

Cases of puerperal convulsions, with remarks / [John Charles Weaver Lever].

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CASES
OF
PUERPERAL CONVULSIONS,
WITH REMARKS.

BY JOHN C. W. LEVER, M.D.

THE following Fourteen Cases of Puerperal Convulsions, out of Seven thousand four hundred and four women attended by the Pupils attached to the Lying-in-Charity of Guy's Hospital, have occurred between the years 1834 and 1843.

The symptoms which marked their course, and the principles which guided their treatment, present no new or extraordinary feature; but the coincidence of an albuminous condition of the urine, in nine out of ten cases in which that secretion was examined, is a fact which, so far as my investigations and inquiries have extended, has not been previously remarked.

CASE 1.

*Fifth Confinement—Anæmic Convulsion from Loss of Blood—
Mother recovered—Child born alive.*

ELIZA H——, aged 36, in labour with her fifth child. When seven months pregnant she had a discharge of blood; and about a week previous to her labour, whilst rising from her chair, about half-a-pint again passed from her, unattended by pain or effort: this discharge continued, in greater or less quantities, up to the time of her labour. She was much depressed in spirits, and complained of feeling weak: her pulse was feeble, 80. She had been living in a state of most abject penury for two or three months, subsisting for days on a single meal of bread and tea. Her face and body were covered with cachectic sores. Mr. Tweedie, who was called to Mr. Champion's assistance, made an examination. The os uteri scarcely admitted the point of his finger, and the disturbance brought back a return of the bleeding. She was ordered,

Ol. Ricini ʒvi. Tinct. Opii. ʒfs. s. s.

Infus. Rosæ C. c. Acid. Sulph. dilut. pro potione.

A little sago, flavoured with wine.

On the 28th, and morning of the 29th, she was better: the discharge was not so great, but of a more offensive character. At 10 P.M.

Mr. Tweedie was summoned: he was informed, that since 2 o'clock she had had several fits resembling those of epilepsy, followed by stertorous breathing, and insensibility; her pulse was 72, feeble; pupils variable: on being roused, she said she had a most severe headache. During Mr. Tweedie's visit she was seized with a rigor, followed by paroxysms of convulsion, alternating with stertorous breathing. Towards the conclusion of these fits, there seemed to be a certain degree of uterine contraction; and, on examination, the os uteri was found fully dilated, the child's head presenting at the brim of the pelvis. Her hair was removed from her head; but the pulse would not admit of the least depletion. From this time the convulsions increased in force and frequency until 1 A.M., when the child was suddenly expelled during a fit;—a female, living, but very small, and apparently but seven months advanced. The placenta was readily removed. There was no unusual hæmorrhage, and the perinæum had not been injured. After the birth of the child, she lay insensible, and could not be made to swallow either medicine or sustenance: the pulse remained exceedingly feeble, and 72: the convulsions continued to recur, though less powerfully than before; and as depletion was contra-indicated, abundant dashing of cold water over the face was the only remedy which circumstances permitted to make use of. A full dose of æther, liq. opii sed., and ammonia, was with difficulty administered. The convulsions continued all night, with scarcely any abatement, interrupted only by intervals of coma: pulse 72, weak: pupils contracted: conjunctiva clear: she passed her urine in the bed.

In consequence of the abject destitution of her home, she was removed into Guy's Hospital, and placed, under Dr. Ashwell's care, in the Obstetric Ward. During the removal she had a convulsion, and reached the ward nearly lifeless.

Lot. Spirit. cap. raso. Hyd. Chlorid. gr. xij. stat.

Enema Colocynth. postea.

To have sago, flavoured with wine.

She remained in this critical state for some days; but then gradually and slowly recovered, and left the ward in a state of convalescence.

CASE 2.

Primipara—Unmarried—Mother recovered—Child born alive.

ELLEN B——, unmarried, and 21 years of age, was taken in labour on Monday evening, April 21st. The membrane ruptured when the os uteri was of the size of a dollar, firm, and resisting. After complaining of considerable pain in the head, and vomiting violently, she was attacked with convulsions. Mr. Chabot, her attendant, bled her,

cut off her hair, applied cold to her head, and administered a dose of calomel. Mr. Chabot requesting my assistance, I visited her. The head was then pressing on the perinæum: her pulse was full, bounding, 72: her pupils contracted. The fits occurred three times. Blood was again drawn. The fits continued to occur until the birth of the child and secundines, which was effected in about four hours. From this period she had no more fits, but was insensible for a long time. As she was in great distress, being with her mother, a poor widow, she was removed into the Obstetric Ward of Guy's Hospital, where she speedily convalesced.

CASE 3.

*Primipara—Anæmic Convulsions—Child born alive—
Mother recovered.*

M. S——, aged 21, a thin delicate young woman, was taken in labour on April 5th. The membranes ruptured early, before the dilatation of the os uteri; and by the time the head had advanced into the pelvic cavity she was extremely exhausted. As the head was pressing in the perinæum, she was attacked with a convulsion: the pulse was 130, scarcely to be felt: the extremities cold; and the head hot. Warmth was applied to the extremities, cold to the head; and so soon as she could swallow, some stimulus was poured into the stomach. Three fits occurred before, and one after the expulsion of the child. Both mother and child recovered.

CASE 4.

*Convulsions before Delivery—9th Confinement—Mother recovered—
Child born alive.*

LOUISA M—— was seized with a very severe convulsive fit six weeks before her confinement: this was speedily followed by a second. Venesection, mercurial purgatives, tartar emetic, purgative enemata, cold applications to the head, were ordered, and with relief. Four weeks after, or two weeks before her labour, she was again attacked, and similarly treated. As she complained of a constant pain in her head, noise in the ears, dimness of vision, &c., a seton was passed through the nape of the neck: this afforded her great relief. The labour was natural, although some considerable hæmorrhage followed the expulsion of the placenta. The child was born alive.

CASE 5.

*Primipara—Version—Urine highly albuminous—Mother recovered—
Child still-born.*

ELLEN D——, aged 23, a very large muscular Irishwoman, who had been married nine months, sent for Mr. Woolnough at half-past 3 o'clock P.M., October 20th. He was told that at 3 P.M. she began

to talk at random. At 5 o'clock she was attacked with a very severe convulsion: during its continuance, her pupils alternately contracted and dilated in quick succession: her pulse varied, ranging from 100 to 160 beats in a minute. He bled her from the arm to ℥xl. ; her head was shaved; cold evaporating lotions were kept constantly on the scalp; mustard poultices were applied to the feet; a turpentine injection administered; and ten grains of calomel were placed upon the tongue. At 8 o'clock P.M. another severe convulsion occurred, when ℥xij. more blood were abstracted from the arm. At 10 o'clock Dr. Lever found, upon examination, the os uteri was dilated to the size of a half-crown, the membranes protruding, and the head presenting: and as the convulsions recurred very frequently, and as their strength by no means diminished, he thought it advisable to perform the operation of version: this was accomplished, and a still-born female child expelled: the uterus contracted firmly, and in ten minutes expelled the placenta. After her delivery, the convulsions recurred; and as the pulse maintained its firmness and tone, blood was again abstracted, by opening the temporal artery and by cupping. At 2 A.M., October 29th, her fits continued, at intervals of about twenty minutes: her pupils were dilated: she was insensible: her pulse was full, 110. She was ordered hyd. chlorid. gr. iv. 3tis horis. At 10 A.M. she had another convulsion: her pulse was full and hard, 100. ℥xx. more blood were taken from the arm: and this last quantity of blood was found to be *very much buffed and cupped*, although *none* of the blood abstracted *previously* presented these appearances. At the suggestion of Dr. Ashwell, she took ant. pot. tart. gr. $\frac{1}{4}$ every quarter of an hour; and remained nearly an hour without being convulsed. At 1 o'clock she had a very violent fit; and was ordered to continue the ant. pot. tart. At half-past 10 P.M. her pulse was 110; and there were some symptoms of returning consciousness.

Oct. 30. Much the same: rather more sensible: the bowels have been relieved: she was ordered hyd. chlorid. gr. i. cret. prep. gr. ij. 4tis horis.

Oct. 31. As she was in great distress, living in a very low lodging-house, she was brought into Petersham Ward, Guy's Hospital, and continued there upwards of five weeks. The mercury produced considerable irritation of the mouth and bowels; to relieve which, various remedies were resorted to. She suffered also very considerably from a vaginal abscess, accompanied with ulceration of the sphincter.

Her urine, which was daily abstracted by the catheter, was subjected to the usual tests; and was found, at first, to be *highly charged with albumen*. This gradually decreased until November 3, when it lost all traces of that substance.

Three weeks previous to this woman's confinement, her legs and thighs were considerably swollen : and so œdematous were the eyelids in the morning, that she could scarcely see. She presented the appearance offered by patients labouring under the Morbus Brightii, to such a degree, that my late colleague Mr. Tweedie, Dr. Gull, and myself, who saw her at distinct times, were equally impressed with the idea that she was affected with that disease ; and it was this impression that led us to investigate the nature and character of her urine.

CASE 6.

Anæmic Convulsions—Married—4th Confinement—Partial Placental Presentation—Mother recovered—Child still-born

C. W——, a female of moderate stature, with light hair, 23 years of age, and who had never borne a living child, sent for Mr. Woolnough, November 19th. There had been some considerable hæmorrhage (a pint), and the pains were short and frequent. On examination, the os uteri was dilated to the size of a crown-piece ; the soft parts were relaxed, the placenta partially presenting ; posteriorly, the membranes were entire. As the bleeding continued, Mr. Woolnough ruptured the membranes : the feet of the child and a large coil of funis presented : the pains continued, and in about half an hour the child was expelled. It was still-born, and to all appearance had been dead for some days.

This patient progressed favourably until November 22nd, at midnight, when Mr. Woolnough found her in convulsions : her pulse was slow and feeble, 55 : the pupils were dilated. The urine drawn from the bladder gave abundant evidence of albumen, upon the application of the proper tests. I ordered her,

Jul. Am. Sesq. \bar{c} Sp. A. Aromat. m. xij. 4tis horis.

Ol. Ricin. \bar{z} i. cras primo mane sum.

At noon, the bowels had been freely opened ; the pulse was feeble, 65 : the tongue clean : no return of convulsions : the *traces of albumen in the urine are very faint.*

Nov. 27. In every respect improved.

Dec. 1. Convalescent. *All traces of albumen lost.*

CASE 7.

Primipara—Unmarried—Child expelled by the natural efforts—Urine coagulable—Mother recovered—Child born alive.

ELIZABETH G——, aged 19, a short girl, unmarried, with light hair and of fair complexion, was taken in labour at 9 P.M. on Monday, February 7th. The labour progressed slowly, but naturally, until Tuesday at 3 P.M., when the os uteri was dilated to the size of a crown

piece, the labour-pains recurring with vigour: the head soon descended to the outlet; but the parts offered great resistance, from their rigidity. At half-past 5 she began to talk incoherently; and suddenly a convulsive paroxysm supervened, rapidly followed by a second; and during the fit the child was expelled. The uterus contracted firmly. In a short time a third convulsion took place, and the placenta was then expelled. She was bled to xxvi . Hyd. chlorid. gr. x. were placed upon the tongue. The head was shaved; and ice, in a bladder, kept continually applied. The pulse was slow and labouring. Hirudines xxiv . were ordered to the temples; but during their application she was attacked with a convulsion much more violent than the preceding fits; and she lay in a state of coma for three-quarters of an hour. At 12 o'clock another convulsion took place. The ant. pot. tart. was administered, in half-grain doses, every two hours; but as the fits recurred more frequently, it was administered every hour, for three hours; and as nausea was produced, the dose was diminished to $\frac{1}{4}$ of a grain. After 2 o'clock she had no more convulsions; but as the calomel had not operated, 15 grains of jalap were given, followed in an hour by the enema saponis. This had the effect of producing copious very offensive dejections. During the course of the evening the urine was abstracted from the bladder by the catheter; and when subjected to a boiling heat, it *became like gruel*; and a subsequent examination, with nitric acid, shewed that it contained a *considerable quantity of albumen*. As this girl was in great distress, she was removed into Petersham Ward. For several days she continued the ant. pot. tart.; with occasional doses of aperients, as her bowels were naturally torpid. She left the hospital perfectly recovered.

It appeared, on inquiry, that for some time previous to her confinement she was troubled *with puffiness of the eyelids and with œdema of the legs*.

CASE 8.

*Primipara; delivered by the Forceps—Urine albuminous—
Child born alive—Mother recovered.*

Reported by Mr. SPONG.

“ANN M——, aged 19, a married woman, of small stature, of leucophlegmatic temperament; has been in good health during her gestation. For several days previous to the commencement of labour she was annoyed with spurious pains referred to the back and stomach. On Friday night, uterine efforts commenced: these continued throughout Saturday, until 3 o'clock on Sunday afternoon, when Dr. Lever was called to see her. The head was partly in the cavity; the membranes ruptured; the pelvis of small size, and the perinæum thick and rigid. At half-past 4 she had a convulsion: she was bled to 26 ounces; a castor-oil injection was administered, and the mist.

" antim. pot. tart. was given every half hour. *The urine, drawn from the bladder by the catheter, became cloudy both upon the application of heat and nitric acid.* During the convulsion the head descended a little; but made no further progress until 8 o'clock, when she was attacked with another fit. She was again bled from the arm; and as the external parts had become relaxed, Dr. Lever delivered her of a living child, by the forceps. *The urine continued albuminous for twenty-four hours after the first attack of convulsions; but there was no return of fits after her delivery. She rapidly convalesced.*"

Upon inquiry, I could not ascertain that this patient had suffered from any œdematous swellings before her confinement; but for two or three days she had complained of pain in the head, accompanied with some torpor, and unusual obtuseness of intellect.

CASE 9.

Second Confinement—Convulsions after Delivery—Urine albuminous—Mother recovered—Child born alive.

ELLEN D —, who was attacked with convulsions in her first confinement (see Case 5), was delivered, on the 25th October, 1842, of a living male child, by Mr. Woolnough. He left her at 1 P.M. conscious: her pulse 75. At 4 P.M. he was called to her, and found that in the intervening three hours she had had several convulsions. Her pulse was 110, full: she was totally insensible. She was bled to 20 ounces, and took the mist. ant. pot. tart. (gr. $\frac{1}{4}$), every half hour. The head was kept cool by an evaporating lotion, and mustard cataplasms were applied to the feet. *The urine, which had been drawn by the catheter, became milky, both upon the application of heat and nitric acid.* From this period the convulsions ceased, and she convalesced; her recovery being retarded by a distressing cough.

The urine did not entirely lose the albumen until November 3.

CASE 10.

Ninth Pregnancy—Child still-born—Mother died—Inflammation of the Membranes of the Brain.

C.A.—, aged 32, married, and has borne eight children; of intemperate habits; sanguineous temperament, and very corpulent. On the morning of January 5th, her attendant, Mr. Cotton, was sent for. She had been out on the previous evening to make some purchases, and had indulged rather freely in drinking: she was found sitting on her bed, rather excited, but sensible: she gave rational answers to the questions put to her. She complained of violent pain in the head, which had been troublesome for a week; and her pulse was much accelerated. To relieve the headache, she had the previous day applied a blister to the nape of the neck; and on the morning of the

day on which she was seen, three leeches to her temple. There were no labour-pains; neither were there any symptoms of labour apparent to Mr. Cotton; but as she stated she had lost a considerable quantity of blood, he fetched me from the hospital to see her. When we entered her room, we found her lying on the bed, comatose; her pupils dilated: her head was hot: in a very few minutes she was attacked with an epileptic convulsion, marked by the usual symptoms. The hair was removed, and cold affusion employed. She was bled to $\frac{3}{4}$ xxx: a glyster was thrown into the rectum, but not retained. About half-a-pint of urine was abstracted by the catheter: this, when examined by heat and nitric acid, afforded no traces of albumen. On vaginal examination, the os uteri was found opened to the size of a half-crown-piece, and very dilatable: the head presented. It was deemed advisable to complete the labour by the operation of turning; and the patient being placed in the usual position, version was readily accomplished, but the proper remedies, diligently employed, failed to resuscitate the child. The uterus contracted well, and expelled the placenta in twenty minutes: this organ was flabby; more dry than usual; and in it there were many deposits, giving it the appearance of hobnailed liver. For two hours the convulsions recurred, with increasing intensity, and the intervals between these attacks were shorter. As the patient was in a dreadfully destitute condition, it was deemed advisable to remove her to the hospital. At half-past 2, when admitted, the heat of the head was increased; the pupils were inobedient, dilated; the left larger than the right; respiration stertorous; pulse small, and thready; extremities warm. In about a quarter of an hour after her admission, she had another slight fit: the mouth was drawn to the right side: she took two deep inspirations, and suddenly and quietly expired.

POST-MORTEM EXAMINATION.—The body was examined twenty-four hours after death, by Mr. King. “The arachnoïd above was opaque, tumid, and yellowish, being raised by a large quantity of turbid water in the pia mater. The dura mater on the right hemisphere was lined by a soft pale red tumid arachnoïd; that of the left side incipiently so. The disease of all the membranes was most visible on the right side. The base was similarly affected. The brain was pale: there were four or five drachms of milky fluid in the ventricles: the lumbar arachnoïd was slightly clouded: the heart was flabby; the right side contained large dark coagula: the liver was pale, soft, of clear texture, seeming (only) fatty: the spleen was tumid, and much softened: the kidneys gave out much blood, but were not dark; their texture coarse and flabby: the uterus was larger than a child's head, white and pudding-like: the left end of the stomach was digested, and ecchymosed.”

This woman was talking to a friend in her room five minutes before she was attacked with the convulsion which left her in that comatose state in which she was found by Mr. Cotton and myself, and from which state of insensibility she never rallied. When did the cerebral effusion take place? Was there any effusion before the convulsion? Did all these evidences of cerebral disease display themselves in three hours?

CASE 11.

Primipara—Convulsions—Delivered by Forceps—Emphysema—Death—Child alive—Urine albuminous.

TO JULIA C——, a short stout Irishwoman, of sanguine temperament, plethoric habits, married, and about eight months advanced in pregnancy, Mr. Hewitt was suddenly called on June 23rd. The account he received from the mother was, that for some days the patient's bowels had been constipated; that for 48 hours she had complained of considerable pain in the head, and her face had been alternately flushed and pale. At 4 A.M. she had taken a dose of salts and senna, but soon vomited it: at 9 A.M. she was seized with a convulsion: her lips were livid; eyes fixed; mouth distorted, and covered with foam. Although much alarmed, her friends did not send for Mr. Hewitt for three hours; during which time she had several returns of the fits, and had been perfectly insensible during the intervals. Mr. Hewitt found her comatose: her skin was cool; her countenance placid; breathing tranquil; the pupils slightly dilated, but obedient to light; the pulse was 100, full, and bounding: she was perfectly unconscious, all attempts to rouse her being ineffectual. V.S. ad xxxv . was practised, when the pulse became rapid and fluttering. As the arm was being tied up, she had another most violent fit, during which the pupils became dilated. The hair was removed from the scalp; an aperient glyster immediately administered; and liq. ant. pot. tart. ʒi . was given every half hour. On vaginal examination, the os uteri was found dilated to the size of a shilling, with a thin sharp edge; and the head presenting. From this time until half-past 2 P.M. the fits continued at intervals of about half-an-hour. Twenty ounces more blood were abstracted from the arm, and she continued the tartar emetic. The os uteri became soft and dilated; and labour was evidently progressing. Between the fits the patient rolled about the bed and moaned: this was apparently caused by the uterine efforts. At half-past 3 the fits still recurred, and more frequently: ʒviij . of blood were taken from the temporal artery. At 5 o'clock P.M. I delivered her with the short forceps; but previous to their introduction, the bladder was emptied by the catheter: the urine, when examined, proved to be *highly albuminous*, of the sp. grav. 1010. The uterus

contracted well, and soon expelled the placenta. Very soon after delivery, the patient had a fit, again repeated in half-an-hour: at the termination of the latter, the heart's movements and respiration were completely suspended for several actions, and were but very slowly re-established. At 8 P.M., finding the pulse full and rapid, and the fits as violent and more frequent, I ordered,

V. S. ad 3xxiv.

Ant. Pot. Tart. gr. fs. omni horâ; et Hyd. Chlorid. gr. x. stat.

Ice was kept constantly applied to the head; and the antimony was given every hour, until 4 A.M. on Friday morning, when the convulsions ceased altogether: there having been twenty fits after delivery, and about seventeen before. The antimony was continued at intervals of three hours. The calomel produced several stools; which, together with the urine, were passed involuntarily: the pulse was 130, small and compressible. A blister was ordered to the nape of the neck, and sinapisms to the soles of the feet. At 6 P.M. she was exceedingly restless; and so violent, that it was deemed necessary to confine her arms and legs: half-a-pint of urine was drawn by the catheter, which, tested by heat and nitric acid, *did not coagulate*. Two grains of calomel were given, with the quarter of a grain of tartar emetic; and as the blister had been rubbed off, another was applied to the nape of the neck. At 1 A.M., Saturday, she suddenly exclaimed, "Give me a drink of water!" At 10 o'clock she was quite conscious, and able to recognise every one in the room: complained of pain in the forehead: her pupils were natural: respiration tranquil: pulse 130: the right cheek, and right side of the neck, were emphysematous.

Hyd. Chlorid. gr. fs. 4tis horis superbibendo.

Liq. Ant. Pot. Tart. m xxv. Sp. Æth. Nit. 3 fs. ex Julep. Ammon.

Acet. et Mist. Camph. āā 3fs.

She was ordered sago; and the refrigeration of the head was maintained by the ice.

At 11 P.M. the emphysema had considerably increased: the breathing was oppressed. Incisions were made on each clavicle, and a roller was placed around the chest.

Sunday, 9 A.M. The breathing much more tranquil; the bowels have been opened three times; the gums swollen and tender.

Omit. Hyd. Chlorid. et Liq. Ant. Pot. Tart.

Monday, the bandage was removed, and the chest examined. The whole of the lungs were very resonant on percussion, anteriorly; puerile respiration at both apices; at other parts, great deficiency of respiration; and the inspiration, especially posteriorly, accompanied with a wheeze: no decided *craquement*. On listening over the

anterior mediastinum, and causing the patient to hold her breath, a crackling was heard synchronously with the heart's systole. The patient continued in about the same state until Friday. The skin was tolerably cool; the tongue moist; the bowels open; but there was an almost constant contraction of the flexors of the thumb. Beef-tea and arrow-root were ordered. On Friday evening, diarrhœa supervened, accompanied with considerable tenesmus: the skin was hot, the face flushed; and the pulse became rapid, but readily compressed. A starch enema, with syrup of poppies, subdued the tenesmus, and the bowels were controlled by the *mist. cret. comp.* On Monday she was decidedly worse (her relations having given her kidneys and porter); her face was flushed; the surface of the body hot, and harsh; the conjunctivæ injected; and the edges of the eyelids were covered with viscid secretion; the pupils were contracted; the eyebrows knitted; the gums tender; the tongue red and dry; bowels opened twice in twelve hours; the pulse rapid and feeble.

Liq. Ant. Pot. Tart. ℥iv. *Jul. Am. Acet.* Mist. *Camph.* āā ℥iv. ft. *mist. cujus cap. coch. ij. amp. 4tis horis.*

On Tuesday she was reported to have coughed frequently, without expectoration; the surface of the body still very hot; conjunctivæ as before. From this time she sank gradually, and died on Saturday, at 4 A.M.

No post-mortem examination was permitted.

CASE 12.

*Unmarried — Primipara — Convulsions supervening after Delivery—
Child living — Mother recovered — Urine albuminous.*

Reported by Mr. HARDY.

M. S—, aged 18, of middle stature, stout, but pale, unmarried, was taken in her first labour at 1 A.M. of September 12th. At half-past 2 P.M. the os uteri was dilated to the size of a shilling. For the next four hours the pains were neither strong nor frequent. At half-past 8 their strength and frequency returned, and continued until half-past 10, when a living child was expelled; followed, in a quarter of an hour, by the secundines. In half-an-hour after delivery this female was suddenly seized with a convulsive paroxysm, followed quickly by a second and third.

V. S. ad ℥xl.

Cap. abrad.; et *Lot. Evap. Spirit. const. applic.*

Hyd. Chlorid. gr. x. statim; et *Mist. Ant. Pot. Tart.* ℥i. omni 2dâ horâ.

In two hours the pupils, which had been dilated, obeyed the stimulus of light. Her bowels were loaded with fæces, and the enema terebinth. was administered. The urine, which was drawn from the

bladder by the catheter, was acid, and *highly albuminous*, of the sp. gravity of 1005.

From this time she had no more convulsions; although she complained for several days of heaviness and pain across the forehead, which was relieved by the local abstraction of blood. Her gums were swollen; her breath fetid; and her tongue covered with vesicles, although but 10 grains of calomel were administered, and these at one dose at the commencement.

The urine, drawn twelve hours after her delivery, was high-coloured, sp. gravity 1020; and contained *albumen*, although its quantity was less, compared with that abstracted at the period of the fits. This secretion was rigidly examined from time to time; and evidence of its containing albumen became fainter and fainter, until it entirely ceased, thirty-six hours after her delivery.

For three or four months previous to her confinement, this girl was in the habit of taking considerable quantities of ardent spirits.

CASE 13.

Primipara — Convulsions — Twins — Forceps — Turning — Urine albuminous — Mother recovered — Children alive.

H. R——, aged 33, a strong healthy young woman, unmarried, sent for her medical attendant at 8 p.m. on Nov. 13. He found she had been suffering from spurious irregular pains since the Thursday previous. Upon examination, the os uteri was found high in the vagina, of the size of a sixpence: its edge sharp and cutting, but dilatable. At 2 a.m. on Nov. 14th, examination was again instituted. The mouth of the womb had dilated considerably: the head presented, and the pains continued strong and vigorous. At half-past 3 their duration was lessened; they recurred at irregular intervals; and between the periods of their occurrence the patient dosed. At 5 a.m. the head was engaged in the pelvic cavity: the perinæum was not distended, but was rather thick and unyielding. At half-past 6 the pains entirely ceased; when the patient suddenly became unconscious; her eyes fixed and staring; the pupils alternately dilated and contracted; and the pulse was strong and labouring. Her attendant, Mr. Cotton, bled her to ʒviiij. ; and when this quantity of blood was abstracted, she complained of faintness. Having been sent for, I had scarcely entered the apartment when she was attacked with a severe convulsion: her features were distorted; the head was thrown back; the limbs stretched and rigid, and the eyes fixed and staring: the vein was again opened, and about a pint of blood was drawn, in a full stream, until the pulse became small, soft, and compressible. The catheter was introduced, and a pint of urine was drawn off. By means of the forceps, I succeeded

in delivering the first child. After waiting for half-an-hour, without any effort at expulsion becoming manifest, I determined to perform the operation of version: this was accomplished with facility. The uterus contracted well, and the secundines were expelled naturally. When she was left, at half-past 9, she was conscious; complained of a weight on the forehead, and of the loss of her sight. Pulv. jalap \bar{c} . hyd. $\bar{\text{O}}$ i. was ordered, immediately to be followed by an enema. At 11 she had another convulsive fit, during which a severe wound was inflicted on the tongue. Twelve leeches were ordered to the temples; the head to be shaved; and a cold refrigerating lotion kept constantly applied. The liq ant. pot. tart. was ordered, in half-drachm doses, every four hours. At 4 P.M. Mr. Cotton was called to this patient, who was attacked with another convulsion more violent than either of the preceding: he found her in a semi-comatose state: the leeches, which had not been applied, were immediately placed upon the temples; her pulse was 92. At 7 P.M. about a pint and a half of turbid urine was drawn off: at this time she answered questions rationally, and could both see and hear distinctly. The bowels not having been relieved, the enema terebinth. was immediately administered.

Nov. 15, half-past 7 A.M. Has passed a good night: the pain in the head lessened: the urine, drawn by the catheter, has the well-known odour communicated by the turpentine administered on the previous evening. Pulse 80, soft. From this time she gradually recovered; and the report on the 30th is, "Quite convalescent."

The following particulars, showing the character and quantity of urine, are interesting:—

		Sp. G.	Effect. of Heat.	Nit. Acid.
Water taken away before the delivery of the first child...	turbid,	1017	milky,	very coag., acid.
6 hours after delivery,	cloudy,	1022	flocculent,	coag., acid.
24	clear,	1010	turbid,	turbid, very acid.
36	clear,	1004	none,	none, acid.
72	dark col.	1007	none,	none, very acid.

QUANTITY OF URINE.

Nov. 14th. Before delivery of the first child, one pint was drawn off.
At 7 P.M. one pint and a half.
15th. At half-past 7 A.M. . . . one pint and a half.
At 1 P.M. two pints.

Thus, in twenty-eight or twenty-nine hours six pints of urine were abstracted.

CASE 14.

Second Confinement—Forceps—Mother recovered—Child born dead.

M. F——, a short stout woman of light complexion, was delivered of a six-months' child in Oct. 1841. At 2 A.M. October 4th, 1842, Mr. Rubidge was summoned to her in her second labour: the pains had commenced at 10 o'clock on the previous evening, but during the last hour had greatly increased in severity: at the same time, their duration had augmented. On examination, the os uteri was found to be about one inch in diameter, and rigid. She complained of headache, and vomited frequently. Pulse 95, full and hard. The pains continued severe and frequent; but the os uteri dilated but slowly. At half-past 5 A.M. she was suddenly seized with a violent convulsion, and the fits continued to recur with but little intermission until 7 o'clock. During this time, 3xxx. of blood were abstracted from the arm, and a tea-spoonful of the liq. ant. pot. tart. administered every quarter of an hour. The os uteri became relaxed, but the pains were feeble. At half-past 7 Dr. Oldham delivered with the forceps. The child was stillborn, and the cord was empty and contracted. Cold evaporating lotion was continually applied to the head. At 1 P.M. she complained of severe headache, and some abdominal tenderness. Pulse 140, and jerking: pupils dilated. Enema ol. ricini stat. injiciend.

5th. She was reported to have slept well; there had been no return of convulsions; her bowels had been freely opened: pulse 90. From this time she rapidly convalesced, and went into the country on the 14th.

Her urine, which was abstracted by the catheter at the time of her delivery, was of sp. gr. 1010, slightly acid: it became *very flocculent* upon the application of heat, and when nitric acid was added. This coagulability of the urine disappeared gradually; and on October 8th the appearance and character of the excretion were perfectly normal. This patient had suffered from slight puffiness of the eyelids, and œdema of the legs and feet, previous to her delivery.

Ratio of Mortality.—(1. To Mother.) From these Reports it will be seen, that out of fourteen cases of Puerperal Convulsions two only were fatal. Drs. Hunter, Lowder, &c., former Teachers of Midwifery, were accustomed to state, in their Lectures, that this disease proved fatal in more than half of the cases attacked. Dr. Parr, in his Medical Dictionary, gives even a worse picture than this. But the results of the disease may be gathered from the following Table:—

	Cases of Convulsions.	Mothers Lost.	Prop. Per Cent.
Dr. Bland	2	—	—
Mr. Perfect	14	5	35·7
Mr. Gifford	4	2	50·
Dr. John Clarke	19	6	31·5
Dr. Smellie	8	2	25·
Dr. Merriman	36	8	22·2
Dr. Ramsbotham	26	10	38·4
Dr. Maunsell	4	2	50·
Dr. Collins	30	5	16·6
Dr. Beatty	1	—	—
Dr. Churchill	2	—	—
Mr. Mantell	6	2	33·3
Dr. Lever (Guy's) . . .	14	2	14·2
Total	166	44	26·5

Thus it will be seen, that of 166 cases of convulsions, 44 women died, or 26·5 per cent. If the fourteen cases recorded in this Paper be omitted, the number of cases will be 152, and the number of deaths 42, or 27·6 per cent.; while the cases attended at the Lying-in-Charity of Guy's Hospital have proved fatal only in the proportion of one in seven, or 14·2 per cent.

(2. To Children.) The fourteen women gave birth to fifteen children; eleven of whom were born alive, and four stillborn. Of the four stillborn, two were delivered by the operation of turning; one by the employment of the forceps; and the other was a case of partial presentation of the placenta, in which the child descended with the feet forwards.

Cases of Labour, and Method of Delivery.—In seven cases the children were born by the natural efforts; in three, the forceps were employed; in two, the operation of turning was resorted to: in one case there were twins, the first of whom

was delivered by the forceps, the second by the operation of version; and in the last there was a partial presentation of the placenta.

Nine of the women were married, and five unmarried. Of the fourteen women, eight were primiparæ, and six had been previously confined.

Dr. Ramsbotham, sen., is of opinion that "women with large families are equally or perhaps more liable to be assailed;" but of twenty-one cases of convulsions recorded by him, in which the number of the pregnancies is stated, there are only two cases in which the pregnancy is not the first, with the exception of those instances in which the children were born prematurely at the sixth or seventh month. In five cases out of twenty-six, he has omitted to mention whether or no they were first pregnancies. Of nineteen cases recorded by Dr. Clarke, sixteen were first children; twenty-eight out of thirty-six, recorded by Dr. Merriman, were first children; and of thirty related by Dr. Collins, twenty-nine were first children.

In two of the cases, convulsions supervened before labour was established; in ten, they occurred during the progress of the labour; and in two, they did not exhibit themselves until after the birth of the child and the expulsion of the secundines.

Some writers, as Drs. Smellie and Denman, have imagined that this disease is, in a great measure, influenced by atmospheric causes. Andral is of opinion that the disease is probably connected with an electrical condition of the atmosphere, acting primarily on the nervous system, and producing cerebral excitement.

Through the kindness of Mr. Robertson, Assistant Librarian of the Royal Society, I have been enabled to insert the following Table, showing the state of the weather upon the days each of the fourteen cases of convulsions was attacked.

Case.	9 A.M.		3 P.M.		EXT. THERMOMETER.				DIRECTION OF WIND.	STATE OF WEATHER.
	Barometer.	Att. Therm.	Barometer.	Att. Therm.	Fahrenheit.		Self. Regis.			
					9 a.m.	3 p.m.	9 a.m.	3 p.m.		
1	29.677	46	29.336	49	47	52	41	53	S. W.	Cloudy; high wind.
2	29.814	55	29.855	58	53	61	47	61	S. W.	Cloudy; light wind.
3	29.688	40	29.710	42	38	43	35	44	N. E.	Light clouds; wind.
4	30.304	79	30.278	61	51	57	44	64	N. W.	Light clouds; wind.
5	29.372	27	29.378	28	26	28	24	26	N.	Overcast; light rain, freezing in falling.
6	29.642	49	29.732	50	46	47	47	50	N.	Wind and rain.
7	29.462	40	29.252	41	43	46	34	44	S. E.	Wind and rain.
8	29.940	50	30.086	51	46	51	43	56	W.	Cloudy; brisk wind.
9	30.018	69	29.934	71	66	76	59	76	S.	Cloudy; light wind.
10	29.896	77	29.882	69	62	68	53	78	W.	Fine; light clouds and breeze.
11	29.844	61	29.882	63	60	63	56	65	N. W.	Fine, but windy.
12	30.096	52	30.098	53	50	54	45	59	N. N. W.	Fine.
13	30.312	52	30.286	53	51	54	49	54	W.	Wind.
14	29.720	50	29.804	51	47	47	46	55	W.	Fog and wind.

Condition of the Urine.—In the first four cases here recorded no mention is made of the condition of the urine, for our attention was not at that time directed to the investigation of this secretion. In the fifth case, Mr. Woolnough, my late colleague Mr. Tweedie, Dr. Gull, as well as myself, particularly noticed the great similarity that presented in her appearance and that of patients labouring under anasarca with the Morbus Brightii; and it was with this view that we proceeded to examine the condition of her urine.

At first, I was induced to believe that it was merely a case of pregnancy occurring in a woman affected with granular degeneration of the kidney; but as the traces of albumen became daily more faint, until they entirely disappeared on November 3, I was led to suppose that the albuminous condition of the urine depended upon some transient cause probably connected with the state of gestation itself.

To settle this point, I have carefully examined the urine in every case of puerperal convulsions that has since come under my notice, both in the Lying-in-Charity of Guy's Hospital and in private practice; and in *every case, but one*, the urine has been found to be *albuminous* at the time of the convulsions. In the case (10) in which the albumen was wanting, inflammation of the membranes of the brain, with considerable effusion, was detected after death. I further have investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn, during labour, by the catheter; great care being taken that none of the vaginal discharges were mixed with the fluid; and the result has been, *that in no cases have I detected albumen, except in those in which there have been no convulsions, or in which symptoms have presented themselves, and which are readily recognised as the precursors of puerperal fits.*

Several obstetric writers have remarked that œdema of the face and extremities predispose to convulsions. M. Dugés, at p. 238, says, “On l'observe plus particulièrement chez les femmes encientes qui sont affectées d'une anarsaque considérable des membres inférieurs, surtout si l'infiltration se propage aux membres supérieurs et à la face.” I. T. Osiander considers a swollen condition of the face and hands as pre-

monitory of the attacks. Velpeau, at p. 51 of his Treatise "Des Convulsions chez les Femmes," says, "L'infiltration des membres pelviens surtout est une autre cause d'éclampsie:" and again, "J'ai la conviction, que les femmes infiltrées sont fortement exposées aux convulsions." Dr. Montgomery, at p. 6 of his "Signs and Symptoms of Pregnancy,"—after relating the case of a lady, in whom, "about the middle of the eighth month of pregnancy, the feet and legs began to swell, and so continued until the swelling reached half-way up the thighs; the hands then became affected, so that she could hardly close them, and she was obliged to put off her rings; afterwards her face began to swell, and to such a degree, that when she got out of bed in the morning her eyes would be scarcely visible,"—says, "when this latter form of œdema takes place, it ought to claim our most serious attention, as it is connected with a state of the vascular system, which, if active depleting measures be not previously adopted, will probably give rise to convulsions at the time of labour:" and of which the case of this lady was a well-marked instance.

In reply to a Letter I addressed to the Doctor, in March 1842, he stated, that "it had never occurred to him to investigate the condition of the urine in these cases; but from the state of the system, under the circumstances, he thinks such a condition of the urine extremely probable." Dr. James Reid also, in his Report of Parochial Lying-in Cases, extending from June 1840 to February 1842, and published in the London Medical Gazette, after detailing a case of convulsions occurring in a strong robust woman, in whom "the legs were very œdematous, and the labia also very much enlarged," says, "I have known this state of the system to precede an attack of puerperal convulsions, in several cases." From what I have seen in public and private practice, I am led to the conclusion, that cases of convulsions complicated with an albuminous condition of the urine are divisible into two forms: in the one, the urine is *albuminous during pregnancy*; and there are external evidences, as shown in the œdema of the face, eyelids, hands, &c. In such cases, the convulsions will be more violent, and will last for a longer time after delivery. The urine also retains its albuminous properties for a longer period

than in the second form, or that in which the urine becomes *albuminous during the labour*. In this variety, the urine contains less albumen; the fits are less violent; seldom re-appear after delivery has been completed; and if they do, it is in a milder form, unless complicated with some lesion of the brain. The urine, in this form, very speedily loses all traces of albumen after labour is completed. Mr. Robinson, in his Monograph,* has satisfactorily proved, that causes which induce congestion of the kidney by preventing or obstructing the return of blood through its veins, as abdominal tumors, &c., will produce renal congestion and albuminous urine: and I am of opinion, that the gravid condition of the uterus, by its pressure, prevents the return of the blood through the emulgent veins; and hence is the cause of the renal congestion, and the consequent albuminous condition of the urine. This opinion is supported by the facts I have already adverted to; viz., that the urine was found to be albuminous only in those women who were affected by, or who had the premonitory symptoms of convulsions. The pressure of the gravid uterus is by no means uniform, as stated by some writers: this may be remarked in the difference in size and figure that females present in their several pregnancies. In some, the uterus is distended more at its posterior and lateral parts than at its anterior, and *vice versâ*; and yet, in both, the contents of the uterus may be equally great.

In these cases, the congestion will take place and the urine become albuminous towards the close of pregnancy: but this untoward pressure may not be excited until the onset of labour; and as this progresses, the congestion may be increased, and consequently the albuminous condition of the urine be caused. Thus, in my opinion, we have the same cause producing this condition of the urine both during pregnancy and parturition. The great similitude that exists in the appearances presented by females attacked with eclampsia, and those observed in persons affected with albuminuria, must have been oftentimes noticed by those who had atten-

* An Inquiry into the Nature and Pathology of Granular Disease of the Kidney, and its mode of action in producing Albuminous Urine.

tively regarded both. In neither case do the convulsions strictly deserve the term "epileptic." Epilepsy is a chronic disease; while puerperal convulsions, and the convulsions which attend the progress of the Morbus Brightii, are of a clonic character.

Condition of the Blood.—In but one case (No. 13) was the blood submitted to analysis, but without detecting urea. If this case be referred to, it will be seen that the congestion took place during the labour; and although the congestion in the emulgent vessels may have been sufficient to have produced the albumen in the urine, yet there may not have been time for the blood to have become so impregnated with the urea as to permit its detection by the usual tests.

Treatment.—General Remarks.—It is not my intention to enter at length into the question of treatment in puerperal convulsions, but merely to make a few general remarks on the principal means of relief employed in the foregoing cases.

The cases are divisible into two kinds—anæmic and sthenic. Cases 1, 3, and 6, are examples of the anæmic variety; the remainder are of the sthenic form. In the treatment of the latter variety, our objects are, to cut short the paroxysm, remove the coma, and guard against another fit: these are to be accomplished by allaying the vascular excitement and congestion of the cerebral vessels; and by putting an end to the gestation, and thus removing the prime cause of congestion and irritation.

In the accomplishment of the first object, active depletion is essential. Moderate bleedings will be of no service, either in relaxing the uterus or in preventing effusion. The quantity of blood abstracted must depend entirely upon the urgency of the case, and the effects which the loss produces. In Case 5, one hundred and twenty-two ounces of blood were abstracted topically and generally in the course of seventeen hours. This large depletion is but seldom required; a more moderate loss of blood, in quantities sufficient to relax the uterus and prevent effusion, is all that is demanded, especially if the depletion be followed up by the prompt and regular exhibition of—

Tartar Emetic.—By the use of this medicine the abstraction of blood in large quantities is rendered unnecessary, although its beneficial effects are seen to more advantage after some depletion has been practised. It possesses the power of lowering arterial excitement, and, at the same time, of relaxing those structures through which the child has to pass. In all cases of sthenic convulsions, it should be exhibited in doses sufficient to put the system under its nauseating influence, so that, by its agency, the return of the fits will be prevented, or, if not prevented, their force and frequency will be diminished. It is sometimes necessary to combine this medicine with a small proportion of opium, to prevent irritation of the mucous lining of the bowels, and consequent diarrhœa. If its exhibition be persevered with for some time, it may give rise to an erythematous eruption.

Purgatives.—Purging is of great importance in puerperal convulsions. In cases where the presence of deglutition is impeded or lost, a dose of calomel, from ten to fifteen grains, mixed up with butter, should be placed upon the tongue, and this followed by a drop or two of croton-oil : at the same time, the action of the bowels should be promoted by an enema of soap, colocynth, or turpentine. It is no unusual thing to find large quantities of hard scybala evacuated, even though the bowels may have been daily relieved.

Mercury.—This medicine I now only employ as a purgative in combination with other aperients ; and even when exhibited with this view, great caution must be exercised, as the system is very readily affected by mercury in puerperal convulsions attended with albuminous urine ; and if once it be allowed to display its effects, the diarrhœa, insalivation, and consequent debility, are extremely distressing, as well as difficult to remedy.

Question of Delivery.—The facts stated in this Paper lead me to the conclusion, that where convulsions occur during parturition before the birth of the child, and are complicated with an albuminous state of the urine, it is advisable to complete the delivery as soon as consistent with the state of the

patient herself, and the condition of the parts through which the child has to pass.

And thus, while, on the one hand, I deprecate artificial dilatation of the os uteri (which may induce a convulsion)—while I am no advocate for rupturing the membranes, and the induction of premature labour—while I declare myself altogether opposed to incisions in the vaginal portion of the os uteri, as recommended by Velpeau—I do most strongly recommend that delivery be resorted to so soon as the state of the parts will permit its accomplishment.

If the membranes be unbroken—if the os uteri be soft and dilatable—if the external parts be lax and moist—then version may be readily performed: but unless there are circumstances of great moment, calling for the immediate delivery of the woman, I would rather wait until the head of the child can be grasped by the forceps or vectis, and the delivery be, by their aid, accomplished.

