NORRIS (R. C.)

A Report of Two Years' Work at the Preston Retreat.

BY

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A REPORT OF TWO YEARS' WORK AT THE PRESTON RETREAT.*

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The report herewith presented includes five hundred consecutive deliveries at the Preston Retreat since January 1, 1894—a series of cases of which nineteen were delivered during the last month of my predecessor's incumbency.

There has been one death from chronic Bright's disease, which makes the mortality for this period one fifth of one per cent. The last death that occurred in the Retreat under Dr. Goodell's incumbency was a death from eclampsia, on March 21, 1885 (Case No. 2,166). Two deaths occurred during Dr. Price's term: one on the third day after labor from eclampsia and apoplexy in a chronic kidney case, March 31, 1889 (Case No. 2,745), and one from mania and convulsions on the fourth day after labor (September 15, 1893, Case No. 3,480). These, with the death during my term of service up to the present time, give a total of 1,865 consecutive cases with three deaths, or a mortality of one sixth of one per cent.

After briefly outlining the routine management of the patients awaiting delivery and of those delivered at the Retreat, I desire to present the histories of my cases that seem worth recording.

The urine of each patient admitted is regularly examined, and the examination is repeated once a week. The presentation and position of the fœtus are determined by abdominal palpation. The pelvis is

* Read before the Philadelphia Obstetrical Society, January 2, 1896. Carefully prepared statistical tables are appended.

carefully measured externally, and when the patient's history or her external measurements indicate pelvic deformity, careful internal measurements are taken. The facts learned from these examinations are recorded on the following chart:

No.
Name, Age, Date, Last menses appd.,
Presentation and position, Gravida, Miscarriages,

Pelvic Measurements.	Child.
Inter-spinous,	Length, Weight,
Inter-cristal,	Malformations,
External conjugate,	Head Measurements.
Internal conjugate diagonal,	Bitemp.,
True conjugate, estimated,	Biparict.,
Right diagonal,	Occip. frontal,
Left diagonal,	Occip. mental,
Inter-trochanteric,	Trachelo-bregmatic,
Circumference,	Circum. occip. front.,

Urinalysis.

Date.									
Quantity.....									
Color.....									
Reaction.....									
Specific gravity..									
Albumin.....									
Urea.....									
Casts.....									

The total quantity of solids excreted by the kidneys is routinely estimated by Haines' modification of Haeser's method—viz.: Multiply the last two figures of the specific gravity of the urine by the number of ounces voided in twenty-four hours, and the product by one and one tenth. A woman weighing one hundred and fifty pounds should show normally a total of urinary solids of 1,150 grains in twenty-four hours. When this examination reveals a marked diminution of the urinary solids, then the urine is examined chemically to accurately determine the quantity of urea. Very little reliance is placed upon the presence or absence of albumin unless it is present in large quantity. Albumin was found in twenty-nine cases, and in nine cases there was kidney insufficiency which required active treatment. Five cases of pelvic deformity were noted that required operative treatment.

The technique followed at the Retreat to prevent puerperal sepsis does not materially differ from that followed in other similar institutions, and is briefly as follows: The women awaiting delivery never come in contact with the lying-in patients. Two baths a week, daily purgation, and a wholesome diet are the rules of the house. At the approach of labor the patient is given a full bath, with a generous use of soap and brush, and she receives a 1-to-2,000 sublimated vaginal douche, and thorough douching of the vulva, lower abdomen, and the inner surface of the thighs.

Vaginal examinations are as few as the case will permit, but manipulation to favor the mechanism of labor—for example, assistance to favor rotation in posterior positions or to correct faulty position—is not neglected. In ordinary cases one examination suffices. Diagnosis by abdominal palpation is highly valued and constantly practiced. Personal disinfection is rigid. Nail-cleaning: nailbrush and abundance of soap and hot water repeatedly changed, a 1-to-1,000 bichloride solution and in addition, for operative cases, alcohol and a sterilized nailbrush are employed. A lubricant is not used. A large freshly laundered gown covers the attendant's clothing. Prompt delivery of the placenta after a single dose of ergot; a post-partum sublimate douche (1 to 2,000) and antiseptic occlusive pads are employed in every case. Vaginal and perineal lacerations are always immediately repaired with silkworm-gut sutures and needles and needle-holder sterilized by boiling. Throughout the first ten days of the puerperium the antiseptic occlusive dressings are worn and are very frequently and extravagantly changed, the external genitalia being carefully cleansed with the bichloride solution when each pad is renewed. Vaginal douches in the puerperium are given on alternate days only when lacerations have required *extensive* repair. A two-per-cent. solution of creolin is used for intra-uterine or vaginal douches in the very rare cases that require douches in the puerperium. The nurses have cleanliness and antisepsis forced upon them at every point. The building is well ventilated and the wards are used in rotation. Each lying-in ward is thoroughly cleansed after ten days' or two weeks' occupancy, and for the same period the ward is vacated, the windows being widely opened in winter and in summer throughout this period. There are two delivery rooms which also are used in rotation. The hospital furniture in the delivery rooms and in the wards is made of iron and of glass and readily can be kept clean. A glass percolator and a glass nozzle are used for the douche. All instruments are sterilized by boiling in water.

PREGNANCY.

There have been comparatively few complications of pregnancy in the women awaiting delivery at the Retreat. Among these complications, the following are worth recording: One case of *uncontrollable hiccough* whose history is as follows: Mrs. A. (Case No. 3,626), aged nineteen, primigravida; has had numerous attacks of uncontrollable hiccough since the second month of her pregnancy; the attacks are always accompanied by vomiting and usually last about four hours, but have sometimes persisted for six days. During the attacks which I had the opportunity of studying, the diaphragm rhythmically contracted with a to-and-fro motion that could be felt by the hand depressed under the margin of the ribs; the pulse and temperature were not influenced. Each of the attacks occurring in the hospital followed a hearty supper, and the patient gave the history of their usual occurrence after overindulgence in food. The patient stated that innumerable hypodermics of morphine had been given without any beneficial effect, and that on several occasions her physician was compelled to administer chloroform. I was able to relax the spasm for short periods by the administration of pearls of nitrite of amyl containing three drops of this drug. The momentary unconsciousness thereby produced was soon followed by recurrence of the hiccough. Three or four doses were given at intervals, with only transient relief; large doses of belladonna and of bromides, together with restricted diet, relieved the patient very much, lengthened the intervals between the attacks to two weeks, and diminished markedly the violence of the spasms. The patient's urine was normal in every respect. After delivery the hiccough did not return.

One case of *chorea* has been observed: Mrs. P. (Case No. 3,975), aged twenty-six, II-para.

When fourteen years of age she had chorea, which disappeared in about six months. During her first pregnancy there were no choreic movements. She was delivered prematurely at seven months, July, 1894. The following November she became pregnant for the second time. A few weeks before the last pregnancy she had an attack of *la grippe*, which very much prostrated her. Shortly after becoming pregnant her husband noticed the choreic movements, which have persisted throughout this pregnancy without very marked aggravation. During labor the movements were very active until full dilatation of the os occurred, after which time they were less violent. The second day after delivery, the patient in the adjacent bed being attacked with

eclampsia, the choreic movements were very much increased. Fowler's solution was administered in ascending doses, which drug, and a quiet puerperium, brought about very great improvement.

There has been observed one case of very troublesome *asthma gravidarum.* In all of her three pregnancies the patient suffered from the same affection, and she was entirely free from such attacks when not pregnant. Constipation and a moderate degree of renal insufficiency explained her condition as one of mild toxæmia.

One case of *aphasia* was observed: Mrs. C. (Case No. 3,687), aged twenty-five, III-para; twin pregnancy. Since the occurrence of quickening, the patient lost her power of speech at intervals of a few days, but at no time did she lose consciousness. An attack always was preceded by pin-and-needle sensations, usually of the entire body, sometimes of the right side, and suddenly disappeared, leaving behind a severe headache. Vision was never impaired. The patient had been very constipated; similar attacks occurred in her two prior pregnancies, but they were much worse during the present twin pregnancy. In the intervals between pregnancies she was entirely free from the attacks. A careful study of this case convinced me that the origin of the loss of speech was hysteria; her difficulty was more an inability to produce a sound than a failure to use words properly—in other words, the case was one of aphonia.

Two cases of *aggravated gingivitis* and ptyalism were observed. Atropine pushed to the physiological limit gave some relief to this most distressing affection. A four-grain solution of silver nitrate penciled over the gums also seemed beneficial.

Convulsions occurred among the pregnant women six times. In two cases the convulsions were due to hysteria, in one to epilepsy, and in three to eclampsia. One case of *dysentery* in a woman pregnant at term was brought to the Retreat in an ambulance; she was isolated and passed through her confinement and puerperium without difficulty. One case of double pneumonia was given shelter overnight, and died within twelve hours. The latter patient was not positively known to be pregnant.

Eclampsia.—There have been three cases of eclampsia in the group of cases reported this evening. All the patients recovered:

Case I (No. 3,613).—Mrs. McK., aged twenty-five, I-gravida. This woman was a waiting patient at the Retreat when I assumed charge of the institution. Her urine had not been examined. The eclamptic seizure occurred a few days after I assumed charge of the Retreat, and before I instituted routine examinations of the urine of all the patients

awaiting delivery. At one o'clock in the morning several convulsions occurred while the patient was in bed; she was carried unconscious to the delivery room; her vulva was œdematous, and there was considerable swelling of the legs. She was catheterized, and the urine became solid after boiling it with a few drops of acid. The patient was delivered two hours after reaching the delivery room. During this time seven convulsions occurred. The treatment was as follows: Chloroform at the approach of a convulsion; chloral, one drachm, by enema; croton oil, gtt. v; hot wet pack, and as soon as the os was sufficiently dilated delivery was effected with forceps under chloroform anæsthesia. After delivery the patient remained comatose for twelve hours. The lungs were œdematous; the body was swollen; the eyelids were so puffy that the eyes could not be opened after the coma disappeared; the skin was very dry. Sixteen dry cups were applied to the chest anteriorly and posteriorly. Two drachms of a saturated solution of Rochelle salts were given every fifteen minutes until free catharsis followed. Thirty-two large watery stools occurred in twelve hours. After the patient was delivered she was kept continuously in a hot alcohol-vapor bath. The temperature at no time during the attacks was above 103° F. The irregularity, extreme rapidity, and weakness of the pulse seemed to contraindicate the employment of venesection or of veratrum viride. The child was still-born. Throughout the first week of convalescence the patient was given, morning and evening, citrate of caffeine in doses of three grains, which, apart from the physiological polyuria of the puerperium, had a marked influence in increasing the flow of urine. Basham's mixture was thereafter substituted. The diet was confined to milk. The urine steadily increased in amount; the albumin decreased, and the total quantity of solids excreted increased daily. When the patient left the hospital four weeks after delivery, only a trace of albumin was present, and the total amount of solids excreted in the urine in twenty-four hours was normal.

Case II (No. 3,659).—Mrs. K., aged nineteen, I-gravida. Two days after admission the urine was examined and was found to be normal, with the exception of a slight diminution in the amount of solids excreted. There was no evidence of toxæmia, and there was no œdema. Her labor began June 13, 1894, six days after admission. While she was asleep several convulsions occurred at intervals, the violence of which threw her out of bed and broke two of her front teeth. The urine drawn by catheter now showed a trace of albumin, and numerous narrow hyaline casts. The notes of the case for the

first twelve hours, including the treatment, are as follows: 10.30 A. M., convulsion, chloroform inhalation; 11 A. M., two convulsions at short intervals, chloral one drachm (enema), croton oil gtt. iv, and veratrum viride gtt. x (hypodermatically); 11.15 A. M., forceps; 12 M., delivery. Child was asphyxiated but revived; mother's pulse, 96; 2.30 P. M., pulse 60; saturated Epsom-salts solution, two drachms, every fifteen minutes; hot-air bath during alternate hours; 6 P. M., convulsion followed by free evacuation of the bowels and by a uterine hæmorrhage, with the loss of about one pint of blood; pulse 122, temperature 101° F.; chloral, one drachm (enema); 8.30 P. M., pulse 84; 9 P. M., pulse 108, strong and bounding; fluid extract of veratrum viride gtt. v (hypodermatically); elaterium one eighth grain; 10 P. M., pulse 65; elaterium one eighth grain; 10.30 P. M., free catharsis occurred; patient's mental condition improved. In thirty hours thirty-four drops of the fluid extract of veratrum viride were given in five- or eight-drop doses, when the frequency and the volume of the pulse, the rise of temperature and the excessive restlessness of the patient threatened the occurrence of a convulsion. Two drachms of chloral by the bowel and fifteen grains by the mouth were given within sixteen hours after delivery. Twelve ounces of Epsom salts were administered within thirteen hours in saturated solution in doses of two drachms, and during this time two doses of elaterium, each one eighth of a grain, were administered; free catharsis began at 7.30 P. M., seven and a half hours after delivery. The patient was kept in a continuous hot-vapor bath, the vapor being secured from alcohol poured upon heated blocks of soapstone placed under the bedclothes, and a current of hot air was supplied by means of an alcohol lamp and an elbow of stovepipe. This means of securing diaphoresis was kept up continuously for three days and thereafter, for one hour, three times daily for four days. Free action of the skin was thus secured. The patient was given all the water she could drink. The quantity of urine secreted by this patient after her delivery is of interest and shows the great value of caffeine as a diuretic. During the first ten hours after delivery the bladder contained no urine. Throughout the next twenty-four hours, June 15th, the quantity was ℥ xij; June 16th, ℥ xxiij; June 17th, ℥ xxiv; caffeine (grs. iij) was now given every four hours; June 18th, ℥ lxiij; June 19th, 4.25 pints; June 20th, 4 pints; caffeine was now replaced by Basham's mixture, which the patient continued to take throughout her convalescence.

The value of free catharsis and of diaphoresis was unmistakable in this case; also the use of veratrum viride to diminish the force and

frequency of the pulse. This drug was given whenever the pulse rose above 100 and when the increasing volume of the pulse indicated the probability of a recurrence of a convulsion. The hæmorrhage from relaxation of the uterus also contributed to depress the force of the heart's action. The patient's recovery was uninterrupted.

CASE III (No. 3,962).—Mrs. J., aged eighteen, I-gravida. In the fifth month of her pregnancy she was attacked with severe headache and partially lost her vision. At this time the symptoms of threatened miscarriage disappeared under rest in bed. During the past three months œdema of the ankles has been present and the patient has not been able to wear her shoes with comfort. Throughout the same period headache was almost continuous and at times her vision was blurred. July 10th, the patient was admitted to the Retreat. The next day a morning specimen of the urine was examined with the following results: No albumin; specific gravity 1017; acid reaction; tube casts were not found. She was freely purged with Rochelle salts, after which the head symptoms were less severe. July 20th, urine examination showed no albumin; faintly acid; specific gravity 1024. July 22d, quantity of urine in twenty-four hours was forty-eight ounces; specific gravity 1017; no albumin; acid reaction. The quantity of urea was estimated and was found only slightly below normal. July 30th, specific gravity 1015, faintly acid. Labor began August 2d, 11 P. M., and delivery occurred August 3d, 7.30 A. M. The presentation was left occipito-anterior and the birth natural. At 3 P. M., August 3d, the woman suddenly lost her vision, vomited, had intense headache and was very sleepy. Her tongue was heavily coated. A powder of potassium bromide (grs. xxx) and caffeine (grs. iij) was administered. At 7 P. M. vision had returned in the left eye, but the right eye had not recovered. The patient was very drowsy and slept heavily. Pulse 100. At 11.30 P. M. a convulsion occurred which lasted about five minutes. A second convulsion occurred an hour later. I discovered that the nurse had neglected to catheterize the patient and that the bladder was distended, pushing the uterus far upward and to the right. Twenty-three ounces of urine were drawn with a catheter. The pulse during the second convulsion was 130. Ten drops of fluid extract of veratrum viride were administered hypodermatically. A drachm of chloral was given by enema, most of which was not retained. When the coma following the first convulsion had largely disappeared, four drops of croton oil and, later, twenty grains of chloral were administered by the mouth. The bowels moved at 4 A. M., and shortly thereafter the patient slowly regained

consciousness. By means of an alcohol lamp and a shoulder of stovepipe, profuse perspiration was secured. The following day further action of the bowels was maintained by the administration of Rochelle salts, one drachm every hour, twenty doses being taken, which secured thirteen bowel movements. August 14th, the total quantity of urine in twenty-four hours was fifty-eight ounces, specific gravity 1020; no albumin; quantity of total solids excreted was above the normal. The patient had no recurrence of headache or disturbed vision, and four weeks after labor she was discharged perfectly well. The urine at this time was normal.

Six other women have been admitted to the Retreat in whom there were marked evidences of kidney insufficiency. Labor was induced in three of these cases, under which heading their histories will appear. The histories of the remaining three are as follows:

Mrs. C. (No. 3,960), aged eighteen, I-gravida. During the last three months of pregnancy œdema of the ankles, the legs, the vulva, and the face was very marked, during which time the patient complained of intense headache. There had been no dimness of vision. The bowels, under the action of purgatives, had been moving. Upon admission to the hospital, a few days before term, the examination of the urine showed albumin three fourths by bulk and numerous hyaline casts. The total quantity of urine in twenty-four hours was thirty-one ounces and the specific gravity 1017. In the absence of systemic symptoms and with a restricted diet and the ingestion of large amounts of water I decided to permit the patient's pregnancy to continue for a time with careful supervision of her excretions. Three days later she fell into labor, during which there were marked nervousness and jactitation. As soon as the os was sufficiently dilated Tarnier's axis-traction forceps was applied and a living female infant was delivered; weight, nine pounds. Within a few days after delivery, under the influence of caffeine, the kidneys secreted from forty to seventy ounces in twenty-four hours, the quantity of albumin steadily diminished, and the total quantity of solids excreted increased. Convalescence was normal.

Mrs. C. (Case No. 3,955), aged thirty-five, I-gravida. Some swelling of the ankles had been noticed in the early months of pregnancy, but during the last month the œdema was very marked. During the last week œdema of the vulva was present. There is also considerable puffiness of the face and eyelids. The patient recently complained of gastric distress on three occasions. During the night had nausea and vomiting. Has not had headache and vision has al-

ways been normal. During the past month has had very frequent micturition. Admitted to the hospital Sunday, July 7th. Calculating from the menstrual history, confinement is due July 20th. Examination of the urine, July 8th, shows a very large proportion of albumin, one half by bulk and numerous casts. The total amount of solids excreted was two thirds the normal amount. The patient was kept in bed, and the activity of the skin, of the kidneys, and of the bowel was promoted by means of sweating and the administration of milk, caffeine, and Epsom salts. Labor began July 11th, 3 A. M., and was completed spontaneously in twelve hours. During the second stage there was much nervousness; the pupils were unequal; there was incessant rolling of the head from side to side.

Fibrillary contraction in the muscles of the right side of the face and irregular twitchings of the right arm were noted; the right pupil was slightly dilated; the pulse 120. A drachm of chloral was administered by the bowel, and while the forceps was being prepared for an instrumental delivery the infant was spontaneously born, weighing four pounds twelve ounces. The nervousness and muscular twitching persisted for some hours after delivery. During the night, by the application of heat, the patient perspired moderately and four ounces of Rochelle salts were administered, followed by one bowel movement. During the first twenty-four hours subsequent to delivery ten ounces of urine were passed. Convalescence was rapid and complete, the functional activity of the kidneys speedily improving after the administration of diuretics and a milk diet.

Mrs. G. (Case No. 3,702), aged nineteen, I-gravida; admitted to the Retreat three weeks before term. She was very anæmic; suffered from headache and there was œdema of the lower extremities. An examination of the urine showed the total amount in twenty-four hours to be twenty-six ounces; specific gravity 1016; an abundant amount of albumin and diminution in the quantity of urea. The patient was very nervous and apprehensive of her coming confinement. Rest in bed; activity of the skin, obtained by means of hot-air baths; a milk diet; administration of caffeine and, later, of Basham's mixture carried her to term with improvement in her condition. After her labor the quality and quantity of her urine slowly improved. Meanwhile she was exceedingly nervous and became melancholic. She suffered from galactorrhœa, which seemed to be an expression of her nerve prostration. It was necessary to discontinue lactation. She finally recovered entirely from her nervousness and left the hospital with her blood and kidney conditions much improved.

Complications of Pregnancy.

	No. of Cases.
Albuminuria	29
Aphasia	1
Asthma gravidarum	1
Chorea	1
Chronic Bright's disease	2
Dysentery	1
Eclampsia (threatened)	3
Epilepsy	1
Gingivitis	2
Hysterical convulsions	2
Influenza	3
Kidney insufficiency (grave)	9
Pleurisy	1
Syphilis	10
Uncontrollable hiccough	1

LABOR.

Presentation and Position.	L. O. A.	R. O. P.	R. O. A.	L. O. P.	Breech.	Transverse.	Compound.	Total.	Infants.
Primigravidæ	121	25	7	1	4	..	1	157	Male, 264
Multiparæ...	256	70	6	2	11	2	..	343	Female, 242
Total...	377	95	13	3	15	2	1	500	Total, 506

Six twin pregnancies—two primigravidæ, four multiparæ. The presentation in four was vertex, in two vertex-breech.

Complications of Labor.—There has been one case of *placenta prævia*: Mrs. McG. (Case No. 3,669), XI-gravida, aged forty-three; last menses, September 7, 1894. On December 10th, June 6th, March 8th, and April 14th had uterine hæmorrhages, and on the last date the flow was quite free and lasted six days. June 7th, membranes ruptured. On June 12th, while working at the table, she was suddenly attacked with alarming bleeding which was not accompanied by pain; she was hurriedly taken to the delivery room, and upon examination the os was found undilated and only partially dilatable. A margin of the placenta extended to the external os on the right side; presentation and position left occipito-anterior; head not engaged. The largest sized Barnes bag was introduced but would not remain in place; the cervix was therefore dilated manually after the method

of Dr. P. H. Harris, and the head was brought into the pelvic inlet by axis-traction forceps which was then removed.

The hæmorrhage ceased and a living child with double harelip and cleft palate was born spontaneously, six hours later. Puerperal convalescence was without incident.

There has been one case (No. 3,892) of alarming *epistaxis* during labor. Careful examination of the patient could discover no disease of the kidneys or blood-vessels. The patient's face and eyes were markedly suffused and puffy during her labor. Four hours after the beginning of labor, profuse bleeding occurred from the left nasal passage. Applications of ice checked the hæmorrhage temporarily. One hour later a second outpouring of blood occurred, perceptibly weakening the pulse and requiring a plug of gauze smeared with cosmoline and dusted with tannic acid. The plug was removed immediately after the delivery of the placenta and there was no recurrence of bleeding.

There was one case of *premature detachment of a normally situated placenta* that was accompanied by a hæmorrhage not dangerous to the mother but fatal to the child :

Mrs. C. (Case No. 4,020), I-gravida, left occipito-posterior position.—There was delay in anterior rotation of the occiput due to obstruction by a very prominent ischiatic spine. During the second stage of labor a free discharge of bloody liquor amnii and blood occurred that decidedly weakened the patient's pulse, and caused a cessation of the fœtal heart. Immediate extraction with the forceps delivered a child in the second degree of asphyxia which proved fatal. A retroplacental clot the size of a cocoanut was found, and the placenta showed areas of fatty and fibroid degeneration. Autopsy upon the infant was made by Dr. C. W. Burr. All the organs were normal. The infant's death was due to intra-uterine asphyxia.

Uterine Fibroids.—Labor has been complicated three times by uterine fibroids.

Case I (No. 3,620).—Mrs. T., II-gravida. A submucous fibroid about the size of a newborn infant's head caused free bleeding immediately after labor by interfering with uterine retraction. Hæmorrhage was controlled by a hot intra-uterine douche. Patient's puerperal convalescence was normal, and on the twelfth day the tumor had been reduced to a very small size.

Case II (No. 3,619).—Mrs. C., I-gravida. Several subperitoneal tumors, each about the size of an orange, were felt on the anterior uterine wall. When labor began two nodules were distinctly felt be-

hind the bladder, but at the time of delivery the tumors had been drawn above the bladder by the longitudinal fibers of the uterus. Convalescence was afebrile.

Case III (No. 3,781).—Mrs. K., aged thirty-seven, I-gravida. Six subperitoneal fibroids were detected by abdominal palpation. Vaginal examination discovered a fibroid low down on the left side fixed below the pelvic brim and offering serious obstruction to the birth of the child. Preparations were made for a Cæsarean section, should the uterus fail to lift the tumor out of the pelvis, during the progress of labor. After two hours of active uterine contractions the tumor had been lifted sufficiently high to permit spontaneous birth. During convalescence I watched with considerable interest the progressive diminution in the size of the tumors, and when the patient left the hospital they had been reduced from the size of an infant's head to that of an English walnut. While it is true that uterine fibroids complicating labor should be closely watched and serious obstruction should be anticipated, I believe cases of uterine fibroids so situated as to be drawn up by the longitudinal fibers of the lower uterine segment should be given a fair chance before resorting to the Cæsarean operation.

A very interesting complication occurred in a woman on whom a *ventro-fixation* (Case No. 3,909) had been done two years prior to her delivery. This case has been reported in the *American Journal of Obstetrics*, December, 1895. The anterior uterine wall throughout its entire extent was apparently fixed to the abdominal wall and the physiological hypertrophy of the uterine muscle had occurred, but in such a manner as to double up the muscle fibers into a mass which obstructed the pelvic inlet and which was observed, alternately, to relax and contract with each recurring pain. A finger placed above the symphysis was at least five inches distant from a finger touching the interior surface of this hypertrophied mass of muscle. Almost the entire uterine sac was formed by the posterior uterine wall, which extended from the upper margin of the hypertrophied muscle in front to the sacral promontory. The uterine sac was therefore dangerously thinned; the contraction ring was situated low anteriorly at the junction of the cervix and the aforementioned hypertrophied and imprisoned muscle; posteriorly, the contraction ring was situated at least three inches above the sacral promontory. The child's position was oblique with the head lying under the spleen in the left upper quadrant of the uterus. The face was anterior, and the feet rested in the depression above and behind the hypertrophied anterior uterine

wall. The danger of rupturing the uterus by version was promptly recognized, and, after failing in efforts to dislodge and bring down the feet, cephalic version was performed; the head was made to rest posteriorly upon the promontory and anteriorly upon the obstructing mass of muscle. Tarnier's forceps was applied to the head above the pelvic brim; the cord had prolapsed and could not be replaced; rapid extraction therefore was employed, and the head brought past the obstruction into the pelvis. The child was now in a posterior position, with the occiput in the hollow of the sacrum. Rapid extraction, in order to save the infant, was employed, but without success. The cord had been compressed between the child's head and the mass of muscular tissue. The infant could not be resuscitated.

Pelvic Deformity.—Case I (No. 3,601).—Mrs. D., aged thirty, German, IV-gravida. Her first child was born dead at full term; attended by a midwife. Her second child was delivered alive with forceps; this child lived five years and carried a deep depression in its forehead from the pressure of the forceps. The third child was prematurely delivered with forceps. The patient was admitted to the Retreat in labor March 23, 1894. Her pelvic measurements taken during labor were as follows: Interspinous, 25 centimetres; intercristal, 26.5 centimetres; external conjugate, 17.25 centimetres; internal conjugate diagonal, 9.75 centimetres; true conjugate (estimated), 8.5 centimetres; right diagonal, 20 centimetres; left diagonal, 20 centimetres; intertrochanteric, 31 centimetres; circumference, 86 centimetres; patient's height, four feet seven inches.

Presentation and position: Vertex, occiput to the right. After several hours of ineffectual pains the membranes were not ruptured and the os was only partially dilated. Podalic version. The posterior foot was the first one grasped, the anterior foot not being readily reached. An attempt was made during extraction to rotate the child's body so as to bring anterior the occiput of the after-coming head.

This manœuvre caused a nuchal displacement of the right arm, which was liberated with some difficulty. After its liberation the head required powerful dragging and suprapubic pressure to accomplish delivery. The infant was deeply asphyxiated, but was finally revived after twenty-five minutes of hard work; it lived three days and then died in convulsions. Autopsy showed a widespread intracranial hæmorrhage. The child at birth weighed nine pounds and a half, and had the following measurements: Bitemporal, 9 centimetres; biparietal, 9.75 centimetres; occipito-mental, 14 centimetres; trachelobregmatic, 10.25 centimetres; occipito-frontal circumference, 37 cen-

timetres. It was a source of regret that symphyseotomy was not utilized for this case, since that operation might have saved the child.

CASE II (No. 4,005).—In August, 1895, the same patient was brought to the Retreat in labor, one week before term. The pelvic measurements were again carefully gone over and verified. Suprapubic palpation of the fœtal head and digital examination under ether to determine the relative size of the head and the pelvis indicated that this time the child was of smaller size than at her labor the preceding year. Version was again performed, this time with the birth of a living child, whose weight was seven pounds. The biparietal diameter was eight centimetres. This case emphasizes the necessity of studying the relative size of the head to the pelvis before determining upon the operative procedure to be employed in a given case of pelvic deformity.

CASE III (No. 3,719).—Mrs. McL., aged thirty, III-gravida. After three days of active labor her first child was born dead, with a spoon-shaped depression of the parietal bone. The physician who attended her at that time told her that she was too small to bear a living child and proposed craniotomy, which was refused on account of the patient's religion. In her second pregnancy she miscarried at two months; was sick in bed seven weeks, and was subsequently treated at the dispensary of the Woman's Hospital. She came to the Retreat in her third pregnancy one week before term. Her measurements were as follows: Interspinous, 24 centimetres; intercristal, 26 centimetres; external conjugate, 17.25 centimetres; internal conjugate, diagonal, 9.5 centimetres; true conjugate, 8 to 8.5 centimetres; right diagonal, 19.5 centimetres; left diagonal, 19.5 centimetres; circumference, 81 centimetres; intertrochanteric, 29 centimetres; patient's height, four feet five inches; weight, one hundred and thirteen pounds.

Presentation and position: Vertex, occiput to the left; sagittal suture in the transverse diameter of the pelvic inlet. Diastasis of recti muscles and pendulous abdomen. Labor began August 7th, one week after admission. Suprapubic pressure and digital examination under ether showed plainly that the head protruded well beyond the symphysis pubis and was not likely to enter the pelvis without undue compression.

The child was apparently of average or large size. After six hours of active labor pains the os was partially dilatable, and the head freely movable above the pelvic brim. At 2 A. M. symphseotomy was performed. A median suprapubic incision was made and the pubic joint severed with a Galbiatti knife; free bleeding followed the in-

cision through the joint; the hæmorrhage was controlled by iodoform-gauze packing. The symphysis immediately after its section separated about half an inch. When axis-traction forceps was applied and moderate traction made, the separation increased to an inch and a half as the head suddenly slipped through the pelvic inlet; the child was then extracted without difficulty, and was moderately asphyxiated, but was soon resuscitated. The gauze packing and a few blood clots were removed from the abdominal wound, and to secure drainage three strands of silkworm gut were passed to the bottom of the wound, avoiding the pubic joint. The silkworm gut was removed at the end of forty-eight hours; it afforded no drainage, and I shall not employ it again for this purpose, since it seems to be unnecessary and may prove a source of danger. The measurements of the child were as follows: Bitemporal, 8 centimetres; biparietal, 9 centimetres; occipito-frontal, 11.5 centimetres; occipito-mental, 13 centimetres; trachelo-bregmatic, 8 centimetres; circumference, occipito-frontal, 34 centimetres; length, 48 centimetres; weight, seven pounds four ounces.

During the patient's convalescence the urine was blood-tinged during two days, after which time it was normal. The patient's convalescence was afebrile. She was kept in bed five weeks. I examined this patient two weeks ago and find there is no difficulty in locomotion, and there is no appreciable movement of the joint surfaces when she walks.

Case IV (No. 3,641).—Mrs. U., aged twenty-five, II-gravida. Her first delivery occurred at the Woman's Hospital after a difficult forceps operation. The patient stated that the baby's head received a serious injury, and the child died six weeks after birth. The patient came to the Retreat ten days past term. Her measurements were as follows: Interspinous, 25 centimetres; intercristal, 27 centimetres; external conjugate, 17.5 centimetres; internal diagonal conjugate, 9.75 centimetres; true conjugate, 8.5 centimetres; right diagonal, 21 centimetres; left diagonal, 21 centimetres; intertrochanteric, 28 centimetres; circumference, 75 centimetres; weight, 105 pounds. Presentation was vertex, occiput to the left; sagittal suture in the transverse diameter at the inlet. The urine showed a trace of albumin; specific gravity, 1027; the quantity normal. The head had not entered the pelvic inlet. The apparently small size of the child's head, determined by suprapubic pressure and digital examination under ether, indicated the probability that the head would enter the pelvic inlet with cautious use of axis-traction forceps at the

pelvic brim. It was therefore determined that the treatment should be immediate induction of labor followed by application and cautious traction with forceps. If engagement of the head could not be secured without undue force, symphseotomy was to be performed. Labor was induced. A bougie was introduced April 25th, and provoked a few slight pains; second bougie, April 26th. Softening of cervix and a few slight pains were the only results of the introduction of the bougies. On April 27th the largest size Barnes bag was introduced, and six hours later the os was well dilated. The patient was etherized; the membranes were ruptured and Hodge forceps was applied at the brim, the right blade being applied first and above and behind the symphysis; the left blade followed and was placed above and in front of the sacral promontory. After careful but vigorous traction the head was drawn into the pelvic inlet and the forceps was removed. Spontaneous birth of a living child occurred one hour later. The measurements of the child were as follows: Bitemporal, 7.5 centimetres; biparietal, 8.5 centimetres; occipito-frontal, 9.5 centimetres; occipito-mental, 12 centimetres; trachelo-bregmatic, 8 centimetres; occipito-frontal circumference, 32 centimetres; length, 43 centimetres; weight, five pounds twelve ounces. Mother's convalescence afebrile.

Case V (No. 3,851).—Mrs. N., II-gravida. Patient had been delivered with difficulty the preceding year at the Retreat by means of high forceps. The pelvic measurements were as follows: Interspinous, 23 centimetres; intercristal, 25 centimetres; external conjugate, 16.5 centimetres; internal conjugate diagonal, 9.75 centimetres; true conjugate, 8.5 centimetres; right diagonal, 19 centimetres; left diagonal, 19 centimetres; intertrochanteric, 27 centimetres; circumference, 80 centimetres.

Labor induced two weeks before term: First bougie, at 7 P. M., February 3d; second bougie, at 9.30 A. M., February 4th. Pains began at 2 P. M. Membranes ruptured spontaneously at 3.45 P. M. Delivered of a living child spontaneously at 5 P. M. The measurements of the child were as follows: Bitemporal, 8 centimetres; biparietal, 9 centimetres; occipito-frontal, 12 centimetres; occipito-mental, 13 centimetres; trachelo-bregmatic, 8 centimetres; circumference, 34 centimetres; length, 48 centimetres; weight, seven pounds two ounces. An obliquely contracted pelvis, due to coxalgia, has been observed in three patients. The head in each case descended in the larger oblique diameter and delivery was spontaneous.

Induced Labor.—Labor has been induced five times—twice for

pelvic deformity in the cases just described, three times for threatened eclampsia. The histories of the latter cases are as follows:

Case I (No. 3,621).—Mrs. H., aged twenty-nine years, I-gravida, was sent to the Retreat three days before term. Upon examination, the face, lower abdomen, and legs were markedly œdematous. She complained of nausea, headache, and dimness of vision. The urine was diminished in quantity and contained a large amount of albumin and narrow hyaline casts; specific gravity, 1015. The quantity in twenty-four hours was seventeen ounces, and the total solids was half the normal amount. The day after admission on March 18th, at 3 P. M., a flexible bougie was placed in the uterus, and at 10.30 P. M. a larger size. March 19th at 10 P. M. the largest size Barnes bag was introduced. At midnight the os was dilatable. The membranes were ruptured, after which a living child was delivered with forceps. March 22d the quantity of urine in twenty-four hours was ten ounces, and after the administration of caffeine the quantity of urine slowly increased. Throughout the first two weeks of convalescence the patient was freely purged, and her skin was kept active by means of hot alcohol-vapor baths administered throughout one hour at intervals of four hours. The patient was discharged four weeks after delivery and her urine at that time showed only a trace of albumin. There were no casts and the quantity of urea was almost normal.

Case II (No. 3,683).—Mrs. N., aged thirty-four, VIII-gravida, referred to the Retreat, June 22d, by Dr. Brous. On examination, the patient's legs, face, and vulva were very œdematous. She had been passing a very small quantity of water which she stated stained her underclothing red. Immediately after admission she was catheterized, and only an ounce of urine was obtained which contained four fifths albumin by bulk, and a microscopic examination made without waiting for settling of the urine showed the presence of a large amount of blood; narrow hyaline and blood casts. There were nausea, occipital headache, and loss of vision in the right eye. A bougie was introduced at 3 P. M., after which 3 gtt. of croton oil were administered, followed in two hours by an eighth of a grain of elaterium. At 10 P. M. a glycerin enema was given, which was followed by a slight bowel movement. June 23d, feeble pains had occurred throughout the night; at 11 A. M. the cervix was softened and partially dilated; head not engaged; two bougies introduced; croton oil, 3 gtt.; catheterized, and three ounces of urine were obtained having the same character as above described. At 3.30 P. M., free bowel movement; active labor pains. Spontaneous birth of living

child at 4 P. M.; 6 P. M., patient very restless; respiration, 60; pulse, 160, weak and intermittent; temperature, 104°; caffeine (gr. j), digitalis (10 gtt.), were administered hypodermically every four hours; ice cap to head; hot wet pack. At 7 P. M., pulse, 144; respirations, 36; temperature, 101° F. Throughout the night caffeine (gr. iij), whisky (three drachms), and milk (two ounces), were administered every four hours, and the patient was kept continuously in the hot vapor bath.

June 24th, pulse, 104; temperature, 99.2°; respirations, 20. Patient able to see the print of a newspaper, but was not able to read; the left eye now had less vision than the right; there was intense pain in the right supra-orbital region. Salines in saturated solution were administered throughout the day until free evacuation of the bowels occurred; 10 P. M., pulse, 102; respirations, 30; temperature, 99.8°. In the next forty-eight hours the quantity of urine had rapidly increased to forty-eight ounces in the last twenty-four hours. The bowels were kept freely moving by means of salines and elaterium; the skin was kept active by hot vapor baths for an hour, administered every three hours, and after the quantity of urine began to increase, Basham's mixture was substituted for the caffeine.

On July 13th two hyaline casts were found on one microscopic slide. The patient now complained of intense pain in the right sacro-iliac joint and was unable to rest her weight upon her right leg. Upon examination, the uterus was found to be displaced backward and evidently exerted pressure upon the sacral plexus. The uterus was replaced and a pessary was introduced. The pain finally disappeared after salicylates had been used over a period of three weeks.

CASE III (No. 3,826).—Mrs. M., aged twenty-two; III-gravida. This patient was referred to the Retreat by Dr. C. E. Cadwallader, and gave the history of having been treated for dropsy prior to her present pregnancy. Admitted December 11th. Upon examination, the face, arms, legs, abdomen, and vulva showed widespread œdema; the woman complained of headache and nausea, and was suffering from dyspnœa so extreme that she was compelled to sit on a chair in the ambulance which brought her to the hospital. Her pulse was 140, her respirations 60. No urine had been voided during the last eighteen hours, and by means of the catheter two ounces of porter-colored urine were drawn. Specific gravity, 1014, five sixths albumin by bulk; reaction acid. Fourteen broad hyaline and blood casts were counted on the first slide examined. The patient was six and a half months pregnant. Dilatation of the cervix attempted by means of Barnes' bags was begun at 12.30. At 5 P. M. dyspnœa was so ex-

treme and the patient was apparently failing so rapidly that it was decided to empty the uterus at once ; the os was sufficiently dilated at this time to permit further manual dilatation sufficient to introduce axis-traction forceps. A macerated child was delivered at 6.30 P. M. After free purgation and tapping the pleural cavities, and profuse diaphoresis, the patient had somewhat improved. Notwithstanding ten to twenty stools a day, continuous hot vapor baths, free cupping over the lungs, administration of cardiac stimulants, and inhalations of oxygen, all efforts to prolong life and to secure action of the kidneys failed. The patient died six days after her delivery, having secreted throughout this period ten ounces of bloody urine. There were no convulsions. The autopsy was made by Dr. Thomas G. Ashton, whose notes are as follows :

AUTOPSY—MRS. MARTIN.

Body that of a young woman apparently about twenty-two years of age. Eyelids œdematous, œdema of abdominal wall, marked œdema of lower extremities ; skin distended and glistening. Slight discoloration of dependent portions of body.

A subcutaneous ecchymosis to the left of the sternum below clavicle, where wet cups had been applied.

Upon the abdomen, in the left iliac region, there is an abrasion of the skin, ante-mortem, due to excessive distention from anasarca. The abdomen is very prominent in the umbilical and hypogastric regions, due to tympanites.

The tissues of the thoracic and abdominal walls are œdematous upon section.

The Thorax.—Pleural cavities are filled with fluid, that of the left side containing about a litre and a half, that of the right about one litre, free from fibrin. An old adhesion, limited, between the lower portion of the upper lobe of the left lung and the parietal pleura upon the lateral aspect. Lungs elsewhere free from adhesions.

Left lung somewhat œdematous, crepitant throughout, no evidences of tuberculosis.

Right lung œdematous, crepitant, except the middle lobe, which was consolidated throughout, in the stage of gray hepatization. No infarcts.

Pericardium contained about ten ounces of serous fluid containing flakes of fibrin. No adhesions, or roughness of the surface.

Heart, size about normal.

Right auricle contained clots. Right ventricle filled with well-

marked chicken-fat clots, which extended well into the pulmonary artery. Tricuspid valves normal, admitting three fingers with ease. Pulmonary valves normal. Right ventricle of normal size.

Left auricle filled with soft red clots, which extended into left ventricle. Muscular substance of left ventricle normal.

Mitral valve somewhat thickened at its edges, and upon its auricular surface, a short distance from the edge of the leaflets, there exists a complete ring of fresh vegetations, which prevent the approximation of the valves, and produce a distinct narrowing of the mitral ring, so that the mitral orifice will no more than admit but one finger. These vegetations are friable and easily broken down. There are no evidences of ulceration.

Abdomen.—The abdominal cavity contained a considerable quantity of clear fluid, in amount about two litres. Intestines extremely pale and greatly distended. No evidences of peritonitis.

Spleen normal.

Liver normal.

Kidneys.—Both kidneys large; left five inches and a half in length, right five inches in length. Very pale and whitish in appearance. Capsule stripped easily, leaving a smooth surface. Upon section, the cortex was found to be much increased in width, and the difference between the cortex and the pyramids very ill-defined, the tissue being universally pale and somewhat granular in appearance.

The bladder was empty.

The uterus enlarged, coming well out of the pelvis. The ovaries and tubes showed nothing macroscopically abnormal; no evidences of septic infection.

Prolapsed Cord.—There have been four cases of prolapse of the umbilical cord. In the first case the cord prolapsed before engagement of the head occurred, and when the amniotic sac burst. The patient was placed in the knee-chest posture, and the cord was manually replaced. The membranes were then ruptured, and the head was held in position until a few uterine contractions caused engagement. A living child was born spontaneously.

In the second case, after engagement of the head the cord prolapsed when the amniotic sac ruptured. The knee-chest posture and manual and instrumental efforts to replace the cord were all unsuccessful. The pulsations in the cord ceased, and a rapid forceps delivery hastened by an episiotomy failed to save the infant. The third case accompanied a labor obstructed by a flat pelvis: Mrs. S. (Case No. 3806). The patient's first pregnancy terminated in a miscarriage

at two months. In her second labor craniotomy was performed by Dr. Price at the Retreat. In her third labor she was delivered by version of a living child. Her fourth labor was the one in which the cord was prolapsed ; the membranes were ruptured, the os dilated, and the head was engaged when the patient entered the Retreat. At the first examination the pulsations in the prolapsed cord ceased while the examination was being made. All efforts to replace the cord having failed, forceps was at once applied and the child was delivered within five minutes. There were no pulsations of its heart. All efforts to revive the infant failed. The length of the cord was thirty-six inches, and the weight of the child seven and three quarter pounds. In the fourth case the prolapse of the cord occurred in the patient whose labor was complicated by a ventrofixation as previously described. This infant also perished.

The *malpresentations* which have been encountered and which required operative treatment have been the following : A shoulder presentation with prolapsed arm and a right occipito-posterior position with prolapse of the right arm alongside the head. In the former a living infant was delivered successfully by version. Unsuccessful efforts were made in the latter case to replace the prolapsed arm. The patient was then carefully watched and rotation of the occiput was assisted and expected. This plan of treatment was especially indicated, since the infant's viability was in doubt, the patient not having felt fœtal movements for two days and the heart sounds being inaudible. The arm finally interfered with flexion of the head, and therefore with descent and rotation of the occiput. For these reasons forceps was applied, but with small hope of delivering a living child. When the child was born there was no sign of the heart's action and all efforts at resuscitation failed.

Post-partum Hæmorrhage.—There have been five cases of alarming hæmorrhage after labor. In two cases the hæmorrhage occurred before delivery of the placenta. These two cases were twin pregnancies. In two other cases the hæmorrhage occurred at intervals of one and one and a half hours respectively, after delivery. In the fifth case the hæmorrhage occurred two hours after delivery. Immediate evacuation of the blood clots accumulated in the uterus, and a hot intra-uterine douche of boiled water were sufficient to check the hæmorrhage in all the cases except one, which required the introduction of iodoform-gauze packing. All the women were multiparæ, and one was the mother of thirteen children. The puerperal period of all the cases was afebrile.

Obstetric Operations.

	Indications.	Number of cases.	Infantile deaths.
Forceps.	After-coming head	1	0
	Eclampsia	2	1
	Eclampsia threatened (chronic Bright's disease).	2	1 (premature birth).
	Feeble heart sounds	2	2
	Flat pelvis	5	0
	Inertia uteri	23	1 (inspiration pneumonia).
	Occipito-posterior presentation	4	0
	" " (occiput in sacral hollow)	2	0
	Occipito-posterior presentation (with prolapsed arm; absence of the heart sounds)	1	1
	Placenta prævia	1	0
	Prolapse of umbilical cord	2	2
	" " " (after cephalic version)	1	1
	Premature separation of placenta	1	1
	Total multiparæ. 24; primiparæ, 23	47	10
Version	Shoulder presentation with prolapsed arm (podalic)	1	0
	Flat pelvis (podalic)	2	1
	Labor complicated by ventro-fixation (cephalic)	1	0
	Total	4	1
Induced labors.	Pelvic deformity	2	0
	Threatened eclampsia	3	1 (premature birth).
	Total	5	1
Symphyseotomy.	Flat pelvis	1	0
Episiotomy.	To effect rapid forceps delivery	1	0
Irrigation and curettage.	Elevated temperature: subinvolution; prolongation of bloody lochia	9	0
	Offensive lochia	1	0
	Total	10	0
Sutured perinei.	Vaginal and perineal lacerations: multiparæ, 8; primiparæ, 36	44	0
Incision of mammary abscess.	Abscess following mastitis (mother)	4	0
	" " " (infant)	4	1

Fifteen puerperal patients required the use of the catheter.

In one case the cervix required suturing to control hæmorrhage from a laceration.

Lacerations of the Vagina.—In the five hundred cases perineal and vaginal lacerations requiring suture have occurred forty-four times. In only two cases has union failed to occur. The suture material has invariably been silkworm gut sterilized by boiling just before being used. In two cases stitches have been necessary to control bleeding in the anterior vaginal wall near the urinary meatus. In one case it was necessary to stitch a laceration of the cervix to control free hæmorrhage. The lacerations extending into the vaginal sulci are always repaired in the same manner as in the secondary perinorrhaphy known as Emmet's operation on the posterior vaginal wall.

The Puerperium.

Fever in the Puerperium.—The analysis of the temperature charts of all the cases delivered in the Retreat since January 1, 1894, gives the following results: In twenty-one per cent. of the cases the temperature has not risen above 99° F.; in sixty-six per cent. of the cases the temperature has never been above 100° F.; in eighteen per cent. of the cases the temperature has been above 100° F. not longer than twenty-four hours; and in sixteen per cent. of the cases the temperature has remained above 100° F. for varying periods longer than twenty-four hours. An analysis of the temperatures throughout the first eight days of the puerperium—the period embraced by most German statistics—shows that the temperature did not rise above 100° F. in ninety-one and eight tenths per cent. In other words, the puerperal morbidity for the period named has been eight and two tenths per cent. The temperature charts are herewith exhibited to the Society, with the exception of fourteen, which are the charts of convalescent patients now in the Retreat, and with the exception of six charts of patients delivered early in January, 1894, which charts, together with the charts of all previous patients, disappeared shortly before I assumed charge of the Retreat. An analysis of the charts, showing temperatures above 100° F. for varying periods longer than twenty-four hours, gives the following result:

Temperature above 100° F. longer than Twenty-four Hours.

Cause of fever.	No. of cases.
Caked breasts, including also all cases of mastitis in which resolution occurred	33
Constipation	1
Eclampsia	3
Emotion	5
Exposure to cold	6

Cause of fever.	No. of cases.
Insanity (intercurrent delusions)	1
Malaria	6
Mammary abscess :	
Interstitial, requiring incision	4
Parenchymatous—a small amount of pus expressed by massage	2
Small abscess of areola	1
Neuralgia : facial, 1 ; supraorbital, 1	2
Phlegmasia alba dolens	2
Phthisis	2
Sapræmia	11

In two cases there was a rise of temperature to 104° F. due to *emotion.* In one case the patient suddenly was told that her husband had been killed in a railroad accident, and the temperature rose from 98.8° F. to 104° F. The following day it was normal. In another case the temperature rose to 104.2° F. when a patient had for several hours the delusion that her infant had been substituted for the infant of the patient who occupied the adjacent bed, and who was so alarmed that her temperature immediately became elevated. A temporary and moderate elevation of temperature (100° F. to 102° F.) in three other cases was apparently due to emotional excitement. In two cases the temperature rose from 99° F. to 104° F. from *exposure to cold.* Both patients left their beds on the eighth day and walked through a cold corridor to a closet. In four cases the exposure incident to using the commode caused a rise of temperature. In one case a temperature of 102° F. was observed as the result of *constipation.*

There have been two cases of *phthisis* which complicated labor and the puerperal period. The charts of these cases are herewith presented. One case (No. 3,902), Mrs. K., entered the hospital with fever, cough, and expectoration of moderate severity. The relief to the patient's embarrassed respiration was most marked after her delivery. The temperature slowly declined until it was almost normal, ten days after delivery.

The second case (No. 3,652) was that of an Indian girl sent to the Retreat from the Lincoln Institute. I had seen the patient with Dr. Cochran McClelland at the Lincoln Institute several months before her admission to the Retreat. At this time she was very weak and emaciated. She came to the hospital in active labor, and was delivered on the day of her admission. Her early puerperal convalescence was trying from the fact that she had profuse pulmonary hæmorrhages which occasioned great prostration and weakness. Her strength, however, gradually improved ; her pulse averaged between

90 and 100; and, as you will observe on her temperature chart, there was at no time the slightest evidence of puerperal sepsis. After remaining at the Retreat three weeks she was removed to the Lincoln Institute at the request of and by Mrs. Ashbridge, one of the managers of that institution, who had planned to take the patient to the country to aid her convalescence. It has been asserted that this patient died, shortly after leaving the Retreat, of puerperal sepsis. In order that the history of this case may be complete, I have appended a letter from Dr. Cochran McClelland, who had charge of the patient before she entered and after she left the Preston Retreat.

"316 South Eleventh Street, Philadelphia, *November 11, 1895.*

"Dear Dr. Norris: In answer to your request, permit me to say that the Indian girl, Nettie Roubadeau, had been suffering from phthisis several months prior to her admission into the Preston Retreat. At the time she left the Lincoln Institute, May 14, 1894, the disease was far advanced; after her return, June 2, 1894, she ran down rapidly, and died of phthisis August 11, 1894.

"(Signed.) Very truly yours,

"C. McClelland."

Mastitis and Mammary Abscess.—The routine management at the Retreat of the breasts and nipples is as follows: When the flow of milk appears each patient wears a Murphy binder pinned in such a manner as to give support to the breasts, but not to compress them. The infant's mouth before, and the mother's nipples both before and after nursing are cleansed with a clean cloth and a saturated solution of boric acid. At the first appearance of sore nipples the latter are kept scrupulously clean and are covered with a disk of waxed paper upon which is spread a film of paste composed of equal parts of bismuth subnitrate and castor oil with twenty grains of boric acid to the ounce of paste. A glass nipple shield is used if nursing is very painful. Caked breasts are promptly relieved by massage combined with a cautious use of the breast pump. I have taught my nurses four distinct manipulations in breast massage, as shown in the accompanying illustrations. Fig. 1 illustrates light but rapid strokes with the finger tips. Fig. 2 shows deeper pressure with the finger tips over an inflamed nodule. In Fig. 3 the hand is placed over the nodule, and pressure against the chest wall is alternated with gentle rotatory movements. Fig. 4 illustrates compression of the breast kept up so long as milk flows from the nipple. The first three movements are used in succession, each for a period of about five minutes, and the manipulations

are repeated until the breast is soft and flaccid, when a firm compression binder is applied. Massage of the breast is facilitated by anointing the breast with camphorated or carbolated oil. I also try to teach the nurse the variety of mastitis in which massage is harmful—namely, the interstitial variety, which usually can be recog-

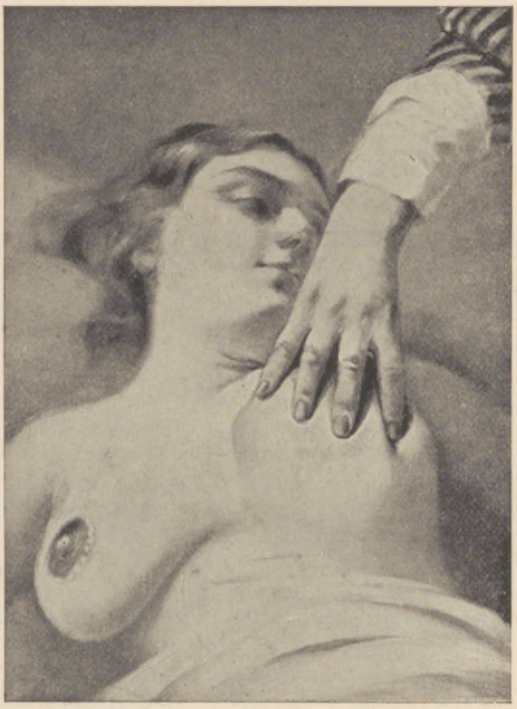

FIG. 1.—Breast massage. (Dickinson).

nized by the following clinical signs: A gradual rise of temperature following a sore nipple which has refused to heal; a dull pain or aching in the breast rather than an exquisitely tender spot over an enlarged nodule; early redness and œdema of the skin at a portion of the breast corresponding to the situation of the fissured nipple; and sometimes slight enlargement and tenderness of the axillary glands. This group of clinical signs points to involvement of the connective

NOTE.—The accompanying illustrations of "Breast Massage" are taken from *An American Text-book of Obstetrics*, by the kind permission of the publisher.

tissue and contraindicates all manipulations. Rest for the gland and the nipple is now indicated and is obtained by a Murphy binder, which is to give support, not compression, and under which is applied lead water and laudanum, and, if agreeable to the patient, an ice bag is kept in place outside the binder. Prompt measures are taken to heal the sore nipple. Forty-eight or seventy-two hours of rest will either cause resolution with a fall in temperature and slowing of the pulse, or more often the symptoms will be aggravated, indicating the formation of pus which should promptly be evacuated.

Parenchymatous inflammation following a caked breast and confined wholly or largely to the milk-secreting structures of the gland can almost always be made to undergo resolution by the skillful use

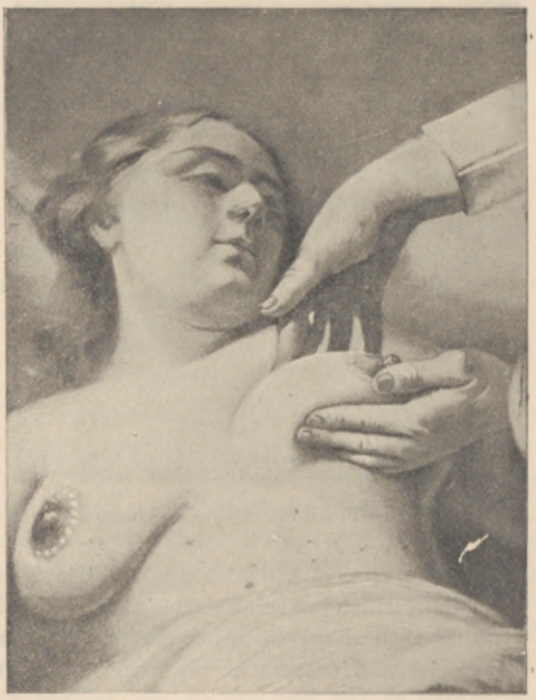

FIG. 2.—Breast massage. (Dickinson).

of massage and the breast pump, with early healing of the sore nipple, a firm compression binder, and prompt derivative action of a saline cathartic. Sometimes all the signs of breast inflammation subside,

and immediately, or even after several days, a small amount of pus is rubbed or sucked from the breast, which is a matter of surprise to those who have not observed this sequel. Three of the cases of abscess included in this report were of this character.

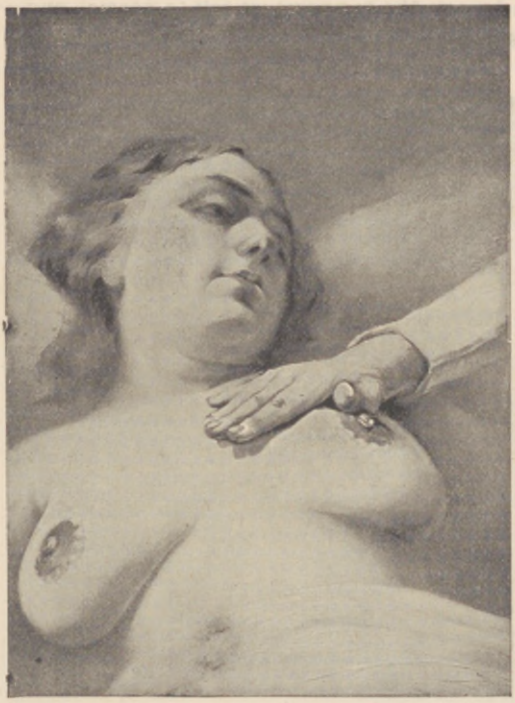

FIG. 3.—Breast massage. (Dickinson).

Mastitis.—There have been four cases of mammary abscesses which required incision and drainage. Two of these cases were found in the convalescent ward when I took charge of the institution. In three other cases, after all symptoms of mastitis had disappeared and after the temperature had returned to normal, a small amount of pus was removed by massage. In three other cases small abscesses of the areola were observed. In one case, that of Mrs. C. (No. 3,940), whose chart I exhibit, the temperature rose to 102° F. on the seventh day. The breasts were found caked and the nipples sore. The woman was a very unruly patient, and invariably removed the breast bandages and other dressings applied to the nipples. She reso-

lutely refused to allow the nurse to keep the nipples clean. Despite all our efforts, the mastitis could not be held in check, and on the eleventh day pus was removed from each breast by massage. The pulse at no time was above 100° F. and the parturient tract was in every respect normal. Immediately after the removal of the small amount of pus from the breasts the temperature fell to normal and remained so for four days. The patient, being ashamed of her willfulness, desired

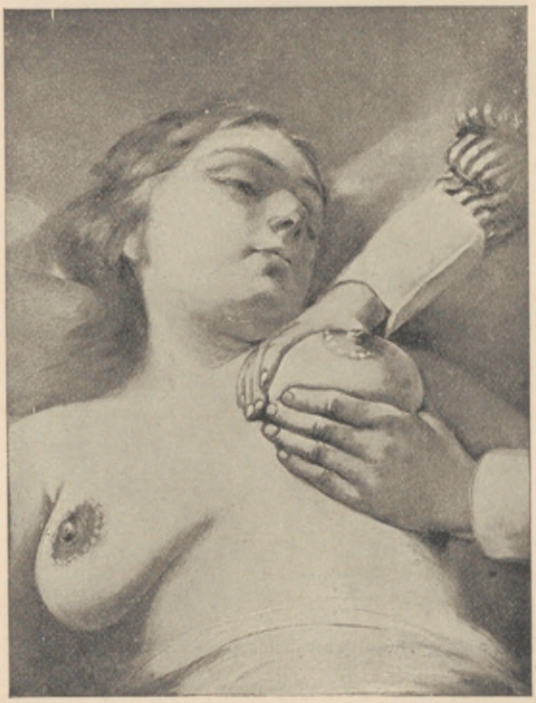

FIG. 4.—Breast massage. (Dickinson).

to leave the hospital, but her request was refused, since her mother-in-law told me there was no one at her home to give the patient proper attention. An interview with her mother-in-law at the hospital caused a family quarrel; under the emotion and excitement the patient's temperature became elevated. That evening at nine o'clock the woman dressed herself and eloped from the institution. Since it has been asserted that this patient also died of puerperal sepsis I desire to append as a portion of the history of this case the following letter:

"MUNICIPAL HOSPITAL, TWENTY-SECOND STREET AND LEHIGH AVENUE,
PHILADELPHIA, *August 4, 1895.*

"*Dr. Richard C. Norris, Philadelphia, Pa.*

"DEAR DOCTOR: Mrs. Cunningham was admitted to this hospital on July 27, 1895, suffering from what was believed to be scarlatina. The rash was very intense and of a livid color. Desquamation was noticed on admission, and a little later it became very profuse. The disease rapidly assumed a malignant type and death resulted on July 30th. Yours very truly,

"(Signed.) "W. W. WELCH, *Physician in Charge.*"

Since receiving this letter I have had a conversation with Dr. Welch in which he told me that he had carefully examined the patient's parturient canal to detect possible puerperal sepsis and that he was not able to find any evidence of such infection. His opinion was and is that the case was one of scarlet fever.

The patient was admitted to the Retreat June 18, 1895, and was delivered June 30th. Her temperature and pulse were normal throughout four days before she eloped from the Retreat July 15th. I visited the patient at the request of her husband after she returned to her home. Her breasts were giving her trouble and the child was ill with vomiting and purging. The woman refused to permit lancing the breasts.

A day or two later I referred the case to Dr. H. W. Hassel. A few days later the patient was referred to the city district physician. I never saw the patient in consultation with any physician, and subsequently hearing of her death, which was a matter of great surprise to me, I immediately wrote to Dr. Welch, sending him her history and asking the cause of death. The above letter is his reply, received August 5, 1895.

The most instructive case (No. 3,807) of mammary abscess was that of Mrs. K., II-gravida. Until the thirteenth day of her puerperium the temperature and pulse had been normal. She now began to suffer from a sore nipple, which was soon followed by mastitis, ending in the formation of a virulent mammary abscess. The patient had cleansed her nipples with the water used to wash her child after it had evacuated the bowel. Infection of the nipple from this water was unmistakable. The abscess which followed presented the most virulent characteristics of any mammary abscess I have ever observed. Disseminated foci of suppuration were found throughout the entire breast, and in the post-mammary connective tissue extend-

ing up to and over the left shoulder. A large number of multiple incisions were required to obtain free drainage. The overlying skin was intensely red and presented the appearance of erysipelatous inflammation extending to the shoulder and to the opposite breast. The patient was soon profoundly septic; she was drowsy; her face and eyelids were pale and œdematous, and the urine now for the first time showed numerous casts and one third albumin by bulk. Prior to delivery her urine had been normal. Free stimulation was required to tide the patient over the critical period of her disease, and she finally entirely recovered after a most desperate illness. The parturient tract was at all times normal. Pus from the mammary abscess was critically examined by my friend, Dr. S. S. Kneass. The mode of infection indicated the possibility of the presence of the *Bacillus coli communis*, but diligent search was unable to find the latter. The results of the examination made by Dr. Kneass are shown in the following letter:

"*January 14, 1895.*

"DEAR DR. NORRIS: A culture from the pus of the case of mammary abscess shows only an orange coccus, in all probability the orange pyogenic variety. Petri plate growths give pure cultures of the same organism, and a microscopical examination of the pus itself gives the same result. No streptococcus is present. I have injected guinea-pigs in order to test the virulence of the microbe, and will report results. Yours truly,

"(Signed.) SAMUEL S. KNEASS."

The injection experiments failed to discover other micro-organisms.

One case of galactorrhœa and one of polythelia should be recorded.

Curettage.—I have found it desirable in ten cases to explore the interior of the womb with the finger and to resort to a single intra-uterine irrigation, curettage, and gauze packing. This is a very much smaller proportion (five per cent.) than I have observed in the cases which I am called upon to treat outside the hospital. When patients are delivered under aseptic surroundings with scrupulous care to employ a rigid antiseptic technique, the frequency for using the curette will certainly be small. In the cases here recorded, only one had an offensive discharge, and this latter case is the only one of offensive discharge that I have observed in my work at the Retreat. This patient had a sharply anteflexed uterus which prevented

drainage of the lochia. Excepting this case, the indications for exploring the uterus with the finger and using the curette have invariably been a moderately elevated temperature ; the pulse rarely above 100° or 110° F., and always a subinvoluted uterus which was found to contain hypertrophied decidua that gave rise to prolongation of the bloody lochia. The odor of the lochial discharge in these cases is not offensive, and although there is no evidence of putrefaction, some toxic principle is surely absorbed by the patient, otherwise the elevated temperature and quickened pulse are hard to explain. In one case an enormous amount of hypertrophied decidua was removed ; in three of the cases a sharp flexion produced angulation of the uterine canal, and thus interfered with free drainage and with uterine retraction. In two cases a blood examination finally made the diagnosis of malaria. In one case the removal of the gauze packing was intrusted to a nurse. One strip of the gauze employed was overlooked. Although the patient was up and about the ward, it is noteworthy that the gauze produced no elevation of temperature until seven days had passed, when a rise in temperature and intermittent uterine pains led to an investigation, which brought to light the fact that a strip of gauze was yet in the uterus ; the gauze was removed and presented a perfectly healthy odor. The uterus was irrigated, and within twenty-four hours the temperature was normal and remained so. I am convinced that the use of the curette in such cases as I have reported is a valuable means of preventing possible infection of serious character. An intelligent use of this instrument usually requires a preliminary introduction of the finger, often under ether, to locate the site of the tissue to be removed, and thus to avoid scraping and injuring areas of the uterine cavity that not only do not need curetting but may, by the trauma produced, open avenues for widespread infection.

Malaria.—There have been six cases of malaria complicating the puerperium. The diagnosis in three of the cases was made by a blood examination which found the malarial plasmodium. In the other cases a blood examination was not obtained, and the diagnosis was made by the absence of any sign of puerperal sepsis, by the periodicity of the chill and the fever, and by the efficacy of quinine. A study of the charts brings out a fact with reference to the ratio between the pulse and temperature that I have observed in other cases. I have never seen a case of puerperal sepsis that was not accompanied by greater rapidity of pulse in proportion to the temperature than is observed in malaria complicating the puerperium. It is not improb-

able that the physiological slowing of the pulse in the puerperium is more rapidly overcome by sepsis than by malaria. The tonic action of quinine upon the circulation is not enough to explain the relative slowing of the pulse. For example, in one of the cases the temperature remained at 105° F. throughout twenty-four hours, and the pulse varied between 100 and 116. In another case the temperature remained for a time at 104° F., the pulse varying between 88 and 96. And in another the temperature was 102° F., with the pulse 80. I believe this point is of some value in diagnosis. The necessity sometimes of employing large doses of quinine was also exemplified. In one of the cases it was necessary to administer one hundred grains of quinine in forty-eight hours before cinchonism appeared and before the temperature fell to normal. In two other cases a reduction of the daily dose from thirty to fifteen grains was invariably followed by a rise in temperature and recurrence of chill. When cinchonism was produced a smaller dose was sufficient to control the fever. The histories of three of the cases pointed to the fact that the patients had suffered from malarial fever within a year. Three other patients, in two of whom the malarial plasmodium was found, gave no such history. In five cases the first evidence of fever appeared on the fourth or fifth day. In one case there was a fluctuation in the temperature curve from the very first day. It has been my experience that when very large doses of quinine are administered to a nursing woman the milk is likely to disagree with the child, and for this reason it is better temporarily to discontinue nursing. A daily dose of fifteen to twenty grains apparently produced no ill effect upon the child.

Phlegmasia.—There have been two mild cases of phlegmasia alba dolens. In one case (No. 3,923) the patient, Mrs. H., a primigravida, had an attack of phlegmasia during her pregnancy for which she was treated before she was admitted to the Preston Retreat. Her labor was a natural one, and her temperature remained below 99° F. until the eighth day, when there was a gradual rise of temperature which remained between 100° F. and 101° F. until the seventeenth day, after which time it was practically normal; the pulse very rarely was above 90, the average being about 85. She was kept in the hospital until the swelling of her left leg had entirely disappeared.

In another patient (No. 3,933), with extensive varicose veins of the legs, a clot evidently formed in a vein in the calf of the left leg and gave the patient considerable pain for several days. This woman had phlegmasia in childhood as a sequel of scarlatina.

Both patients left the hospital completely convalescent.

Pathology of Early Infancy.

Ophthalmia.—Finding that the ante-partum sublimated vaginal douche had been relied upon at the Retreat to prevent gonorrhœa ophthalmia, I was induced to rely on this means for the prevention of this unfortunate disease. At the end of the first eight months of my service three cases of ophthalmia had occurred, and a fourth case developed within a few days. The infection of the latter child occurred in a very curious manner. The child's mother had a scant supply of milk, and she clandestinely permitted her infant to be nursed by a patient whose child at the time was suffering from ophthalmia. A violent attack occurred in the child thus exposed, who had presented no signs of ophthalmia for ten days after its birth.

All the cases were isolated and recovered without loss of vision. The treatment employed was a ten-grain solution of silver nitrate carefully applied to the everted eyelids night and morning, while a free discharge of pus occurred; the use of atropine to secure dilatation of the pupil when the cornea was much involved; hourly douches of boric-acid solution; and iced compresses to reduce the swelling in the early stages. Hot applications were made in one case in which the tendency to corneal ulceration was imminent. Since the occurrence of these cases—in December, 1894—the Credé method of instilling one drop of a two-per-cent. solution of nitrate of silver in both eyes of the child immediately after birth has been routinely followed. Of the two hundred and forty-six children delivered since that date, there has been but one mild case of ophthalmia, which developed nine days after birth, and which was readily controlled by four or five days' active treatment. This experience has convinced me that the Credé method of preventing ophthalmia should never be neglected in hospital practice.

There have been two cases of very marked *anæmia.* The mother of one of the infants was herself very anæmic, and presented mild delusions at intervals during the puerperium. There was no hæmorrhage from the child's navel or from its bowels to account for the pronounced anæmia. The child nursed regularly, and left the hospital in apparently good health with the exception of its pale appearance. The second case was that of a child born of a blind, poorly nourished, and very feeble mother. The infant was put to the breasts of another patient, but failed to thrive, and died within a few days.

Two cases of *infection of the umbilicus* should be recorded. In one case, on the seventh day, the nurse noticed spasmodic twitch-

ing of the child's arms and legs. The spasms were more pronounced on the right side, and by evening they had become general. The area of the umbilical wound was healthy, but deep in the cavity there was some thick yellow pus and dirty gray membrane. The ulcer was touched with a 1-to-500 bichloride solution, and was dusted with iodoform. Bromide of potassium in two-grain doses was given every two hours. After forty-eight hours the spasms ceased, the umbilicus was healthy, and the little patient had no further trouble.

A case of *suppurative otitis* was observed in a newborn infant on the eleventh day. The umbilicus of this child showed a slight amount of inflammation with a film of pus. Both the ear and umbilicus were kept antiseptically clean thereafter, and the discharge from the ear soon ceased.

Two cases of *suppuration in the tissues surrounding but not involving the knee joint* were observed. One case was that of a child with double harelip and cleft palate. On the thirteenth day the right knee was swollen, red, and painful. Two days later the abscess was opened and was found not to communicate with the joint cavity. The pus from the abscess was examined for tubercle bacilli, as there was a very strong tubercular family history, but the tubercle bacillus was not discovered. I considered the joint abscess metastatic, possibly from the child's nasopharynx, which had a muco-purulent discharge due to the irritation caused by feeding the child.

The second case of abscess of the knee occurred in a child whose umbilicus had never presented any signs of inflammation or infection. The child's mother had mastitis, and it is quite possible that infection originated from the milk.

Twelve cases of *mastitis*, four of which were followed by suppuration, have occurred in the newborn infants in spite of all precautions. Of the infants, five were males and seven were females. I have found it impossible to prevent the mother from squeezing and otherwise handling the child's breast when the latter is swollen, and to this fact the large proportion of abscesses is doubtless due.

One of the cases was especially interesting by reason of its remarkable virulence. The left breast was somewhat enlarged and slightly red. Within forty-eight hours pus formed beneath the skin and the child presented constitutional signs of serious illness. The pulse and temperature were respectively 190 and 104° F. Despite free incision, drainage, and antisepsis, the destructive inflammation exposed the ribs, penetrated the pleural cavity, and caused the child's death within three days. I regret that a bacteriological study of this

case was not made. The infecting agent was doubtless a very virulent streptococcus.

Appended is a tabulated statement of the affections of the newborn infant that seem worth recording, and a table of infantile deaths :

	Cases.	Recovered.	Died.
Asphyxia pallida	15	8	7
Anæmia	2	1	1
Pneumonia (inspiration)	9	5	4
Omphalorrhagia	2	2	
Ophthalmia	5	5	
Infection of the umbilicus	2	2	
Harelip	1		
Cleft palate	1		
Sclerema	1		1 (5 days after leaving hosp.)
Mastitis	8	8	
Mammary abscess	4	3	1
Tongue-tie	5	5	
Bloody discharge from genitals of female children	2	2	

Table of Infantile Deaths. Mortality, 7.02 Per Cent.

	No. of deaths.	Remarks.
Anæmia.	1	The infant's mother nearly perished from lack of food before entering the hospital.
Anencephalic monster.	1	Premature labor at 7th month of pregnancy.
Asphyxia neonatorum : Following natural delivery.	3	
Do., following instrumental delivery.	4	1 case ; heart sounds inaudible before forceps applied. 1 " delivery during maternal eclampsia. 1 " prolonged labor ; forceps used on account of feeble heart sounds. 1 case ; presentation right occipito-posterior and prolapsed arm. Neither fœtal heart sounds nor fœtal movements detected after labor began.
Congenital anomaly of heart.	1	Death 10 hours after delivery ; congenital cyanosis.
Intracranial hæmorrhage.	2	1 case ; death on 3d day after version for flat pelvis. 1 " rapid extraction of natural breech presentation ; death on the 13th day.
Mammary abscess.	1	Death on the 12th day ; rapid suppuration exposing the child's ribs in 72 hours.
Overlying by mother. (?)	1	Natural delivery ; infant healthy ; found dead in bed with mother on 2d day.
Premature birth.	4	Births occurred prior to 7th month of pregnancy.
Premature detachment of normally situated placenta.	1	Heart sounds feeble before rapid forceps delivery.
Pneumonia (inspiration).	4	1 forceps delivery ; death occurred respectively 24, 48, 60, and 70 hours after birth. 1 labor complicated by hydramnion.

	No. of deaths.	Remarks.
Prolapse of umbilical cord.	3	Rapid delivery with forceps in all the cases after efforts at reposition failed. Cephalic version in one case for labor obstructed by ventrofixation of the uterus.
Stillborn and macerated.	3	1 case ; extensive fibroid degeneration of placenta. 1 " umbilical cord knotted.
Syphilis.	7	The diagnosis in all cases made by autopsy and by maternal and paternal histories.
Total,	36	An autopsy was made in each case when the cause of death was in doubt.

The autopsies were made by Dr. C. W. Burr by Dr. Alfred Stengel.