AN INAUGURAL DISSERTATION
ON PASPERAL CONSIDERATIONS
SUBMITTED TO THE PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY OF THE UNIVERSITY OF NASHVILLE, FOR THE DEGREE OF DOCTOR OF MEDICINE.
BY
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OF TEXAS
1839
MEDICAL JOURNAL OFFICE, NASHVILLE.
To

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This dissertation, is respectfully
dedicated by a grateful, and
humble student.

The Author
Puerperal Convulsions.
Among the many diseases which appear in women during the puerperal state, there is none that would seem to awaken so much interest and anxiety with the practitioners of medicine as the one under consideration, and from the horrid scenes it presents and its characteristic tendency to death, should demand his strictest attention and investigation, so that when summoned to attend such a case, may at all times be prepared to alleviate and abridge, as much as possible, the suffering consequent on such occasions.
The convulsions may appear during pregnancy or parturition or after delivery. They hardly ever occur prior to the sixth month of pregnancy. There are more frequent in parturition. They occur more often after delivery than during the gravid state. There is no stated time to which they may occur after delivery, though, as a general rule, a few hours afterwards, but records are not wanting where several days have elapsed before they appeared. The causes are divided into predisposing and determining causes.
predisposing cause is pregnancy and the various changes it produces throughout the economy. From the observation of some authors, the only known predisposing cause is due albuminuria, which they consider as being almost a physiological condition of the pregnant female, but if the elimination of albumen from the blood be excessive, it becomes pathological, and forms albuminous nephritis, which they think is necessary to the production of eclampsia. This elimination of albumen from the blood, through the kidneys, according
to their theory renders the spinal cord more susceptible to any irritation that may be conveyed to it, and causes it to take on action much sooner than it other wise would, do. Other authors mentions two classes of females, which are peculiarly liable to eclampsia to wit: That of the plethoric and irritable. The irritability which most predisposes to this is more common in fashionable ladies, whose nervous systems are very susceptible. Many other predisposing causes have been enumerated as a first delivery want of exercise, sedenta of the...
lower extremities, general infiltration, peculiar conditions of the atmosphere and individual idiosyncrasies, all of which have been mentioned as being so many predisposing causes to the production of convulsions.

The determining cause resides in the spinal cords itself or may be produced by some irritation in some distant organ which, when transmitted to it, by the sensitive nerves, is calculated to awaken the reflex action of the motor nerves, and thereby produce eclampsia. By this means, we can
account that an irritation of the nerves of the uterus, vagina, rectum, or stomach may be considered as being so many determining causes to convulsions. Any thing that is calculated to produce great irritation of the uterus as a consequence which lead all difficult labors, such as a malformation of the pelvis, obliteration of the vagina, deformities and unfavorable presentations of the fetus, &c, are so many sources of irritation and may at times give rise to eclampsia. At times an over distention of the intestinal canal, by any
foreign body, such as a large accumulation of gas, fecal matter &c., may produce like phenomena. The same may be said by the irritation of the bladder, from whatever cause, all of which is sometimes so many determining causes to general convulsions.

Symptoms. These are divided into precursory symptoms, those which manifest themselves during the attack, and those that are developed in the intervals. There is no disease scarcely but what we have some premonitions, which foretells their invasion, so it is with eclampsia, and
in the majority of cases, those premonitions, enable us in most instances to foretell its speedy invasion. For several days before an attack, though occasionally a few hours, the patient becomes more, or less irritable, is easily excited. Complains of an intense cephalalgia. The pain in the head is accompanied with nausea, sometimes vomiting by vertigo, dimness of vision, tinnitus aurium, and often pain in the epigastrum. After these premonitory phenomena, have lasted sometime, they still become more intense, with diminished activity of the intellectual faculties,
The countenance shows an unusual dullness. The patient sinks into a deep abstraction, from which she can be aroused with difficulty. In plethoric patients the face is flushed and animated, the pulse full and slow, while, on the other hand, if the patient is of an irritable or nervous constitution, the face is pale, the skin cold, and the pulse hard and contracted. These symptoms last an unlimited time when an attack makes its appearance. The patient is thrown into violent convulsions affecting first the muscles of the face, producing a most hideous countenance.
eyelids are in a state of agitation, and the eyeballs roll in, their sockets in every direction. At first, the jaws are repeatedly opened and shut and, sometimes, the tongue thrust out and deeply bitten. Subsequently, they become forcibly closed. The convulsions affect mostly the extensor muscles, which overcome those of the flexors. The body is permanently extended, and the arms forcibly stretched along the side, and the fist clenched. The lower extremities are in like manner extended. The urine and feces are not infrequently discharged involuntarily.
There is foaming at the mouth, the respiration is difficult and performed with a peculiar hissing noise. The face presents a purple turgid condition, owing to an imperfectly decarbonized blood, circulating through the system, produced by convulsive movements of the diaphragm and spasm of the glottis, which prevents the lungs from receiving their due amount of oxygen. The pulse at first is full and hard, but afterwards becoming smaller and hardly perceptible. The skin is hot and dry, but is soon bathed in profuse perspiration on the sensorial and antilethal
faculties are wholly extinct, the patient, being altogether unconscious of all external objects. The duration of the fit is from one to ten minutes, and then gradually subsides, the pulse frequently becoming calm, and the patient conscious, but is soon succeeded by a fresh attack.

During the intervals of the first, two or three attacks, the patient seems very much prostrated, but may retain her right mind, though as the paroxysms are renewed, the intellectual moments become shorter, and shorter, and finally she sinks into a state
of complete Coma, from which she cannot be aroused, only by the invasion of a fresh attack. The Coma is accompanied with stertorous respiration, a strong and well-developed pulse. The face is injected, the pupils dilated. Sometimes the sensibility is not altogether lost, without the Coma is very profound, when all sensibility is suspended. As the Coma passes off, it leaves the patient in a state of drowsiness, from which she can be aroused by speaking to her, and conscious she gradually returns.
Terminations. The terminations of eclampsia is recovery, death, or may produce some other disorder. When recovery is the result, the paroxysms are not nearer or more intense, are less frequent and of shorter duration, while to the contrary, when death ends the scene, the paroxysms occur in rapid succession, of longer duration and much more intense, succeeded by profound torpor, from which the patient cannot be awakened. Death generally ensues from twelve to forty-eight hours after the first attack. The patient may
escape, death, and, yet, the convulsions give rise to some other disorder. The convulsions may come on during parturition, producing violent contractions of the abdominal muscles, with strong contractions of the uterus, and if the os uteri is not sufficiently dilated, nor dilatable to admit of the expulsion of the fetus, may produce a rupture of the cervix, and by this means, prove a considerable injury. And, secondly, the cerebral congestion may be so great as to produce apoplectic effusion and, as a consequence, hemiplegia is the result, and in like manner a determination,
of blood, to the lungs may produce, a congestion of those organs. According to the best authors on the subject, meningitis, and puerperal peritonitis is frequently the result of eclampsia.

Diagnosis. There are many diseases which may be mistaken for eclampsia. During the paroxysm, it may be confounded with hysteria, epilepsy, catalepsy or tetanus. While in the comatose stage, it may be mistaken for apoplexy. Concussion of the brain and the coma of drunkenness in hysteria, there is never a total abolition of the intellectual faculties, no coma preceding.
the attack, no frothing at the mouth, and the convulsive movements being altogether different from what they are in eclampsia. In eclampsia, the limbs are extended, while in hysteria, they are forcibly flexed. In hysteria, the patient, not infrequently have to be held in bed. She utters violent cries, while in eclampsia, there is none of those phenomena. Hysteria generally makes its appearance at the commencement of pregnancy. Eclampsia, to the contrary, scarcely ever, but mostly in the latter months of the gravid state. Epilepsy simulates eclampsia more than any other convulsive
disease, and is more likely to be mistaken for it than any other, however there is little, or no coma succeeding an epileptic fit, as in eclampsia and a knowledge of what has succeeded, and the termination of the disease, will enable us in the most of cases to form a diagnosis. Eclampsia is distinguished from eclampsia by the persistence of the convulsive rigidity of the limbs, and Cataplexy from the singuler phenomena, that the limbs retain the same position throughout the fit, which they happened to have at the Commencement or any position we make them.
resume, during the convulsive state, which is very different from eclampsia. Apoplexy is never preceded by convulsions, nor neither is concussion of the brain, and in the latter the presence of wounds on the head would always enable us to form a correct diagnosis. A previous history of the patient, and the odor of the breath of the individual would enable us to distinguish the coma of drunkenness from that of eclampsia.

**Prognosis** The prognosis of eclampsia is somewhat unfavorable. According to statistics on the subject, one out of every three or four dies, but the fatality is
greatly owing to what gives rise to the convulsions, the period of pregnancy in which an attack makes its appearance, and the manifestations of the progress and intensity of the symptoms. In women who are affected with serous plethora or general inflammation, the prognosis is thought to be exceedingly unfavorable. Also where the cause seems to be due albuminuria, the prognosis is more unfavorable than in women who are not affected with such an alteration of the blood. When the attack comes on at the commencement of labor, the convulsions are more serious, than when manifested
at a later period of parturition where the os uteri is well dilated and would admit of a spontaneous or artificial delivery, whereas in the former the parts are not dilated as a depletion of the uterine is one of the most favorable conditions to the cure of the puerperal and the prognosis would render the prognosis much more serious.

The convulsions are much more dangerous when they occur in the early months of pregnancy than in the latter. For this reason, in the early month of pregnancy the obliteration of the os uteri and hardening and rigidity of the cervix would render a depletion of the
Utens almost impossible and in cases of recovery the patient would then be liable to fresh attacks during the remainder of the gravid state.

If the parorgans are continuous or appear after delivery, the prognosis is much more unfavorable than otherwise, as we would then be deprived of having recourse to the extraction of the foetus. In primiparous women the prognosis is more unfavorable than in those who have borne children, as in the former, the expulsion of the foetus is generally attended with much more difficulty than in the latter.

The course and intensity of the
Symptoms should also be taken into consideration as they greatly influence the termination of the disease. When the paroxysms are numerous and occur in rapid succession and the comatose stage prolonged during the whole interval, and the patient does not recover her sensorial and intellectual faculties between them, the prognosis is exceedingly unfavorable and death generally ends the scene.

The prognosis is more unfavorable for the child than it is for the mother, especially when paroxysms occur in rapid succession for them, the maternal circulation is partially or not
altogether suspended, and the child receiving blood imperfectly oxygenated, death ensues as a natural consequence. The death of the child is also endangered by the manner in which it is sometimes necessary to affect a delivery, such as the practice of version, the application of forceps, &c. And even after it has been delivered and escaped all the dangers while in utero, it is not yet safe, as it is liable to a hereditary influence, and may die of convulsions, similar to those which affected the mother.

Pathological Anatomy. Post mortem examination, according to the
best authors on the subject reveal but little light on the cause or nature of eclampsia. There is sometimes found an effusion of serum in the ventricles and arachnoid cavities of the brain and also an extravasation of blood into the cerebral substance, but this is supposed to be due the effects, and not the cause of the disease. Those authors who believe on are of the opinion that albuminuria is the predisposing cause of eclampsia, seek out the anatomical lesions in the kidneys which reveals in most cases according to their observation, albuminous nephritis or Bright's disease of the kidneys.
Treatment. The treatment of eclampsia is divided into prophylactic and curative. The prophylactic treatment should be directed to the predisposition which by removing will prevent the approach of the paroxysms. If the cause seems to be due albuminuria, the indications are to correct such an alteration of the blood, and as the elimination of albumen from the blood has a tendency to loosen all the solid constituents of that fluid, the recommendations are to advise an animal diet, and to administer as a tonic, some preparation of iron, which has been proved to be the best preventive means used in such cases,
If there is any symptoms of cerebro-spinal congestion venesection should be employed and practiced frequently during the latter months of pregnancy especially if such symptoms are still manifested, as preventing means are purgatives and diuretics, after these some have used water emetic in nauseating doses and thought with great success.

In particular, all causes should be removed or corrected that tend to produce difficult labors. If the contractions of the uterine are irregular, they should be restored to their normal type, by venesection, bathing opiate & c.
At the commencement of labor, the bladder should be emptied, also the intestinal canal, and stomach of all indigestible food to which might be so many sources of irritation as to produce convulsions. And after delivery and examination per vaginam should be made to remove all sources of irritation, such as coagula, portions of placenta &c, as the neglect of such things not infrequently is the cause of eclampsia. Under the head of curative means the first indications are to prevent cerebral congestion. This is to be done by taking away blood from the arm in full stream, approaching
Dyscopic or until the congestion is removed, and repeated if the farangs still continue to come on. Where general bleeding has been employed and the coma is prolonged throughout the intervals, cups and leeches should be applied to the temples and back of the neck, which relieves local congestion.

If one suspects there is any indigestible food in the stomach, vomiting should be produced by the administration of an emetic, or mechanically by tickling the fauces. The condition of the bladder should also be examined, and the catheter used if perchance it is found distended with urine.
Purgatives should also be administered, composed of castor oil or calomel. They should be given during the intervals, but if the patient does not regain her sensorial or intellectual faculties and cannot swallow, an enema should be used instead, composed of castor oil, with a few drops of alum sigillae, and to be repeated until a copious alum evacuation is obtained.

At the same time counter irritation should be kept up, by means of sinapisms applied to the thighs, legs, and feet, which is the right to be productive of much advantage. Apinis as a sedative, after sufficient depletion has been recommended by some.
The head should be shaved and cold water frequently applied. This ought never to be neglected, as it has been used with the happiest results, and is an excellent remedy. During the paroxysms, the prerequisites are to keep the tongue from being bitten. This is done by placing the handle of a spoon between the teeth.

If an attack makes its appearance during gestation, the uterus should not be interfered with, and the medical treatment above indicated employed. Though should labor come on prematurely, the treatment is then similar to that employed during parturition at the regular time.
When the convulsions occur during parturition, and the as ani is dilated or dilatable, and the head of the child engaged at the superior strait, the application of forceps, should be used, except the parorgans are very slight and a spontaneous delivery soon anticipated, if the head is still above the superior strait, and the parorgans are very frequent and intense, pelvic version should be resorted to, that is, if the parts are sufficiently dilated or dilatable to admit of the introduction of the hands in face presentations, the same means are necessary that are employed in presentations of the head.
Where the pelvis presents, delivery should be hastened by cantilence, by making traction at this extremity, and in like manner in trunk presentations, the feet should be drawn down, and the child delivered as in pelvic presentations.

When the os sili is not dilated nor dilatable and the membranes unbroken, they should be ruptured, and the dilation of the as, facilitated by the application of the ointment of belladonna.

If the membranes are already broken and the part seem to dilate slow, and the convulsions very serious, a forced delivery has been recommended.
This is accomplished by forcibly introducing the hand into the uterus. If there is so much resistance that the hand cannot be introduced, cutting instruments have been employed to divide the part so as to admit of its introduction.

After the expulsion of the child, an examination per vaginam and an exploration of the uterus, should be made and all coagula, portions of membranes, placenta &c. that may be retained removed, so that there will be no source of irritation on whatever left behind.

If the convulsions still continue after the child has been
delivered, the same medical means should be employed as has above been recommended.

The inhalation of anaesthetic agents in this disease has been highly extolled by some practitioners, and thought productive of a great deal of advantage, seemingly to lessen the frequency of the paroxysms, and sometime put an end to them altogether.