of the spleen; that the liver was enlarged, and the omentum shrunken. (Lancet, Feb. 11, 1882, p. 220.)

³ Marcus Mappus wrote several works, one as early as 1660.

⁴ In the original article of Fioravanti nothing is said of the cause of the splenic enlargement. Its quartan origin must be stated elsewhere, if stated at all.

the additional evidence that Fioravanti, who reported the case, had a bad reputation for truth and veracity. Charlatans, and the ignorant of both sexes, have often been the pioneers in bold surgical operations. Nufer, who stands at the head of the Cæsarean operators, was a gelder. The first to operate in the British Isles was a woman; as was also the case (self-inflicted, 1769) in the West Indies. Two women have operated in the United States (one self-inflicted); one in Austria, etc.; and the first man to suture the uterus in our country was a travelling Virginia charlatan, who was thirty-three years in advance (1828) of the first *regular* operation (1851). That these two Italians named did perform some abdominal operation is possible, but the want of a minute account of the steps of the case makes it very doubtful as to what was done. The late Gustav Simon conjectured that the tumour might have been a left ovarian cystoma with a small adherent spleen; but this is only a surmise, and not at all in accordance with the theory of its *quartan* origin. We are inclined to adopt the belief that there was no splenectomy in the case; and, at all events, to take the benefit of the doubt by rejecting it from the record as the statement of a very unreliable writer. If we had not already in this Journal disposed of historical claims about which there is now no question, and which came indirectly through much more reliable writers than Fioravanti, we should hesitate long before setting aside this claim. We are to recollect that this purports to be the first operation of its kind in the world; and the first success in an operation which has usually resulted in death by shock or hemorrhage in the most skillful hands, and with all the advantages of modern surgery.

Having disposed of three Italian cases, we come to an American one in Franzolini's table which was unquestionably not a splenectomy. Dr. G. Volney Dorsey, of Piqua, Ohio, under the names of "*Dorsay*," and "*D'Orsay*," has been credited in foreign and home statistics (one writer copying the error from another), with having removed a diseased spleen, with a successful result. Dr. Dorsay did in 1855 (Sept. 2d) make an exploratory incision into the abdomen of a farmer of 40 years of age, who had long suffered with violent pain, particularly in the region of the spleen. Finding this organ enlarged and adherent, he broke down the adhesions and restored the viscus to what he conceived to be its normal position, and the man recovered his health. This was certainly a bold and novel treatment, so much so that the late Dr. Eve gave the operation a notice in his work upon the "*Remarkable Cases in Surgery*," nevertheless there was nothing taken away. One might readily argue from this error against giving credit to the Zaccarello report, for if such mistakes can become current now, why might they not have become so three centuries ago, although having some foundation? In one sense Dr. Dorsey did *remove* the spleen, but he never claimed that he extirpated it.

Splenectomy has certainly been performed six times in Italy, and all of the operations proved fatal but the sixth. We are not aware of the report of any case having been published since that of Franzolini. The six cases are in few words as follows:—

1. The first operation about which there can be no question, was performed on January 20, 1874, at the Civil Hospital, of Cesena, by its Surgeon-in-Chief Professor Attilio Urbinati. The subject was a woman affected with simple hypertrophy of the spleen which was removed through an incision in the *linea alba*, the pedicle being ligated *en masse* with wire and dropped in. The patient died in four days. The autopsy revealed no evidences of peritonitis or hemorrhage, and the intestines were not obstructed. The cause of death was attributed to

torsion of the stomach produced by an enormous evolution of gas. The splenic artery was found atheromatous.

2. By the same operator in 1878. Subject also a woman with a hypertrophied spleen: thought probably leucæmic. The operation presented no special difficulty, and antiseptics were employed. The patient died of collapse in forty-eight hours.

3. Dr. Andrea Aonzo, Surgeon-in-Chief of the Hospital of Savona, operated on the third case on the 16th of June, 1878. The subject was a woman of 24, married, and had borne children, who was affected with hypertrophy of the spleen. The organ was quite movable, as the gastro-splenic ligament was $6\frac{3}{4}$ inches (16 ctm.) long. There were some adhesions which were easily separated. The pedicle was ligated in mass with double wire, the operation was completed in forty minutes, and the patient bore the anæsthesia well. She died of collapse in three hours. No autopsy was made.

4. Dr. Giuseppe Chiarlconi, of Milan, now Professor and Director of the Obstetrical School, and Surgeon-in-Chief of the Ospedale maggiore of Vercelli, operated on March 26, 1881. The subject was again a woman, aged 32, and affected with simple hypertrophy of the viscus. The tumour was free, except at the vault of the diaphragm, and the inferior face of the left lobe of the liver. The pedicle was tied in three portions for greater security. The patient died in three hours. There was no autopsy, but death was attributed to hemorrhage which was thought to have come from the torn adhesions to the diaphragm.

5. Prof. Celso Bonora, of Urbino, operated at the Civil Hospital, on May 21, 1881, on a woman of 53, affected with simple hypertrophy of the spleen without any adhesions. The pedicle was tied with carbolized silk ligatures, and additionally secured in mass by a wire in the *serre-noeud* of Cintrat. The operation was completed in half an hour, and the woman died in three and a half hours of collapse; aided by a moderate hemorrhage from a branch of the inferior diaphragmatic artery, which had either not been ligated or was not well secured. The woman was anæmic, and leucæmia had been suspected but had not been tested under the microscope.

6. Dr. Fernando Franzolini, operator. This case forms the basis of the monograph under review, and is of very great interest, as it would appear to decide in the affirmative, the question of the possibility of extirpating without fatal result, a leucæmic spleen, and of restoring by the operation, the normal character of the blood. This has been denied quite recently in England without any reference to this case, and the operation denounced as unjustifiable and useless.¹ The following is a condensed record of the case.

Giulia Lazzarini, single, aged 22, an operative in a match factory of Ponderno, a suburb of Udine, in Northern Italy. Her father died pellagrous; mother living; a young sister showed signs of scrofulous disease of the bones, and one grown up was a pale blonde, fat and flabby. Giulia had always been delicate; as an infant she presented a tumid abdomen; at ten she had a gastralgia, which only yielded after a long treatment. From twelve to fourteen she was ascitic and her lower extremities were quite œdematous. She did not menstruate until the age of seventeen. In the beginning of 1879 she commenced to suffer from a dull pain in the left upper fourth of her abdomen, which became increased on standing, and much aggravated under pressure. After a year and a half of suffering, she entered the medical department of the Civil Hospital of Udine, which was in July, 1880. Under treatment an abdominal tumour presumed to be the spleen was readily detected. She left the Hospital in November, and returned in January, 1881, when she was placed under the care of Dr. Franzolini, as a surgical case, who found by examining her blood under the microscope, that it contained an abundance of leucocytes, and he decided the case to be one of "*spleno-hypertrophic leucæmia*." She went home on June 11th, and returned on September 1st, fully determined to run the risk of an extirpation of the spleen. After an appropriate medical and dietetic preparative treatment, the operation was performed on September 20, 1881, under chloroform.

¹ See discussion in Clinical Soc. London, March 24, 1882, *Med. Times and Gaz.* April 15, 1882, page 395.

She was at this time extremely pale, but weighed 136 pounds. No swollen glands could be detected, or pain elicited by pressure over the seats of ganglia. Her abdomen was globose, fat, and pressure excited a diffused pain; her urine was not albuminous. From a very careful examination of her blood made under the microscope, on September 9th and compared with specimens obtained from healthy subjects, a mean of ten slides on either part being taken, it was ascertained that her blood contained an excess of white corpuscles amounting to 400 per cent. or 30 corpuscles where healthy blood contained 6.

The incision was made in the *linea alba* $8\frac{3}{4}$ inches in length, through an adipose deposit 2 inches in thickness. After the abdomen was opened, it was found very difficult to turn out the spleen, and when out, the shortness of the gastro-splenic omentum (one inch), which was also thickened with fat, made it impossible to ligate the vessels without returning it. The splenic artery was enlarged to the size of the index finger, and the splenic vein would admit the thumb. These vessels were ligated separately by means of an appropriate *portefil*, two carbolized silk cords being placed around each after being dissected free from fat. The omentum was then ligated in sections by being transfixed with a Peruzzi needle, and there being no inflammatory adhesions, the ligated parts were separated with a button-tipped knife within a quarter of an inch of the spleen. There was not a tablespoonful of blood lost. Finding there was no hemorrhage from the splenic vessels or vault of the diaphragm, the ligated parts were dropped in and the wound sutured. Time of operation an hour and twenty minutes. Size of spleen $10\frac{1}{4}$ inches long, $6\frac{1}{2}$ wide, and $2\frac{3}{4}$ thick.

The woman had no collapse; urinated voluntarily four hours after the operation; slept five and a half hours continuously the first night. Forty hours after operation there commenced a stillicidium of blood from the vulva, with lumbar and sacral pains, which lasted four days. On the eighth day a pain deep seated, and in the region of the spleen, accompanied with fever, introduced an attack of pleurisy with effusion on the left side. This went through the usual course of favourable cases, and the fluid had disappeared by the twenty-eighth day. By this time the wound had entirely healed, and there were no symptoms referable to the seat of the operation.

Giulia, at intervals of twenty to thirty days during her convalescence, was attacked with pain in the abdomen, especially in the hypochondria, and the regions of the ovaries and sacrum, with headache and restlessness, but without fever. The first of these was on October 9th, which was followed in four days by an abundant menstruation. This diminished, but did not cause a cessation of the suffering. Acting on the belief that these attacks originated in congestion, Dr. Franzolini treated them with relief by leeches around the anus.

On October 26th, thirty-six days after the operation, the microscope showed that the red globules had recovered their normal size and colour, and that the white corpuscles as compared to the normal proportion in healthy blood, had fallen from 30 to 6, to 15.7 to 6. A second examination made on November 15th gave 11.40 to 6; a third on December 6th, 10.7 to 6; and a fourth on January 25, 1882, 7.04 to 6. At the last report the woman was regarded as perfectly well; lips of good colour; able to work all day; eating and sleeping well; vivacious, and conscious of no derangement in her bodily health.

The results of the Italian splenectomies in a recovery of $16\frac{2}{3}$ per cent., which are nearly upon a par with those of the rest of the world, show the dangerous character of the operation, even in very skilful hands. Dr. Urbinati who died in April, 1881, at the age of 42, was regarded in Italy as a surgeon of remarkable skill, and he had in his first operation the aid and counsel of Dr. Peruzzi, of Lugo, certainly one of the ablest ovariologists in Italy; still, he lost both cases. Dr. Aonzo's case had a long pedicle, and the spleen was easily removed; the patient had the advantage of youth, but, nevertheless, death rapidly followed the removal of a spleen which measured 14 inches long, $7\frac{7}{8}$ inches wide, and $3\frac{1}{4}$ inches thick. Dr. Chiarleoni, who called to his aid the well-known Professors Porro and Chiara, who have made themselves famous by their successes

in abdominal surgery, lost his patient likewise, although every precaution possible appears to have been taken to avoid hemorrhage. And the fifth operation, under Professor Bonora, resulted as all of its predecessors; but here the age of the woman (53), and the probable leukæmic condition of her blood, which was not examined, diminished very materially the hope of success.

Dr. Franzolini's success shows that such a result is attainable even in an unfavourable case, for certainly his was one, in its history from childhood up. There can be no question that he did accomplish in a leucocythæmic case, what has heretofore been believed an impossibility; and some of the opponents of the operation will be forced to modify their views somewhat as to the possibilities of splenectomy under certain unusual leukæmic conditions of system being a curative operation.

The first danger in this operation, as shown by the cause of death in perhaps fully one-half of the cases subjected to it, is hemorrhage, occurring in, or immediately after, the division of the connections of the spleen, and especially those most remote from the abdominal opening. Any adhesion to the diaphragm or liver is a special element of danger. The anæmic condition of most of the subjects to be operated upon, renders a moderate hemorrhage almost certainly fatal.

Next to hemorrhage comes that often unaccountable condition, *shock*; a term which is frequently used to cover an ignorance of the real cause, in cases where an autopsy cannot be obtained. In the removal of a highly vascular organ enormously enlarged, containing several pints of blood, we deplete the circulation very largely, and thereby produce a condition which, although not the same as an immediate hemorrhage, is allied to it in the impression which it produces upon the system. Hence, a condition of danger often fatal in results, which the method of Esmarch has been devised to overcome. The removal of the spleen when of normal size, as shown by the results of a large number of traumatic cases, is not a very dangerous operation. Where a part or the whole of the viscus has been extruded through an incised wound, and removed after ligation, the patient has generally recovered. In the few cases of *wandering*, or prolapsed spleen that have been operated upon by excision, the fatality has been far less than in those of the removal of the hypertrophied organ.

The complex character of the pedicle, the dilated condition of the artery and vein, the omental connections, the proximity of the stomach and pancreas, the adipose deposits in the gastro-splenic omentum, and the lymphatic vascularity of an enlarged spleen, are all to be considered in estimating the difficulties and dangers of splenectomy, which is certainly one of the most dangerous of all the extirpative operations upon the human abdomen.

The question which will naturally arise in reference to the case of Dr. Franzolini is, was it one of unquestionable leucocythæmia? Mr. Herbert Collier has placed it in his table of extirpations, in which the disease of the spleen was "unassociated with leucocythæmia," and designates the enlargement as "simple hypertrophy." But he had evidently not seen a full record of the case, with the diagnosis of the operator. When first announced in the Italian journals, shortly after the operation, the case was given with this title; but this was altered when the true nature of the enlargement was reported. The fate of all the other splenectomies in leucocythæmia, will direct special attention to this exceptional one, and the second inquiry will be, if the woman had really a leukæmic spleen,

how is her entire recovery to be accounted for? It is a very simple matter to doubt the diagnosis on account of the exceptional termination of the case; but if leucocythæmia did not exist, how are we to account for the association of a splenic hypertrophy with a decided permanent increase in the proportion of the white corpuscles of the blood? The patient had never had intermittent fever; her spleen had been gradually enlarging for two and a half years. An excess of leucocytes had been detected in her blood nine months, and again at eleven days before the operation, and she suffered from dyspnœa and attacks of vomiting. It is true that the proportion of leucocytes as given, is very much below that which is common in splenic leukæmia. In healthy blood there is one white corpuscle to from 350 to 500, and in many adults to 1000 red ones. In leucocythæmia it is rare to find the proportion less than one white to twenty red globules, and the former is frequently one to ten, and may be as great as one to three or two red; and in one case reported, was even three white to two red. Unfortunately Dr. Franzolini had no *hæmectometer*, and does not state the reduction of the number of red globules in a given quantity of blood below normal, or the numerical proportion of leucocytes to red corpuscles. It is evident that the case was unusually favourable, as one of leukæmic degeneration, for a splenectomy, hence the remarkable escape from death, and the ultimate recovery. This being a very exceptional case, cannot be taken as a proof in favour of a general propriety of operating upon leukæmic subjects, it can only be used in a limited degree and applied to such cases as are found by the microscope to possess a fair proportion of red to white blood-globules, as the hemorrhagic tendency and danger of collapse would appear to be in proportion to the degree of leukæmic degeneration. We find very little encouragement in the case of Dr. Franzolini to induce one to operate upon the average of leucocythæmic patients. According to the nomenclature of Virchow, his patient had not a *leucocytosis* or *pseudo-leucocythæmia*, but a true leukæmia, or permanent *leucocythæmia* of unusual character. The fact that she escaped death under the additional complication of a pleurisy with effusion, goes to show that her blood was still in a condition to favour a recuperative process. The size of the spleen had also much to do with the escape from shock and exhaustion.

From the following table have been excluded the "Zaccarello" and "Ferreri" cases, which are of very doubtful authenticity; and the Dorsey case, which was not an extirpation. There are, no doubt, other cases that might be added to the record, but the table as it is will suffice to show the surgical status of the operation. The traumatic cases are perhaps nearly double of the above; the saving in them by partial or entire removal of the spleen has been from 50 to 60 per cent. *Splenotomy* in this class of cases has been much more frequently performed than total extirpation.

General Summary.—It will be seen by the table that there were only six men operated upon to twenty-three women. Of the 32 cases, the spleen was decidedly enlarged in 30; and of these there were 7 affected with simple hypertrophy; 16 with decided leucocythæmia; 2 with hypertrophy believed to be leucocythæmic; and 1 of splenic leucocythæmia with a small proportion of leucocytes. The leucocythæmic spleens varied in weight from about $2\frac{1}{2}$ pounds to $18\frac{1}{2}$. Of the 19 cases believed to be more or less leukæmic, 18 died. Of these 18, 12 died directly of hemorrhage, varying in time from 15 minutes to 18 hours; 3 of shock; and 1 each, of collapse, exhaustion, and peritonitis.

Table of Splenectomies, for Disease or Displacement of the Viscus. By R. P. HARRIS, M.D., Philadelphia.

No.	Date.	Operator.	Locality.	Sex	Age	Nature of disease.	Weight of spleen.	Cause of death.	Recover- ed.
1	Oct. 5, 1836	Quittenbaum	Rostock	F.	22	Hypertrophy of spleen in a cirrhotic subject	5 lb. 8 oz.	Hemorrhage, in 6 hours.	
2	Mar. 19, 1855	Küchler	Darmstadt	M.	36	Hypertrophy of spleen in a cirrhotic subject	3 " 5 "	Hemorrhage, in 2 hours.	
3	Nov. 20, 1865	S. Wells	London	F.	34	Simple hypertrophy	6 " 15 "	Thrombosis, in 6½ days.	
4	June 20, 1866	T. Bryant	London	M.	20	Leucocythæmia	4 "	Hemorrhage, in 1½ hours.	
5	Sept. 6, 1867	Péau	Paris	F.	20	Hypertrophy with nullo-cular cyst of spleen	2 " 8 "	.....	R.
6	Sept. 21, 1867	Koeberle	Strasbourg	F.	42	Leucocythæmia	14 " 3 "	Uncontrollable hemorrhage soon after operation.	
7	Nov. 9, 1867	T. Bryant	London	F.	40	Leucocythæmia	10½ "	Hemorrhage from adhesions, in 15 minutes	
8	S. Wells	London	.....	F.	.....	Hydatids followed by sanguinous discharge	.....	Peritonitis, on third day.	
9	1873	Koeberle	Strasbourg	F.	27	Leucocythæmia	.....	Shock, in 17 hours.	
10	Nov. 1, 1873	Watson	Edinburgh	M.	..	Leucocythæmia	8 "	Hemorrhage or shock, during evolution of Torsion of the stomach from evolution of gas, in 4 days.	
11	Jan. 20, 1874	Urbanati	Cesena, I.	F.	..	Simple hypertrophy	.....	.....	R.
12	1875	Czerny	Heldelberg	F.	30	Floating spleen	2 " 7 "	.....	R.
13	April 23, 1875	Péau	Paris	F.	24	Simple hypertrophy	2 " 7 "	.....
14	Jan. 28, 1876	S. Wells	London	F.	45	Leucocythæmia	6 " 9 "	Hemorrhage, in a few hours.	
15	Jan. 28, 1877	Hilroth	Vienna	F.	20	Leucocythæmia	18 " 8 "	Shock in 5 hours; no hemorrhage.	
16	Feb. 23, 1877	H. L. Browne	W. Bromwich	M.	20	Leucocythæmia	12 " 13 "	Hemorrhage, in 13 hours.	
17	Feb. 23, 1877	Fuchs	Behar	F.	40	Leucocythæmia	.....	.....
18	May 13, 1877	A. Martin	Berlin	F.	31	Floating spleen with neuralgic palus	.....	.....	R.
19	June, 1877	Hilroth	Vienna	F.	31	Leucocythæmia	11 " 11 "	Uncontrollable hemorrhage within 1 hour.	
20	June 6, 1877	G. B. Simmons	Sacramento	M.	40	Leucocythæmia	7 " 8 "	Hemorrhage, in 2½ hours.	
21	Jan. 6, 1878	Gelsowell	Essen	F.	39	Leucocythæmia	9 " 15 "	Hemorrhage, in 16 hours.	
22	July 1, 1878	Czerny	Heldelberg	F.	24	Leucocythæmia	.....	Hemorrhage, in a few hours.	
23	Sept. 29, 1878	Arison	Newcastle upon Tyne	M.	37	Leucocythæmia	7 " 13 "	Hemorrhage, in 5 hours.	
24	1878	Baker Brown	London	F.	..	Leucocythæmia	.....	Shock, during operation.	
25	1878	Urbanati	Cesena, I.	F.	..	Hypertrophy, thought leucæmic; no examination	.....	Collapse, in 48 hours.	
26	Mar. 24, 1879	J. F. Miner	Buffalo	F.	40	Hypertrophy, probably leucæmic; no adhesions	7 " 4 "	Exhaustion, in 18 hours.	
27	Mar. 26, 1879	Chiaroni	Milan	F.	32	Simple hypertrophy	6½ "	Hemorrhage, in 3 hours.	
28	May 21, 1879	Bonora	Urbino, I.	F.	53	Simple hypertrophy	7 "	Collapse with moderate hemorrhage, in [2½ hours.	
29	June 16, 1879	A. Anzo	Savona, I.	F.	24	Hypertrophy, long pedicle	10 "	Collapse, in 3 hours.	R.
30	Aug. 2, 1879	Czerny	Heldelberg	F.	24	Simple hypertrophy	7½ "	.....	R.
31	Sept. 20, 1881	Franzolini	Udine, I.	F.	22	Splenic leucocythæmia, with a small proportion of leucocytes.	3½ "	.....
32	1882	W. Haward	London	F.	49	Leucocythæmia	7 " 8 "	Shock, in 5 or 6 hours. Vomiting severe; no hemorrhage.	6

Of the whole 26 fatal cases, 15 bled to death, and not one lived as long as a week. 23 of the 26 cases died directly from the effects of the operation; the three indirectly fatal results were, 1 from thrombosis in 6½ days; 1 from torsion of the stomach in 4 days; and 1 from peritonitis on the third day. Of the seven cases of "simple hypertrophy," but two recovered. Floating splcens are said to have been removed in two additional cases, both of which died. These would bring up the list to thirty-four.

Since the preceding was in type, we have received accounts of three additional cases, two of them in the United States, making in all 37 operations for the removal of diseased spleens, with 7 recoveries; or a fraction less than 19 per cent.

35. The first splenectomy in the United States, has been claimed for Dr. Oscar C. Dewolf, formerly of Northampton, Massachusetts, and more recently of Chicago, Ill., by a physician who was present at the operation, which was performed on a woman at Florence, in the former State, in or about the year 1870. The spleen was extirpated for disease, and the patient was apparently doing well for a day or two, but then died suddenly. (*Boston Med. and Surg. Jour.*, August 8, 1878, page 195.)

36. Dr. L. C. Lane, of San Francisco, California, removed a diseased spleen (sex of patient not given) at the St. Mary's Hospital in that city, in 1877. There being extensive adhesions, some of them to the diaphragm, there was a severe hemorrhage set up, which so endangered the life of the patient, that transfusion of blood was resorted to. This enabled the operator to complete the operation and close the wound; but there being still some bleeding, the transfusion was resumed; the tube became obstructed, and before it could be cleared the patient died. (*Pacific Med. Jour.*, Nov. 1877, page 271.)

37. Dr. Crédé, Jr., of Dresden, removed the spleen of a mason, of 44 years of age, for cystic disease, on September 25, 1881. The man was quite anæmic, notwithstanding which, he recovered, and in time his anæmia disappeared. He had suffered for years with painful sensations in the splenic region, which finally culminated in the formation of a large cyst. (*Berliner Klin. Wochenschrift*, June, 1882, page 407.)

This case corresponds in character and result with that of Dr. Péan, No. 5 in the table, which was diagnosed as an ovarian cyst. The cures have been in cystic disease of spleen, 2; in prolapsed spleen, 2; in simple hypertrophy, 2; and in hypertrophy associated with mild leukæmia, 1.

The experience of all who have operated upon cases of *decided* leucocythæmia, and the general testimony of surgeons who have carefully examined their records, are against the propriety of operating, where the microscope reveals this blood disease. In cases decidedly anæmic, the risk is very great, but recovery is not impossible, as shown by the case of Crédé. The case of Franzolini is so rare a one, that it is not likely to be duplicated in a long period of years.

The removal of an enlarged spleen, whether affected with simple or leukæmic hypertrophy, is shown to be very fatal. Skill is all important, but it is seldom successful. Whether the operation be readily performed or not; or the bloodvessels ligated separately or in mass; or the pedicle secured in the abdominal wound or dropped in, the patient usually dies. If there is no blood lost by hemorrhage, the case is still apt to be fatal, and this we attribute to the removal of so large an amount of blood in the tumour. If this blood be filled with leucocytes, then the loss of its red

corpuscles from the circulation is a fatal one. It might be a question to be considered, whether the transfusion of healthy blood, as soon as the vessels of the spleen are ligated, might not counteract the effect of this sudden removal of that contained in the splenic arteries and veins. This whole subject is one of very great surgical interest. R. P. H.

ART. XVI.—*Transactions of the American Gynecological Society.*
Vol. VI. for the year 1881. Philadelphia: Henry C. Lea's Son & Co., 1882.

THIS volume is the record of the annual meeting held in the Academy of Medicine, New York, on September 21, 22, and 23, 1881, when 33 of the 54 Fellows were present. The President, Dr. William H. Byford, being absent, his address was read by the Secretary. Dr. Thomas Addis Emmet, of New York, was elected President for the year 1881-82. The Society will hold its next meeting, in Boston, on September 20, 1882.

The address of Dr. Byford, which was chiefly historical and congratulatory, recommends the formation by the ovariologists of America of a McDowell Fund, the income from which shall be used as a prize "for lectures or essays upon such subjects connected with gynecology" as may be designated, the said fund to be in the hands of the Society, and the prize to be awarded annually.

Acute Hyperæsthesia of the Peritoneum, either circumscribed or diffused, following minor Gynecological Operations and Manipulations, by SAMUEL C. BUSEY, M.D., Washington, D. C. To explain his title the author instances the case of a lady affected with dysmenorrhœa and ante flexion of the uterus, in whom he made use of a small sea-tangle tent; but such was the agony produced by its expansion that her husband was obliged to withdraw it in forty minutes. The pain began almost immediately in the cervix and extended entirely over the abdomen, which became sensitive to the touch or weight of the bedclothes, and every jar of the floor was felt by her. "Coldness of the extremities, pallor of the face, nausea and vomiting, and vesical irritability took place apparently simultaneously with the hyperæsthetic phenomena." Chlorodyne and hot fomentations relieved her, so that by the next day there was left only a slight feeling of soreness in the hypogastrium. The next menstrual period was unusually free from suffering. There was no fever or tympanites in the painful attack.

Dr. Busey accounts for the attack as follows: "The tent was the exciting cause, and the focus of irritation was located along the cervico-uterine canal. . . . The pallor and coldness were due to irritation of the vaso-motor centre, the gastric and cardiac disturbance to irritation of the pneumogastric centre, and the diffused pain and tenderness to irritation of the sensory fibres of the sympathetic supplying the peritoneum. It is not improbable, however, that this exaltation of sensibility may have had its cause in the probably existing passive hyperæmia of the peritoneal capillaries, the natural result of the emptiness of the superficial integumentary capillaries."

Dr. Campbell believed this to be "the first link in the chain of inflammation." He preferred the title of "peritoneal tenderness."