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ON LABORS COMPLICATED WITH CONVULSIONS.

From Dr. Robert Lee's Lectures at St. George's Hospital.

THERE is a striking resemblance between the symptoms observed in a case of common epilepsy and in one of puerperal convulsions, or eclampsia, as it is called by nosologists. In both these diseases insensibility takes place during the fits, and all the voluntary muscles of the face, trunk and extremities become convulsed. When a fit of puerperal convulsions comes on, the woman becomes perfectly unconscious of everything around her, and the muscles of the eyes and face are usually first affected. Irregular spasmodic twitchings are observed about the mouth and eyelids, which produce great distortion of the countenance: the eyes are often turned upward and inward to the root of the nose, and roll rapidly about in different directions. The lower jaw is either firmly clenched against the upper, or it is drawn to one side; and the tongue, being protruded between the teeth, is often severely lacerated. Every muscle of the body soon becomes convulsed; the spasm is violent and universal; the respiration, which is at first hurried, afterwards becomes slow and stertorous, as the convulsions subside; and a quantity of frothy saliva, tinged with blood, is blown from the mouth with a peculiar noise, as in an ordinary epileptic fit. Sometimes the muscles on one side of the face and body only are at first affected; and after the spasm has ceased in them, those on the opposite side become convulsed. The pupils of the eyes are usually dilated and insensible during a fit of puerperal convulsions; but in some women, both between and during the paroxysms, they are closely contracted. The pulse varies extremely, being either very hurried, or slower than natural. After the convulsion has endured for a longer or a shorter period, as in cases of epilepsy, it gradually ceases; and the patient, apparently greatly exhausted, is left in a state of deep stupor, with stertorous breathing. The consciousness generally does not return before another fit takes place; and this happens, in the greater number of instances, in a short period, when the same phenomena are observed. A great number of violent fits are often experienced by some women during many hours, at longer or shorter intervals, without any return of sensibility. The attacks may terminate in a state resembling apoplexy, as epilepsy sometimes does, which may soon prove fatal;

or the fits may subside, and the recollection be gradually restored. If there have been no labor pains before the fits come on, the os uteri most frequently begins to dilate; but the uterine contractions are usually feeble and irregular, and they seem to pass into convulsions, or to alternate with the fits. Sometimes the child is expelled by the pains; but more frequently they are inefficient, and the delivery cannot be completed without artificial assistance.

In some women the fits are preceded by certain symptoms indicating a plethoric state of the vessels of the brain, and great nervous irritability. There is usually headache, more or less intense; throbbing of the temporal arteries; sense of weight and constriction across the forehead; giddiness; drowsiness; the sight and hearing disturbed; flushing and tumefaction of the countenance; slight delirium, or confusion of thought, or loss of memory; and other signs of cerebral disturbance. Pain in the epigastric region, and increased sensibility of the uterus, sometimes precede the fits: but there are cases of violent puerperal convulsions where no precursory or premonitory symptoms of any kind are perceived; there is nothing like the *aura epileptica* observed before attacks of puerperal convulsions. They may occur in the latter months of pregnancy, before the uterus has begun to contract, during the different stages of labor, and several days or weeks after delivery. I have never met with a case of true puerperal convulsions before the sixth month of pregnancy; the spasmodic affections which have occurred at an earlier period having been connected with hysteria, and unaccompanied with loss of consciousness.

It has been observed by all practitioners, that, in a very great proportion of cases, it is in the first pregnancy or labor that puerperal convulsions occur. "Women are far more liable," says Dr. Denman, "to convulsions in first than in subsequent labors; and then, it is said, more frequently when the child is dead than when it is living. But when women have convulsions the death of the child ought generally to be esteemed rather an effect than a cause, as they have often been delivered of living children when they were in convulsions, or of dead, and even putrid children, without any tendency to convulsions. Some women have also had convulsions in several successive labors; but having had them in one, they generally, by the precautions taken, or some natural change, escape them in future. Lastly, I was for many years persuaded that convulsions only happened when the head presented; but experience has proved that they sometimes occur in preternatural presentations of the child." Of 19 cases recorded by Dr. Joseph Clarke, 16 were first children. Of 48 related by Dr. Merriman, there were 36 instances in which it was the patient's first labor. Of 30 cases which occurred to Dr. Collins, 29 were in women with their first children: and the other single case was a second pregnancy, but in a woman who had suffered a similar attack with her first pregnancy. Fourteen of the 32 children (two of the women having had twins) were born alive. In 18 of the 30 the convulsions subsided after delivery; in 10 the fits occurred both before and after; and in 2 the attack did not

come on till after delivery. In 15 of the 30 the patients were delivered by the natural efforts; in 6 delivery was effected by the forceps; in 8 by the perforator and crotchet; and in 1 the feet presented. Two of the children were born putrid. Five of the women died. In 6 of the 48 cases related by Dr. Merriman the convulsions did not occur till after delivery. Five of these patients recovered; the other, after the epileptic attack, became maniacal, but appeared to be gradually recovering, when, at the end of three weeks from the first seizure, she was attacked with another fit, and died. All the children were alive. In 3 cases the women were pregnant of twins. In two of these cases the attack of convulsions occurred in the interval between the births of the two children. All the women were delivered without artificial assistance; 2 of them recovered; and 3 of the children were born alive. In 11 cases the delivery was effected by the forceps. All these women recovered, and three of the children were born alive. In nine cases the perforator was employed. Seven of these women recovered. In 4 cases the operation of turning was resorted to; 2 of the women recovered; all the children were dead born. In 1 case the woman died undelivered. In 14 cases the children were born without extraordinary assistance. Ten of these women recovered, and 5 of the children were born alive. Thus, 37 women recovered, and 11 died. Seventeen children were born alive (including the 6 born before the mothers were attacked with convulsions); 34 were born dead. Dr. Ramsbotham has related the histories of 26 cases; of which, 10 proved fatal. Thirteen occurred before delivery, 10 during labor, and 3 after. Dr. Ingleby relates 35 cases; of which, 11 were fatal. Mauriceau, 42; 7 during pregnancy, 3 of which were fatal; 19 during labor, 11 of which ended fatally; and 16 after delivery, of which 5 were fatal.

Puerperal convulsions occur in all countries, and in all the different ranks of life. Those women are most predisposed to the disease who have had hysteria or epilepsy in early life, who have suffered from injuries of the head, or who have had violent attacks of fever with severe affections of the brain. Depressing passions of the mind appear to produce a predisposition to the disease. Unmarried women who are excluded from society, and often addicted to the improper use of stimulants, are peculiarly liable to puerperal convulsions and mania. Terror, and other violent mental impressions, and sometimes the pains of labor alone, are sufficient to excite convulsions. The disease occurs not only in strong, plethoric young women with their first children—in such as are of a coarse make, with short, thick necks—but in weak, irritable, nervous females. There are some cases where irregularities of diet, especially the use of very indigestible food and stimulants, appear, without any other cause that can be discovered, to give rise to the disease. There are many cases in which the peculiar condition of the nervous system of the uterus appears to be the sole cause, and in all cases it is the principal predisposing cause, for the fits of convulsion occur in most women in the first pregnancy and labor, and at no other time but during pregnancy and labor; and they often suddenly cease when the labor is completed, after every

remedy has been employed without avail, except artificial delivery. The condition of the brain, on which the loss of consciousness and convulsions depend, is obviously produced by sympathy with the nervous system of the uterus; and the fits return, and increase in violence, till the uterus is emptied of its contents, as on them the irritation of the nerves of the uterus alone depends.

In some cases there has been observed an unusual degree of redness and softening of the cerebral substance in those who have died from puerperal convulsions; great congestion of the sinuses and smaller veins and arteries of the brain; effusion of blood or serum into the ventricles, and lymph covering the surface of the hemispheres. In others there has been no morbid appearance whatever found in the brain to account for the symptoms. At Edinburgh, in 1816, I examined, with Dr. J. Thomson and Dr. Gordon, the brain of a young woman who had died of puerperal convulsions; but, except a little turgescence of the bloodvessels, not more than is seen in many who have died of disease altogether unconnected with the brain, there was nothing to account for the symptoms. In other cases, however, organic disease of the brain has been discovered after death.

Dr. Ramsbotham made a *post-mortem* examination of the brain in four of the fatal cases which he observed. The first case was referable to injury of the head. There was both convulsion and paralysis, and the woman died undelivered. "Blood was found extravasated between the dura and pia mater, and upon the orbital processes under the right lobe." In the second fatal case he states that there was no positive derangement detected in the brain, except turgescence of the vessels of the pia mater. The head of another patient was examined by an experienced anatomist, who reported that after a very minute examination of every portion of the brain no positive derangement could be detected, and that the only appearance in any way different from that usually met with was in the vessels of the pia mater, which were thought to be somewhat more loaded with blood than in the general cases of cerebral inspection. In case 4, after a most careful examination of the head, no positive breach of vessel could be detected. The bloodvessels of the pia mater were beautifully injected with blood, and a section of the substance of the brain showed more bloody points than usual. There was also a quantity of tinged serum in the ventricles. The vessels of the cerebellum were likewise anormally distended with blood. From the dissections, and other circumstances, Dr. R. concludes that "the whole train of symptoms evinces considerable derangement in the functions of the brain and nervous system; yet, after death, correspondent marks of organic mischief within the head are seldom met with—(Vol II., p. 248). The different anatomical inquiries at which I have been present have not disclosed such regular appearances as to sanction the uniform deduction that the brain was the principal seat of disease. I suspect that in many instances that important organ is no otherwise implicated than through the medium of sympathetic irritation." "Of the appearances after death," observes Dr. Merriman, "in those who have died of puerperal epilepsy,

contrary statements have been given. Dr. Denman says, that in the examination of many women who have died from convulsions, he has never seen an instance of effusion of blood in the brain, though the vessels were extremely turgid; but has always remarked, that the heart was unusually flaccid, without a single drop in the auricles or ventricles; but he adds, that Mr. Hewson had informed him of a case of convulsions where an effusion of blood in a small quantity had been found on the surface of the brain; and in his fifth edition, he mentions a case by Dr. Hooper, where a coagulum of blood, weighing nearly $\frac{3}{4}$ iv., was found between the dura and pia mater. In one instance I have distinctly seen an effusion of blood in the posterior part of the cranium; but the quantity was not large, and Dr. Ley has lately met with a similar case." M. Cruveilhier examined a case in which not the slightest trace of congestion of the vessels of the brain could be detected. M. Bontilleux relates another, in which he could detect no manifest alteration within the skull. Dr. Collins says, "I conceive we are quite ignorant as yet of what the cause may be: nor could I ever find on dissection any appearances to enable me to even hazard an opinion on the subject."

Treatment of Puerperal Convulsions.—The best systematic writers on midwifery during the last two centuries have recommended copious blood-letting in puerperal convulsions, and artificial delivery where depletion failed to remove the fits. They have all considered the brain to be the seat of the disease.

Mauriceau thought prompt delivery to be the best remedy, and where the orifice of the uterus did not admit of this, he advised blood to be drawn from the arm and foot, and stimulating enemata to be employed, to diminish the quantity of blood in the brain. He states that he had seen emetics administered without success, or with injurious effects. Where consciousness did not return between the fits, but the woman remained insensible, foaming at the mouth, with stertorous breathing, then both the mother and child he believed would die, if they were not promptly relieved by delivery. I have saved, he says, the lives of many women in this way, but others have not failed to die after having been delivered in the due time, and in the proper manner—"bien et dument accouchées."

He admits that some cases will prove fatal whatever is done. If the child is alive he recommends the operation of turning; if dead, craniotomy.

"There are some women," he says, "who are always attacked with convulsions either before or after delivery. To prevent such an accident he recommends bleeding from the arm two or three times during pregnancy, and once after labor has commenced."

Puzos has also given an account of puerperal convulsions, and has recommended prompt and copious bloodletting, to relieve the brain from the excessive quantity of blood by which it is oppressed. After bleeding, lavements, he says, must be employed, and it should be ascertained by an examination whether the uterus is dilating, and if the bleedings and other remedies do not calm the convulsions, then delivery is the best thing that

can be done, which removes the pressure from the great bloodvessels of the abdomen, and allows it to circulate freely. The relief from delivery, he says, is not instantaneous, for the convulsions will often continue for a time, but at longer intervals, and patients sometimes remain for two days in a state of lethargy, and afterwards recover. But when the convulsions continue in spite of the bloodlettings and delivery, and the coma and stertorous breathing and foaming at the mouth, then the disorder will terminate fatally; but we have the consolation to know that we merit no reproach, having employed all the means we possess to overcome so grievous an accident. It is to be presumed because we have not succeeded, that lesions (crevasses) have been made in the brain by the violence of the convulsions, and that delivery could not remedy these. Thus, he adds, in the acute convulsions which precede or accompany labor, we cannot be too prompt and vigorous in the application of the proper resources; and as these means are sometimes insufficient when the disease is once established, the accoucheur should be attentive to the first symptoms which announce convulsions; for it sometimes happens, that in a labor accompanied with the most favorable symptoms, a woman all at once complains of dazzling of the eyes, of weight in the forehead or posterior part of the head, and of sudden loss of vision, symptoms which all announce that an attack of convulsions is at hand. I have seen women suddenly seized with frightful convulsions, he says, during labor, because attention had not been paid them when they complained of pain of the head. We perceive, then, that it is much more easy to prevent the evil, than to destroy it when it is once established; since the most powerful remedies do not prevent the death of the mother and the child, which these convulsions put in the greatest danger. Therefore I bleed copiously, and that on the first appearance of the symptoms which threaten convulsions; and I have often by this means relieved very speedily the headache, restored the vision, and completed the delivery happily in a short time.

Copious bloodletting in puerperal convulsions is the first remedy now employed by all practitioners in this country; but the extent to which depletion is to be carried must be regulated by the constitution of the patient, the violence of the symptoms, and the effects produced by the loss of blood. Profuse bloodletting will not invariably control the disease, as some have asserted; nay, I am persuaded that the sudden abstraction of fifty or more ounces of blood from the arm of some individuals, instead of arresting the disease, would destroy life. So feeble is the circulation of the blood in some women that it is impossible to remove this quantity from the arm. In young, robust, plethoric women, the best plan certainly is to take away as soon as possible after the attack twenty or twenty-five ounces of blood from the arm, to cut off the hair or shave the scalp, and apply over the head cold lotion or ice in a bladder; to put ten grains or a scruple of calomel upon the tongue, or two drops of croton oil, if the bowels require immediate relief; to throw up into the rectum a stimulating enema, and to apply warmth, mustard poultices and rubefacients, to the inside of the legs and thighs; at the same time to adopt every pre-

caution to prevent the patient from being bruised or injured by the violence of the convulsive movements into which the body is thrown. If the fits continue after these remedies have been employed, with undiminished violence, and if the pulse is full and strong, and signs of congestion of the brain are still present, you may open another vein in the arm, and remove fifteen or twenty ounces more. A third bleeding to this extent is undoubtedly necessary and proper in some cases, but I prefer greatly, after thirty or thirty-five ounces of blood have been drawn from the arm, to trust to local bleeding, and especially to the application of cupping-glasses to the temples and nape of the neck. When the constitution has been previously exhausted by some chronic disease, or hæmorrhage; or without these, if it is peculiarly delicate, nervous and irritable, and has been weakened by grief, and other depressing passions, and the pulse is very rapid and feeble, it is better to trust entirely to the local abstraction of blood, and to the remedies now described, and to abstain altogether from general bleeding. Some women die who are bled profusely, and others recover where a small quantity is drawn from the arm, or where it is entirely drawn by cupping from the temples and nape of the neck. These observations are made with the view of preventing you from having recourse to extensive depletion in all cases of puerperal convulsions, without carefully considering the condition and previous history of the patient. Profuse and indiscriminate bloodletting cannot be practised with impunity in this disease.

This is the treatment which ought to be employed in cases of puerperal convulsions before labor comes on, and also after labor has commenced, and if the fits do not diminish in frequency and violence, and the parts are in a condition to admit of artificial delivery, it is very important that it should not be long delayed. In one case which occurred in the latter months these means were vigorously employed without effect, and when the patient appeared sinking, the operation of turning was performed, though the os uteri had not begun to dilate, and the fits ceased immediately after the delivery had been effected, and recovery took place. Should the head of the child not have descended sufficiently low for the forceps to be applied when delivery becomes absolutely necessary, recourse should be had to the perforator. Even when the os uteri is fully dilated, and the head of the child has passed so far into the pelvis that an ear can be felt, it is difficult to apply the forceps and extract the head without danger to the mother; and where the insensibility is complete, and the intervals between the fits short, and the patient cannot be retained in the proper position, the employment of the forceps is always attended with considerable hazard to the perineum and soft parts.

Opium has been almost universally condemned in puerperal convulsions, and I consider it always improper before bloodletting has been employed to a sufficient extent, and the delivery has been completed either spontaneously or artificially. In some of the most severe cases which I have seen after copious venesection and delivery, large doses of the liquor opii sedativus have appeared to produce very powerful effects in arresting the fits; in others no benefit whatever resulted from the employment of

sedatives of any kind. The application of leeches to the region of the uterus, appeared, in a recent case of mania complicated with puerperal convulsions, to be attended with the most striking benefit after all other means had been tried without effect. Sedatives have been recommended to be applied to the cervix uteri, or thrown up into the rectum during labor, and after delivery, in cases of puerperal convulsions, but I have had no experience of their efficacy.—*London Medical Gazette.*

EFFECTS OF LEAD.

From Dr. Seymour's Clinic at St. George's Hospital.

THERE are many trades and callings in which the use of lead is very extensive. This mineral poison may get into the system by inhalation. Its first perceptible poisonous effect is upon the muscular structures, which lose their contractile power and become flabby and diminished in volume. The muscular coats of the intestinal canal are those which are generally first affected, some portions of them being dilated whilst others are contracted. Constipation arises from this, accompanied with great pain and spasmodic action of the recti muscles. In its early stage this colicky attack of the bowels is very easily relieved by the warm bath and doses of castor oil. Some physicians have recommended opium and remedies of that class, but castor oil is, after all, the very best. By the judicious employment of these means the affection may be removed, but if the patient returns immediately to his work it recurs in an aggravated form; the muscles of the arm become paralyzed, and it "drops," as it is termed. A similar effect may be produced by an over-exertion of these muscles, as occurs in some trades, such as those of shoemakers, cobblers, &c. The mode of curing such affections as these is to abstain from the occupations which cause them; using a generous diet; resting the hand upon a splint, as in this man's case; and, best of all, by the employment of electricity. In addition to the use of these several means, this man was ordered to take half a drachm of the balsam of Peru three times daily, a remedy which has been supposed to be very useful, and I have certainly seen it of great service in cases in which over-exertion of the muscles has caused the paralysis. But this is not all. If the patient should be compelled by circumstances to return to his occupation and again inhale the poison, he will have accumulations of synovia in the joints, producing a species of synovial rheumatism, which will only yield to rest, local pressure, good food, and the occasional use of the warm bath; though sometimes cases of this kind occur which require the same active treatment as severe idiopathic rheumatism. Should the same cause of disease be still in operation, a species of bronchitis, resembling bronchial phthisis, supervenes, in which the patient spits up large quantities of fawn-colored matter. On this state of things a more fearful disease than all, epilepsy, may supervene, and then death soon ensues.

Colica Pictonum.—A man up stairs labors under this imbibition of lead into the system. All persons who use paint in which lead is an in-