Pregnancy and operative surgery : their mutual relations / by Louis McLane Tiffany.

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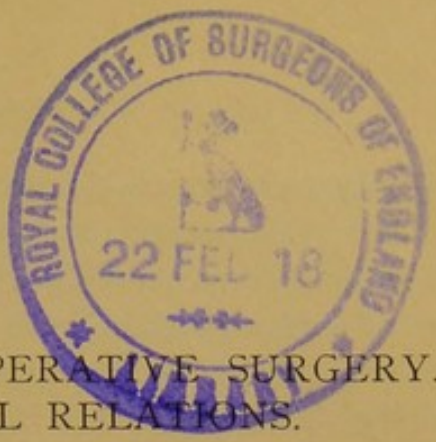

PREGNANCY AND OPERATIVE SURGERY. THEIR MUTUAL RELATIONS.

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Before the International Medical Congress at Geneva, in 1877, Verneuil read a paper, learned and exhaustive, on the relation existing between surgery and pregnancy, and formulated certain conclusions. It may be said that much that has been learned on the subject is to be directly traced to the influence and teaching of Verneuil. In the paper referred to above, occur the following words: "But is it actually possible to formulate definitely the theoretical propositions and the practical rules in question? We think not. Experience already acquired is still insufficient and it is necessary to appeal to future experience."

In the following pages I have brought together a number of surgical cases occurring subsequent to the list analyzed at Geneva, and such comments as are made must be considered as resting not only upon them but upon a study of the cases collected by Verneuil.

It is in the cases collected by me that we are brought in contact frequently with the term antiseptic surgery, as practised more or less perfectly by different operators, whereas the earlier list is made up of cases occurring in many instances before the principles of modern surgical wound treatment were thought of. A careful study of all recorded cases justifies the opinion that upon operations and surgical injuries during pregnancy, the principles of Listerism will produce results equally as good as have been brought about by the same principles in general surgery.

Probably that which is most remarkable in cases already recorded is the entire, or almost entire, absence of history in regard to previous abortions, or whether the patient was the subject of disease predisposing to abortion—*i. e.*, syphilis; even where the subject of the injury was a woman of the town, knowledge in this regard is not forthcoming.

It becomes, therefore, a matter of extreme difficulty to know how great a factor in producing miscarriage a given traumatism may be.

Operations on the uterus or appendages I have not tabulated, believing it an accepted fact that pregnancy does not negative their performance when required. A paper by A. Hofmeier (*Deutsche med. Woch.*, No. 19, May 12, 1887, pp. 397, 398) in this regard is well worth reading. He makes no difference between pregnant and non-pregnant cases as shown by results.

I have thought it well to collect cases of injury and of surgical operations, since the former so often necessitate the latter; it will be seen later, however, that the prognosis in the two classes is not identical.

Case I. *Traumatic peritonitis during pregnancy; miscarriage; recovery.* (*Louisville Medical News*, 1879, vol. vii. p. 307.)—June 4th, L. B., aged twenty-four years, colored, mother of two children, fell over a tub, striking the lower part of her abdomen against its rim. I saw her three days after the accident, when she was suffering from intense pain referred to a point about two inches above the navel, and which was greatly increased on pressure. . . . . Noted that she was pregnant, and learned that she was six months advanced. Peritonitis, with retention of urine, but no hemorrhage. Evacuated bladder, and gave one-quarter of a grain of morphine every two hours; fomentations to abdomen. . . . . Systematic feeding with whiskey and milk was kept up during the continuance of the case. . . . . June 15th, os dilating and membranes protruding. Fœtus expelled, which lived twenty minutes. Patient after a few days began to improve, and was dismissed cured on June 21, 1879.

This case particularly illustrates a point well known in Southern practice — the peculiar power of negro women to resist the accidents and diseases of the parturient state.

CASE II.—On July 14, 1875, M. Belin (*Bull. med. du Nord.*, Lille, 1878, vol. xvii, pp. 228, 229) was called by a midwife to see Mrs. P., aged thirty-two years, in her fourth pregnancy, at the ninth month. At eight o'clock that evening her drunken husband had quarrelled with her, and stabbed her with a penknife in the left side. The woman immediately called the midwife, who thinking she had been called for a premature birth, administered a laudanum enema, but the suffering continuing, she examined the abdomen and found a hernia of the epiploon. She summoned M. Belin at once. On examination he found, about one and a half inches to the left of the umbilicus, a small, narrow wound, through which a small portion of epiploon, about the size of a nut, protruded. The tumor was congested, of violet color, pediculated, and still warm. Reduction was tried, though the opening was very small, but found to be impossible; it was covered with an oiled rag and warm compresses were applied over the belly. She passed a good night, without much pain, no vomiting, no swelling of the abdomen, no fever. The epiploon tumor was cold when seen the next morning. The patient absolutely refused to go to a hospital; it was then decided to ligate the pedicle of the hernia, and to dress the wound with carbolized glycerine; the dressing was renewed twice daily. The following day passed without accident, although at that time there was an epidemic of puerperal fever in the neighborhood. On the sixth day the sphacelated epiploon fell off and the wound healed easily. The patient was delivered of a healthy male child at term; no complications supervened; the mother nursed the child herself. Since then Mrs. P. has given birth to two more children, after normal gestations and labors.

CASE III. *Penetrating wound of abdomen; protrusion of viscera in a woman about to be confined; birth; recovery.* (M. Richard: *Bull. méd. du Nord*, Lille, 1878, xvii. 101–108.)—Jan. 21, 1878, C. A., a woman of the town, aged twenty-two years, came to the hospital. She had had a serious fall in a dark cellar, while carrying some empty bottles in her arms. She had a penetrating wound of abdomen at a distance about two inches above navel, left side, 8 cm. in length. Through this wound the epiploon escaped, as well as the small intestine and transverse colon. This mass was of the volume of a man's head. There was also a wound on the right hand, quite serious; another on the left thumb; a severe bruise on the right knee. . . . The intestinal mass was carefully replaced, after washing it gently with warm water and

a soft new sponge. Wound was closed with the pin sutures (five in number), other wounds were dressed; ice dressing upon abdominal wound; opium administered. This woman was in the ninth month of pregnancy, primipara. In afternoon, complained of severe lumbar pains. Abdomen sore for some days; opium continued. Had chills, tympanites, delirium, retention of urine. Patient complained of severe pains, which appeared to be labor pains; os slightly dilated. At twelve o'clock, bag of waters was ruptured; at 2.15, woman delivered of a boy, healthy and strong; normal delivery. Child still alive January 24th. Jan. 28th, pins were taken out: wound in good condition; all healed sec. artem. Lochial flow regular. . . . Later she had nine chills and some symptoms of peritonitis in right iliac fossa. . . . On March 15th, patient was attacked by pleuro-pneumonia on right side. She however recovered completely.

Case IV. (R. P. Harris: *Amer. Journ. of Obstet.*, vol. xx. No. 7, p. 682.)—A strong woman, aged thirty years, multipara, when six months pregnant was gored by a cow. The abdominal wall was torn open, the uterus bruised but not torn; a large protrusion of omentum and intestines took place; these were returned and the wound sewed up with needle and thread, not including the peritoneum. Rapid recovery and delivery at term of a healthy child.

Case V. (L. Corey: *American Practitioner*, Sept. 1878, p. 151.)—On January 27, 1876, Mrs. S. C. R., aged thirty-five years, an athletic woman weighing one hundred and thirty-five pounds, in the third month of pregnancy, was attacked by a vicious cow, one of whose horns entered the belly walls in the hypogastric region. The patient was seen by Dr. Corey an hour and a half after the accident. Examination showed that "the cavity of the abdomen had been penetrated one and a half inches to the right of the median line just over the pubic bone, making a ragged lacerated rent in the parietes, ranging obliquely to the left and upward, terminating one inch to the left and on a plane with the umbilicus, making a wound at least five inches long, through which the great omentum, ascending, descending, and transverse colon, and most of the small intestine had escaped, and from which the pyloric extremity of the stomach protruded." The wound was pared of ragged tissue, eight silk sutures passed through the abdominal walls, and the edges brought together. Delivery of a healthy child took place at term, two hundred and two days later.

Case VI. (Rydygier (Kulm): *Revue de Chirurgie*, from *Congress of German Surgeons*, No. 12, p. 1058, 1887.)—A woman, aged forty-

three years, in the sixth month of pregnancy. Internal strangulation. After seven days, laparotomy in the linea alba. The obstruction was produced by a band which was divided between two ligatures. Recovery in twenty-five days. No miscarriage.

The following is a case related to me by Dr. J. S. Bowen, of this State:

Case VII.—"Three years ago I was called to see a married woman, aged about thirty-two years, in her third pregnancy, who had sustained a simple fracture of each leg just above the ankle. She was in the second month of pregnancy. Neither fracture united until after delivery, which took place at term; consolidation was then rapidly completed."

I have had no personal experience in regard to the behavior of fractures during pregnancy. A number of cases of retarded union have been recorded (E. Petit, *Thèse, Auxerre,* 1876), a greater number proportionately when compared with retarded union in the non-pregnant; hence I am led to the opinion that gestation exercises an unfavorable influence upon union of broken bone.

Case VIII. (Keelan: *British Medical Journal*, October 15, 1887, p. 825.)—A female, aged thirty-five years, in the eighth month of pregnancy, applied for relief. She was found to have a stone in the urinary bladder, two inches broad by two and a half long. She was operated upon, and the stone after removal weighed two ounces and a half. The woman made an excellent recovery and left the hospital about three weeks from the date of the operation. Details of operation are not given; it was probably lithotomy, however.

Case IX. (N. Prozowsky: *Vrach. Vaidom*, St. Petersburg, 1879, vi. 1113, 1114.)—A woman, aged twenty-seven years, of robust constitution, and always in good health, in the eighth month of her first pregnancy, during an affray received a gunshot wound, the assailant being but a few feet from where she stood. The missiles, instead of ordinary shot, were of lead pipe which had been chopped fine, which caused them to scatter widely. She was wounded in many places: chest, abdomen; in many superficially, in others quite deeply, but the bulk of the shot entered her right arm, producing a frightful wound, with

laceration of the radial and ulnar arteries. The numerous missiles were extracted, and the wounds dressed antiseptically according to the best methods, and properly supported and bandaged. A few days after the operation the fœtal heart-sound could be distinctly heard. The pregnancy was in no way disturbed by the severe accident, and the confinement which occurred at term was perfectly normal. Neither was any bad effect produced upon the child, apparently; it seemed perfectly healthy at birth, but died four days after (cause not mentioned). No mention of subsequent pregnancies.

Case X. (Franklin Staples: *New York Medical Record*, Sept. 9, 1879, p. 505.)—A Swedish woman, aged twenty-eight years, pregnant at full term, received a pistol-shot about two inches above the crest of the right ilium, and a little back of the anterior superior spinous process, the ball taking a downward and forward direction. Little shock was felt. Forty hours later delivery of a dead child took place, and the pistol-ball was found in the abdomen. Labor was normal in all respects, except that there was some nervous prostration, and recovery was complete.

(Dr. Charles Berry, of New Ulm, Minnesota, the attending physician, furnished the above to the reporter, Dr. Staples.)

Inasmuch as Case X. was at term, it is not easy to estimate the effect of the pistol wound in inducing miscarriage. An unfavorable result from the injury might have been expected, but fortunately did not occur.

Case XI. (Bancroft: *Medical and Surgical Reporter*, Philadelphia, 1876, xxxiv. 438, 439.)—A woman in the seventh month of her first pregnancy was shot with army revolver, forty-four calibre. The missile entered between the second and third ribs, one inch from the sternum, passing through the right lung and escaped through the scapula, three inches below the spine. After leaving the body the bullet passed through a pine door. There were much hemorrhage and shock. Lint placed over the wounds became adherent, remaining until recovery had nearly taken place. At full term a healthy boy was born.

Case XII. *Woman in advanced pregnancy grievously hurt by a "landslide."* (*Prag. med. Woch.*, 1881, vi. 203.)—M. U., aged twenty-seven years, in the eighth month of pregnancy. While working in a brickyard, December 11, 1878, a wall of clay, two metres in height, fell and almost completely buried her. She was soon extricated and put to

bed. Patient of robust constitution. On examination found a terrible wound of the head, extending from the right parietal protuberance to right eye, twenty-five centimetres long and three-quarters of a centimetre in width; edges of wound sharply cut. Another wound over right eye, wide enough to admit finger; numerous bruises over the body and legs, as well as abdomen. Fœtal heart could be distinctly heard. The wounds were dressed, thirty-two sutures being used in the head wound alone. She got along very well for some days, until erysipelas set in with very high fever. On January 15th, however, she was confined, being then convalescent; had a normal and easy labor; the child was a perfectly healthy girl. The patient eventually recovered perfectly. An examination of the spot where the accident occurred, showed that the wounds, which might have been mistaken for sabre-cuts, were produced by the sharp angles of the frozen clay.

Case XIII. (A. Faucon: *Journ. d. Sci. Méd. de Lille*, 1883, v. 241–253, 292–299, 332–343.)—Jan. 31, 1888, B., aged twenty years, health always previously good, fell upon her left knee four weeks since. Kept on with her work until a week ago, when she woke up and found her knee swollen and painful. Examination: Suppurating hygroma of left knee; circumscribed tumor over anterior part of patella; fluctuation; articulation painful. Patient is in the fifth month of pregnancy. She was chloroformed, and a crucial incision made over the tumor. Escape of laudable pus. Lister's dressing, with thorough drainage. On the 18th, a friend visited her, and she took off the dressing to show her, reapplying them as best she could. On the 22d, erysipelas developed, lasting until the 14th of April; it affected the whole body at different times, save head and neck, and vulva and vagina. The fever lasted from February 23d till March 14th. She was delivered at term of a healthy child, without accident.

Case XIV. (*Gaz. Hebdom. d. Sci. Méd.*, Montpelier, 1885, vii. 589–592.)—L. B., aged twenty years, unmarried, on August 25, 1885, came to the hospital. She was in the ninth month of pregnancy. Patient robust. In February last had connection with a man who was still in the hospital being treated for a venereal disease. When examined, patient had an abundant flow from the vagina; œdema of labia majora and minora. Diagnosis: vulvo-vaginitis of gonorrhœal origin. Fœtal sound heard plainly; head of fœtus felt at the superior strait. General condition good. Treated by baths and injection. On the 30th, patient complained of severe pain in groin, right side, radiating to the knee; adenitis; abscess rapidly forming.

Sept. 3d, fluctuation noted in abscess, which was opened with bistoury. Next day she had a chill, followed by high fever. On the 6th, at ten o'clock labor pains set in, and patient was delivered of a child, living but weakly; it lived only a few days. Erysipelas set in; no symptom in abdomen. Patient died on Sept. 14th, after long suffering.

Of the three cases reported, two appear as examples of erysipelas and recovered; the third is evidently septic, abortion and death following. The chill, etc., of Sept. 4th was probably due to septicæmia, miscarriage occurring on the 6th, and death eight days later.

Case XV. (Dr. Marius Ruy: *Gaz. Méd. de Paris*, 1878, vii. 48, 480–482.)—July 12, 1878, Dr. Ruy assisted Dr. Progez in an operation for anal fissure upon a pregnant woman. Patient, aged thirty-six years, of good constitution, had always menstruated regularly. A few years after her marriage she was delivered of a son, after a normal labor and confinement. Eighteen months ago she again became pregnant, and there was every indication of a normal gestation, when at the fourth month she had a miscarriage, which resulted, she thought, from moving and from a fall; she soon rallied, however. Five months later, patient noticed that whenever she went to the water-closet she had great pain about the anus. After trying everything for the trouble, and suffering the most excruciating tortures, she decided to have an operation performed; she was then two months pregnant, and had been greatly reduced in weight by the suffering, poor appetite, etc. July 12th, the operation upon the fissure was done, the method being rapid dilatation under chloroform. No chill, pain, or other trouble resulted. She was up by the 18th for an hour; felt perfectly well again on the 19th and 20th. On the 21st a profuse metrorrhagia set in; on the 22d an ovum of two and a half months was expelled. . . . Patient, however, soon rallied.

That the operation on the anus induced miscarriage, does not here seem to be clear; but in *Tribune Méd.*, Paris, 1876, pp. 315–319, 339–342, will be found many examples bearing on the subject of this paper; of these examples, Case XVII. is an operation for anal fissure followed by miscarriage within a short time.

The following example has some bearing on rectal surgery in relation to abortion.

CASE XVI. (Tiffany: *Transactions of Med. and Chir. Fac. of Maryland*, April, 1884, p. 216, Case IV.)—A stout, married woman, aged thirty-five years, suffered from rectal cancer entirely closing the bowel. She was two months advanced in her fourth pregnancy. June 4, 1888, complete obstruction having existed three or four days, the descending colon was opened in the lumbar region; the wound healed rapidly. Two months later, the carcinoma almost entirely filling the pelvis, abortion took place and the patient died with symptoms of intra-pelvic inflammation and septicæmia.

CASE XVII. (*American Journal of the Medical Sciences*, January, 1873, p. 279, from *American Journal of Obstetrics*, May, 1871.)—Dr. John Gilmore, of Mobile, Alabama, in December, 1870, extirpated the left kidney of a negress, aged thirty-three years. The patient was five months advanced in pregnancy and recovered without aborting. The operation was done on account of severe and constant pain.

CASE XVIII. (Tiffany: *The Medical News*, April 16, 1887.)—February 16, 1887, there was removed from the left kidney of a married woman, aged twenty-seven years, an irregular stone weighing thirty grains. The patient was in the fifth month of her first pregnancy. Constant pain, elevated temperature, rapid pulse, frequent vomiting, ill-smelling urine, and great restlessness, justified the operation. Recovery was rapid. Pregnancy was not interfered with. (This woman is again pregnant; the first child is living.)

CASE XIX. (Tiffany: Hitherto unpublished.)—A woman, aged twenty-eight years, strong, and apparently healthy, three and a half months advanced in her second pregnancy, consulted me in regard to the condition of her right leg. I found several fistulæ over the tibia, and recognized dead bone. One week later I opened the tibia with chisel and mallet, removing dead and diseased bone from a space about eight inches in length. All went well, and at term a healthy, well-formed child was born. No history of previous miscarriage or syphilis.

CASE XX. *Noxious influence of traumatism upon pregnancy, and of abortion upon a surgical operation.*—M. Faucon (*Loc. cit*) observed, in 1864, in the clinic of Prof. Rigaud, while he was an interne in the Strasburg Hospital, a case of cauterization which was followed by a disastrous result. A woman aged thirty-eight years, brunette, and of

sound constitution, came to the hospital to be treated for a tibio-tarsal arthritis of several months' duration, which had resulted from a neglected sprain. Without chloroforming the patient, six long burns were made over the anterior part of the articulation, by means of the knife-shaped cautery. This painful operation was done in the morning, and was followed, in the evening of the same day, by the expulsion of an ovum of two and a half months. The patient, a widow, had not informed the physician of her condition. Under the influence of this abortion the diseased joint began to suppurate, which necessitated, after several weeks, the amputation of the limb. The patient succumbed shortly after to pyæmia. At the autopsy, nothing abnormal was found in the womb or peritoneum; there were, however, some metastatic abscesses in the lungs.

Case XXI. (A. Faucon: *Loc. cit.*)—L. came to the hospital November 19, 1881. Two days previously, while filling a kerosene lamp, she dropped it; her clothing took fire, she fell and became unconscious. When she recovered consciousness she found that she was burned over the right knee and elbow, and had also a deep eschar and a burn of fifteen square centimetres over the external surface of the right thigh. When the eschar fell, the muscles were found implicated. She was treated after the method of Lister; no complications occurred. She was taken to the Maternity Hospital in the beginning of July, where she gave birth to a healthy, well-developed child. After her delivery she remained six weeks in the hospital; during that time the burns, treated with salt water, were the seat of abundant suppuration; she was, however, cured completely after the lapse of six weeks.

Case XXII. (Dr. William Hunt: *American Journal of the Medical Sciences*, lxxxi. p. 186.)—A woman, aged thirty years, in the ninth month of pregnancy, was very severely burned. On admission to hospital, fœtal heart-sounds were heard, but ceased the following day. At 5.20 P. M. of this day labor came on actively; a dead female child was born. "The child was apparently blistered and burnt in extent and in places almost exactly corresponding to the injuries of the mother."

Of these burn cases, the first evidently, as stated, was septic, but it is not clear that miscarriage was induced by such a condition. The patient was a widow, and the parentage of the offspring remains an uncertainty; and the same may be said in

regard to any inherited disease. Shock appears to be the most probable cause of the abortion.

Antiseptic treatment is stated to have been resorted to in the second case, the patient going safely through confinement at term, with open wounds. Abundant suppuration subsequently followed a change of dressings—salt water. Comment is needless.

In the third case miscarriage followed fatal burns, the patient being almost at term. The condition of the child is suggestive, and will be referred to later.

CASE XXIII. (A. Faucon: *Loc. cit.*)—M., aged thirty years, came to the hospital April 3, 1883. Single, but in the eighth month of pregnancy; has had four children, all normal deliveries. Patient is thin, pale, and of lymphatic temperament. She noticed a few days since, the swelling of a gland in her neck, behind left ear; tumor of rapid growth and painful enough to prevent sleep. Movements of neck very painful; movement of lower jaw, as well as deglutition, difficult. Temperature normal. On the 5th she was chloroformed, tumor was incised, and a large quantity of pus escaped. Drainage tubes inserted, wound dressed *à la Lister*. Gave iodide of iron and quinine. She eventually recovered, and had a normal delivery.

CASE XXIV. (A. Faucon: *Loc. cit.*)—S., aged twenty-one years, came to hospital for a suppurating mammitis. Patient of lymphatic temperament, a blonde, of previously good health. No history of traumatism to account for the disease. Abscess was in the left mamma, as large as a fist; opened with thermo-cautery; drainage tube introduced; Lister's dressing. Three weeks later patient left hospital with a small fistula. Dec. 2, 1882, returned for an abscess in same mamma; fistula not yet closed. It was likewise opened with thermo-cautery, and drainage established. She was completely cured, and left hospital Jan. 1, 1883. When the patient presented herself at hospital she was six months pregnant. She was safely delivered of a living child at term.

CASE XXV. (*Ind. Pract.*, Buffalo, 1885, v. i. 580.)—Patient, aged thirty-five years, in sixth month of pregnancy. Consulted writer for a growth on right side of upper jaw, the size of a hickory nut. It enveloped a portion of the crown of lateral incisor, cuspid, and bicuspid teeth. Diagnosis: Epulo fibroma. Patient was etherized, and the tumor, teeth, and involved portion of the bone removed in a common section made

by the circular saw. No shock resulted; patient did not even go to bed, and after two or three days went about her work as usual. Pregnancy apparently not disturbed in the least. No further details of case given.

Case XXVI. (Pilcher: *Proc. Med. Soc. Co. of Kings*, 1879, iii. 368–370.)—Mary A. McP., aged fifty-eight years, mother of three children, eight months advanced in fourth pregnancy. Has a tumor of the right breast dating from before her third pregnancy. At present the whole gland and the skin over it is involved; ulceration is present at one point. Axillary glands enlarged. Immediate removal advised and accepted. All diseased tissue was taken away, including axillary glands; flaps were brought around from the axilla to replace the skin removed. Rapid healing took place. No interference with the course of pregnancy. Confinement at term of a healthy, well-developed child. The tumor presented the gross appearances of scirrhus.

Case XXVII. (Dr. St. H. Serre: *Gaz. Hebdom. d. Sc. Méd.*, Montpellier, 1885, vii. 589–592.)—F. C., aged thirty-eight years, single, came to hospital May 8, 1882. In the fourth month of pregnancy. Wished to have a tumor on her right breast removed. First noticed the growth two years since; three months ago it began to ulcerate. . . . The whole mammary gland was invaded by the tumor. . . . Patient complained of lancinating pains in it; it had been rapidly growing of late; glands of axilla swollen. General condition of patient quite good; symptoms of cachexia. A few days after patient entered hospital she developed an erysipelas over the right breast; soon cured, however. On the 23d, the patient having been etherized, the tumor and mammary gland were entirely removed. . . . The ganglion in the armpit was likewise removed, the skin being incised with the thermo-cautery. Lister's dressing applied. Microscopical examination of tumor showed it to be a fasciculated sarcoma. . . . The wound suppurated freely. June 7th, it was very painful, and ulcerated in spots. 9th, high fever, no appetite, dyspnœa, great pain. On the 15th, after great suffering, patient died. Post-mortem showed fœtus must have died a few days before the patient did.

Case XXVIII. *Echinococcus of omentum, complicated by pregnancy; complete removal of the echinococcus by means of laparotomy; recovery* (Rein, G. E.: *Journal of Midwifery and Diseases of Women*, St. Petersburg, 1887, i. 115–125.)—The patient, a cook, aged twenty-five years, native of the District of Kiow; in a good general state of health; is now in her third pregnancy (month not mentioned).

She was delivered of a child at the lying-in hospital three years since, after a normal pregnancy and labor. Some time after this, a swelling appeared just below the region of the liver, about the size of the fist; it developed in size to such an extent that it made the patient uncomfortable, and she desired to have it removed. In September and October, 1886, she suffered much pain in the diseased region. The operation of laparotomy was performed according to the aseptic method October 8, 1886. An enormous echinococcus of the omentum was found, which was removed. The wound was dressed, and was completely healed in twenty days, when patient left the hospital. There was no disturbance of pregnancy. (A portion of the omentum had to be removed with the growth.) No further mention of confinement, labor, etc., but the author thinks it was normal at term.

Case XXIX. (Casanova et Poulet: *Revue de Chirurgie*, 3, 1888, p. 207.)—L. D., aged twenty-three years, in the second month of a first pregnancy, sought relief on account of a tumor projecting below the left false ribs. Hydatid of the spleen was diagnosticated, and punctured. Some weeks later suppuration became evident and a free opening was made with a knife; a second suppurating sac was also opened. About three litres of purulent fluid containing many hydatids were evacuated. Drainage and irrigation were instituted, the patient recovered, and the course of pregnancy was not disturbed.

These cases of tumor are most instructive, one case only dying, the cause being septic absorption, yet miscarriage did not take place.

Case XXX. (A. B. Vesey: *Brit. Med. Journ.*, London, 1878, ii. 517.)—A woman, aged thirty-five years, admitted to hospital in November, 1876, collapsed and delirious; she had had her left arm shattered to above the elbow-joint in the rollers of a flax mill; had lost much blood; she was found far advanced in pregnancy, but denied it. . . . The limb was removed at the middle third by the ordinary circular operation. . . . After the operation, she was very restless, but gave no other indication of being in labor. In the evening it was evident that she was in labor, and ten hours after the operation she was delivered of a son, the patient lying on her back. Placenta came away soon afterward. . . . She made an uninterrupted recovery and suckled her child. . . . She subsequently told the operator that labor com-

menced immediately after the operation, she was consequently ten hours ill. She also stated that she was about two or three weeks from the full period of being delivered. Mother and child left hospital well. Child afterward died of croup.

CASE XXXI. *Neglected injury of the thumb, followed by abscess, gangrene, and septicæmia; death.* (Billroth: *Allg. Wien. med. Ztg.*, 1882, xxvii. 73.)—The patient, a robust woman, in middle life, of good constitution, six months pregnant. Pricked herself upon the right thumb with a fork, and neglected the wound, going about her work as usual. The thumb festered; inflammation extended to forearm; cellulitis. Treatment by free incision. Some days later, hand had turned grayish-black; inflammatory redness creeping up the arm, abscess in the fossa cubitalis. Patient being chloroformed, the arm was amputated at its middle portion. Patient's subsequent condition was throughout unfavorable. The stump was treated after the manner of von Bruns (earth-treatment). Third day after operation granulations in the stump had a pale and unhealthy look. Abortion took place, with few expulsive efforts, the patient scarcely noticing the occurrence. . . . . High temperature persistent; stump became gangrenous; metastatic abscesses; on ninth day after amputation, patient died of septicæmia. Autopsy showed some pleuritic effusion, peritoneum normal.

No surprise is caused by the fact that miscarriage occurred in both cases, great shock in Case XXX., and septicæmia in Case XXXI. being the respective causes.

CASE XXXII. (A. Faucon: *Loc. cit.*)—A. H., aged twenty-two years, entered hospital April 2, 1881. She was in the eighth month of pregnancy. While engaged in her labors at a weaving mill, her thumb was crushed by the machinery. There was exposure of the phalango-phalangeal joint, denudation of the inferior third of the first phalanx, and avulsion of the tendons. The thumb was dressed with phenated cotton and put upon a splint. The wound, with the exception of slight suppuration, healed kindly. She was delivered at term of an hydrocephalic child without accident.

CASE XXXIII. *Blows received by a woman four and a half months pregnant; no bad effects upon gestation.* (A. Faucon: *Loc. cit.*)—L., aged thirty years, came to the hospital Feb. 9, 1882. Of good constitution. Has had several children. Was attacked a few days previous by a man,

who beat her unmercifully. On examination, a few superficial excoriations were found on the face, an ecchymosis on the abdomen, over right iliac fossa. The uterus lay about two and a half inches beneath the umbilicus. Patient had not yet noticed the movements of child; no fœtal or uterine sounds heard; no oozing of any kind from the vulva. The neck was large, soft, and velvety, the os transverse, and admitted the end of the finger. Patient complained of pain over seat of ecchymoses, but this pain seemed superficial; no hematuria or bloody stools; palpation of uterus slightly painful. She was ordered rest in bed, and friction with camphorated oil over hypogastrium. On the 15th she left hospital. She had a normal delivery at term.

CASE XXXIV. (A. Faucon: *Loc. cit.*)—F., aged nineteen years, entered hospital January, 31, 1882. Began to menstruate at fourteen; had a normal labor fifteen months since; had no uterine disease. Had her last menstruation on August 6th. During that month, her lover had threatened several times to stab her; about Christmas time he renewed his threats while under the influence of liquor. She was so frightened that she jumped from a second story window, falling upon the ground; she, however, immediately got up and ran away. Soon after, however, she could no longer walk, and was obliged to remain in bed three weeks. Complained of violent pains over the right hip. For three days after her fall she had a slight bloody flow from the vulva, and also complained of lumbar pains. Womb rose to a point about one inch above umbilicus. Nothing abnormal was found on examination. She left hospital on the 15th, without further complications, and admitted that she had only come there to escape the pursuit of her lover. The story she had related of her fall was, however, found to be true. She had a normal delivery at full term.

CASE XXXV. (E. Sibois: *L'Union Méd. du Canada*, July, 1887, vol. i. No. 7, p. 345.)—On December 1, 1886, the writer was called to see Mrs. H., who had just had a severe fall. The patient, weighing one hundred and ninety pounds, had fallen, head first, from the top of a wall ten or twelve feet high. When seen, blood was flowing from nose and ears, and she was delirious. Five hours later, in spite of treatment, she was comatose; complete insensibility, dilated pupils, paralysis of bladder and rectum (!), laborious respiration, irregular filiform pulse. Another physician diagnosticated fracture of base of skull, and a hopeless case. At 11 o'clock P.M., respiration became less laborious, and the next morning, fourteen hours after the accident, she was perfectly conscious, and complained of terrible pain in head, neck, and shoulders. I knew

that she was pregnant. Ten days after the accident, she lost some blood (about two ounces), and this was followed by the expulsion of an ovum, without parturient pains. Two days later, patient was apparently as well as ever. The expelled ovum was entire; the embryo was between seventy and eighty days old. May 16th, or seven months after the accident related, Mrs. H. gave birth to a boy, at full term, weighing ten and a half pounds. She had, therefore, after the accident, lost one half of a double conception.

Case XXXVI. (Loviot: *Bull. et Mem. Soc. d' Obs. et Gyn. de Paris*, 1887, ii. 87.)—Mrs. G., aged twenty-five years, came to the hospital during the latter part of December, and there gave birth to a child at term. Has had two boys and a daughter, after normal and easy labors. Menstruated at fourteen. While in the second month of her last pregnancy, though the fact of her being pregnant was unknown to both operator and patient, the left eye was enucleated, having been diseased since the age of fifteen, when she had typhoid fever. There was no disturbance of pregnancy, and the child was born at term. (No further details of case.)

Of these thirty-six cases, miscarriage occurred in nine and a half, the half being Case XXXV., in which the woman aborted one-half of a twin conception, carrying the other half to full term. From this number are to be subtracted Case X., the woman being at term and aborting forty hours after injury; Case XIV., the woman being at term; and Case III., the woman in the ninth month being delivered of a healthy, strong child four days after a wound, because it does not appear that the wounds directly induced labor, the time of confinement having arrived. In Case XV., the miscarriage cannot be charged to the simple surgical procedure of ten days before. Case XXXV. may be also omitted, and there remain five cases, I., XX., XXII., XXX., XXXI., for consideration. Cases XX., XXII., and XXX. miscarried as the direct result of shock; XX. subsequently dying of sepsis; XXII. dying from the severity of the injury which induced the abortion; XXX. recovering and nursing her child, for gestation had advanced into the ninth month.

Traumatic peritonitis is chargeable with the result in Case I., and sepsis in Case XXXI. Unfortunately, the histories of these patients is defective, notably, in regard to the occurrence or not

of previous miscarriages, and in regard to the working condition of internal organs, the kidneys, for example. Research for predisposing disease, syphilis, does not in all cases appear, and much doubt must necessarily exist in this direction, as has already been mentioned.

Of the thirty-six cases, there died five; one from shock, Case XXII., the other four, XIV., XX., XXVII., XXXI., from sepsis; a more eloquent appeal in favor of the teaching of Lister it is difficult to imagine, or one which should more deeply impress the surgeon.

The relation between pregnancy and suppuration has always been a matter of importance; it is so no longer in aseptic wounds. Should a wound cease to be clean, the record above shows that danger is to be expected. In a rather extensive literature on the subject of suppuration during pregnancy, the principles of antiseptic surgery have been ignored until recently.

Mulier in utero ferens, secta vena, abortit, coque magis si sit fœtus grandior, says Hippocrates, book 5, aphorism 31; and this was accepted until during the seventeenth century when, owing to the teaching of Fernel, it became the fashion to bleed pregnant women. Later, however, traumatic fever, owing to defective wound treatment, was considered an associate more or less intimate with hemorrhage, and this opinion may be considered to have existed until the era of antiseptic principles. It is not possible to suppose that during the seventeenth and eighteenth centuries, and perhaps later, pregnant women were habitually bled if the practice was a fruitful cause of abortion.

Moriceau (T. Cornillon, *Thèse*, Paris, 1872) mentions a woman who was bled forty-five times during one pregnancy, and another who was bled ninety times.

E. Petit (*Thèse*, Auxerre, 1872) records three cases of ruptured varicose leg veins; the patients died without aborting; also three cases of ruptured varicose vulvar veins, who likewise died without aborting. The cases recorded in this paper do not indicate hemorrhage as a cause of abortion.

If there is such a thing as that which is known under the name of maternal impression, one would think that a series of

accidents and surgical operations should afford indisputable examples. This scarcely seems to be so, however. Of the cases here tabulated, in only two is the delivered child mentioned as being malformed in any way, Cases XXII. and XXXII. In the latter of these two examples an hydrocephalic child was born after the mother had sustained a severe crush of the thumb one month previously. It is difficult to suppose that the two conditions bear to each other the relation of cause and effect. Case XXII. cannot be dismissed with so brief a comment. The very remarkable similarity exising between the lesions of mother and child are worthy of careful study, and this study would be greatly assisted if it were known whether or not the woman had given birth to a child, or children, marked with blisters, or if there was present a disease possibly inducing such lesions. This information is not contained in the report of the case. After a careful survey of all cases reported prior to and since the Geneva Congress, I can find no justification for the opinion that the child in utero is liable to deformity as the result of a surgical operation performed upon the mother.

The maternal impression idea is widespread, and the following supposed example may be worth quoting as it bears upon the question of blisters present at birth.

Case XXXVII. (*American Journal of the Medical Sciences*, July, 1857, p. 285.) A little daughter of Mrs. H. fell on a cooking-stove sufficiently hot to burn slightly. The mother coming into the room quickly, feared that the child was fatally burned. The child was slightly burned on face, hands, and arms. Mrs H. was in seventh month of pregnancy, and was delivered two months later of a child having many blisters on its face and limbs. The blisters resembled those following a burn. The child lived three days. Another child was born about fourteen months later blistered "precisely on the same parts and in the same manner as the above described one." Inflammation set in and nearly all the fingers and toes sloughed off. In a subsequent confinement a healthy child was born.

One is strongly inclined to suspect congenital syphilis here, there being two children affected similarly. The identical

distribution of blisters is to be noted, and sloughing of fingers and toes as a sequel also. Had the child, Case XXII., lived, more light might have been thrown upon the matter.

Study of the cases here recorded, as well as of those previously published, I believe justify the following conclusions:

1. Pregnancy is a physiologcial condition and does not contra-indicate a surgical operation.

2. During pregnancy temporary strain may be exerted on some organ, *e. g.*, kidney, inducing impairment of function.

3. A surgical operation upon a pregnant woman is to be conducted so as to avoid inducing abortion, in itself a serious accident.

4. The main cause of abortion or death after operation is sepsis.

5. The probability of sepsis after operation is increased if the patient is suffering from disease either temporary or permanent.

6. Aborton may result from shock.

7. Hemorrhage does not seem to induce abortion.

8. Union of fracture may be retarded by pregnancy.

9. Recorded cases show that the unborn child receives no evil impress when the mother is subject to operation.

10. When a surgical operation upon a pregnant woman is under consideration, the function of all the patient's organs must be carefully investigated and regulated. An operation then conducted antiseptically may be expected to result as though pregnancy were not present.