

Method of Hand-feeding.—Much of the success of bottle-feeding must depend on minute care and scrupulous cleanliness, points which cannot be too strongly insisted on. Particular attention should be paid to preparing the food fresh for every meal, and to keeping the feeding bottle and tubes constantly in water when not in use, so that minute particles of milk may not remain about them and become sour. A neglect of this is one of the most fertile sources of the thrush from which bottle-fed infants often suffer. The particular form of bottle used is not of much consequence. Those now commonly employed, with a long India-rubber tube attached, are preferable to the older forms of flat bottle, as they necessitate strong suction on the part of the infant, thus forcing it to swallow the food more slowly. Care must be taken to give the meals at stated periods, as in breast-feeding, and these should be at first about two hours apart, the intervals being gradually extended. The nurse should be strictly cautioned against the common practice of placing the bottle beside the infant in its cradle and allowing it to suck to repletion—a practice which leads to over-distention of the stomach and consequent dyspepsia. The child should be raised in the arms at the proper time, have its food administered, and then replaced in the cradle to sleep. In the first few weeks of bottle-feeding constipation is very common, and may be effectually remedied by placing as much phosphate of soda as will lie on a threepenny-piece in the bottle, two or three times in the twenty-four hours.

Other Kinds of Food.—If this system succeed, no other food should be given until the child is six or seven months old, and then some of the various infants' foods may be cautiously commenced. Of these there are an immense number in common use, some of which are good articles of diet, others are unfitted for infants. In selecting them we have to see that they contain the essential elements of nutrition in proper combination. All those, therefore, that are purely starchy in character, such as arrowroot, corn-flour, and the like, should be avoided; while those that contain nitrogenous as well as starch elements may be safely given. Of the latter the entire wheat-flour, which contains the husks ground down with the wheat, generally answers admirably; and of the same character are rusks, tops and bottoms, Nestlé's or Liebig's infants' food, and many others. If the child be pale and flabby, some more purely animal food may often be given twice a day, and great benefit may be derived from a single meal of beef, chicken, or veal tea, with a little bread-crumbs in it, especially after the sixth or seventh month. Milk, however, should still form the main article of diet, and should continue to do so for many months.

Management when Milk Disagrees.—If the child be pale, flabby, and do not gain flesh, more especially if diarrhoea or other intestinal disturbance be present, we may be certain that hand-feeding is not

extract of rennet. When it is set, break up the curd quite small, and let it stand for ten or fifteen minutes, when the curd will sink; then place the whey in a saucepan and boil quickly. In a third of a pint of this whey dissolve a heaped-up teaspoonful of sugar of milk. When quite cold, add two-thirds of a pint of new milk and two teaspoonfuls of cream, well stirring the whole together. If during the first month the milk is too rich, use rather more than a third of a pint of whey.

answering satisfactorily, and that some change is required. If the child be not too old, and will still take the breast, that is certainly the best remedy, but if that be not possible, it is necessary to alter the diet. When milk disagrees, cream, in the proportion of one table-spoonful to three of water, sometimes answers as well. Occasionally also Liebig's or Mellin's infants' food, when carefully prepared, renders good service. Too often, however, when once diarrhoea or other intestinal disturbance has set in, all our efforts may prove unavailing, and the health, if not the life, of the infant becomes seriously imperilled. It is not, however, within the scope of this work to treat of the disorders of infants at the breast, the proper consideration of which requires a large amount of space, and I therefore refrain from making any further remarks on the subject.

CHAPTER III.

PUERPERAL ECLAMPSIA.

Puerperal Eclampsia.—By the term puerperal eclampsia is meant a peculiar kind of epileptiform convulsions, which may occur in the latter months of pregnancy, or during or after parturition, and it constitutes one of the most formidable diseases with which the obstetrician has to cope. The attack is often so sudden and unexpected, so terrible in its nature, and attended with such serious danger both to the mother and child, that the disease has attracted much attention.

Its Doubtful Etiology.—The researches of Lever, Braun, Frerichs, and many other writers who have shown the frequent association of eclampsia with albuminuria, have of late years been supposed to clear up to a great extent the etiology of the disease and to prove its dependence on the retention of urinary elements in the blood. While the urinary origin of eclampsia has been pretty generally accepted, more recent observations have tended to throw doubt on its essential dependence on this cause; so that it can hardly be said that we are yet in a position to explain its true pathology with certainty. These points will require separate discussion, but it is first necessary to describe the character and history of the attack.

Considerable confusion exists in the description of puerperal convulsions from the confounding of several essentially distinct diseases under the same name. Thus in most obstetric works it has been customary to describe three distinct classes of convulsion, the *epileptic*, the *hysterical*, and the *apoplectic*. The two latter, however, come under a totally different category. A pregnant woman may suffer from hysterical paroxysms, or she may be attacked with apoplexy

accompanied with coma and followed by paralysis. But these conditions in the pregnant or parturient woman are identical with the same diseases in the non-pregnant, and are in no way special in their nature. True eclampsia, however, is different in its clinical history from epilepsy, although the paroxysms while they last are essentially the same as those of an ordinary epileptic fit.

Premonitory Symptoms.—An attack of eclampsia seldom occurs without having been preceded by certain more or less well marked precursory symptoms. It is true that in a considerable number of cases these are so slight as not to attract attention, and suspicion is not aroused until the patient is seized with convulsions. Still, subsequent investigations will very generally show that some symptoms did exist, which, if observed and properly interpreted, might have put the practitioner on his guard, and possibly have enabled him to ward off the attack. Hence a knowledge of them is of real practical value. The most common are associated with the cerebrum, such as severe headache, which is the one most generally observed, and is sometimes limited to one side of the head. Transient attacks of dizziness, spots before the eyes, loss of sight, or impairment of the intellectual faculties are also not uncommon. These signs in a pregnant woman are of the gravest import, and should at once call for investigation into the nature of the case. Less marked indications sometimes exist in the form of irritability, slight headache or stupor, and a general feeling of indisposition. Another important premonitory sign is œdema of the subcutaneous cellular tissue, especially of the face or upper extremities, which should at once lead to an examination of the urine.

Whether such indications have preceded an attack or not, as soon as the convulsion comes on there can no longer be any doubt as to the nature of the case. The attack is generally sudden in its onset, and in its character is precisely that of a severe epileptic fit or of convulsions in children. Close observation shows that there is at first a short period of tonic spasm affecting the entire muscular system. This is almost immediately succeeded by violent clonic contractions, generally commencing in the muscles of the face, which twitch violently; the expression is horribly altered, the globes of the eyes are turned up under the eyelids, so as to leave only the white sclerotics visible, and the angles of the mouth are retracted and fixed in a convulsive grin. The tongue is at the same time protruded forcibly, and, if care be not taken, is apt to be lacerated by the violent grinding of the teeth. The face, at first pale, soon becomes livid and cyanosed, while the veins of the neck are distended, and the carotids beat vigorously. Frothy saliva collects about the mouth, and the whole appearance is so changed as to render the patient quite unrecognizable. The convulsive movements soon attack the muscles of the body. The hands and arms, at first rigidly fixed, with the thumbs clenched into the palms, begin to jerk, and the whole muscular system is thrown into rapidly recurring convulsive spasms. It is evident that the involuntary muscles are implicated in the convulsive action as well as the voluntary. This is shown by a temporary arrest of respiration at the commencement of the attack, followed by irregular and hurried

respiratory movements producing a peculiar hissing sound. The occasional involuntary expulsion of urine and feces indicates the same fact. During the attack the patient is absolutely unconscious, sensibility is totally suspended, and she has afterward no recollection of what has taken place. Fortunately the convulsion is not of long duration, and at the outside does not last more than three or four minutes, generally not so long, and it has been pointed out that a longer paroxysm would almost necessarily prove fatal on account of the implication of the respiratory muscles. In most cases, after an interval there is a recurrence of the convulsion characterized by the same phenomena, and the paroxysms are repeated with more or less force and frequency according to the severity of the attack. Sometimes several hours may elapse before a second convulsion comes on; at others the attacks may recur very often, with only a few minutes between them. In the slighter forms of eclampsia there may not be more than two or three paroxysms in all; in the more serious as many as fifty or sixty have been recorded.

Condition between the Attacks.—After the first attack the patient generally soon recovers her consciousness, being somewhat dazed and somnolent, with no clear conception of what has occurred. If the paroxysms be frequently repeated, more or less profound coma continues in the intervals between them, which no doubt depends upon intense cerebral congestion, resulting from interference with the circulation in the great veins of the neck, produced by spasmodic contraction of the muscles. The coma is rarely complete, the patient showing signs of sensibility when irritated, and groaning during the uterine contractions. In the worst class of cases the torpor may become intense and continuous, and in this state the patient may die. When the convulsions have entirely stopped, and the patient has completely regained her consciousness and is apparently convalescent, recollection of what has taken place during and some time before the attack may be entirely lost, and this condition may last for a considerable time. A curious instance of this once came under my notice in a lady who had lost her brother, to whom she was greatly attached, in the week immediately preceding her confinement, and in whom the mental distress seemed to have had a great deal to do in determining the attack. It was many weeks before she recovered her memory, and during that time she recollected nothing about the circumstances connected with her brother's death, the whole of that week being, as it were, blotted out of her recollection.

Relation of the Attacks to Labor.—If the convulsions come on during pregnancy, we may look upon the advent of labor as almost a certainty; and if we consider the severe nervous shock and general disturbance, this is the result we might reasonably anticipate. If they occur, as is not uncommon, for the first time during labor, the pains generally continue with increased force and frequency, since the uterus partakes of the convulsive action. It has not rarely happened that the pains have gone on with such intensity that the child has been born quite unexpectedly, the attention of the practitioner being taken up with the patient. In many cases the advent of fresh paroxysms is

associated with the commencement of a pain, the irritation of which seems sufficient to bring on the convulsion.

Results to the Mother and Child.—The results of eclampsia vary according to the severity of the paroxysms. It is generally said that about one in three or four cases dies. The mortality has certainly lessened of late years, probably in consequence of improved knowledge of the nature of the disease and more rational modes of treatment. This is well shown by Barker,¹ who found in 1885 a mortality of 32 per cent. in cases occurring before and during labor, and 22 per cent. in those after labor; while since that date the mortality has fallen to 14 per cent. The same conclusion is arrived at by Dr. Phillips,² who has shown that the mortality has greatly lessened since the practice of repeated and indiscriminate bleeding, long considered the sheet-anchor in the disease, has been discontinued and the administration of chloroform substituted.

Cause of Death.—Death may occur during the paroxysm, and then it may be due to the long continuance of the tonic spasm producing asphyxia. It is certain that, as long as the tonic spasm lasts, the respiration is suspended, just as in the disease of children known as laryngismus stridulus; and it is possible also that the heart may share in the convulsive contraction which is known to affect other involuntary muscles. More frequently, death happens at a later period from the combined effects of exhaustion and asphyxia. The records of post-mortem examinations are not numerous; in those we possess, the principal changes have been an anæmic condition of the brain, with some cedematous infiltration. In a few rare cases the convulsions have resulted in effusion of blood into the ventricles, or at the base of the brain. The prognosis as regards the child is also serious. Out of thirty-six children, Hall Davis found twenty-six born alive, ten being stillborn. There is good reason to believe that the convulsion may attack the child *in utero*—of this several examples are mentioned by Cazeaux; or it may be subsequently attacked with convulsions, even when apparently healthy at birth.

Pathology.—The precise pathology of eclampsia cannot be considered by any means satisfactorily settled. When, in the year 1843, Lever first showed that the urine in patients suffering from puerperal convulsions was generally highly charged with albumin—a fact which subsequent experience has amply confirmed—it was thought that a key to the etiology of the disease had been found. It was known that chronic forms of Bright's disease were frequently associated with retention of urinary elements in the blood, and not rarely accompanied by convulsions. The natural inference was drawn that the convulsions of eclampsia were also due to toxæmia resulting from the retention of urea in the blood, just as in the uræmia of chronic Bright's disease; and this view was adopted and supported by the authority of Braun, Frerichs, and many other writers of eminence, and was pretty generally received as a satisfactory explanation of the facts. Frerichs modified it so far that he held that the true toxic element was not urea as such,

¹ The Puerperal Diseases, p. 125.

² Guy's Hospital Reports, 1870.

but carbonate of ammonia, resulting from its decomposition; and experiments were made to prove that the injection of this substance into the veins of the lower animals produced convulsions of precisely the same character as eclampsia. Dr. Hammond,¹ of Maryland, subsequently made a series of counter-experiments which were held as proving that there was no reason to believe that urea ever did become decomposed in the blood in the way that Frerichs supposed, or that the symptoms of uræmia were ever produced in this way. Others have believed that the poisonous elements retained in the blood are not urea or the products of its decomposition, but other extractive matters which have escaped detection. As time elapsed, evidence accumulated to show that the relation between albuminuria and eclampsia was not so universal as was supposed, or at least that some other factors were necessary to explain many of the cases. Numerous cases were observed in which albumin was detected in large quantities, without any convulsion following, and that not only in women who had been subject to Bright's disease before conception, but also when the albuminuria was known to have developed during pregnancy. Thus Imbert Goubeyre found that out of 164 cases of the latter kind, 95 had no eclampsia; and Blot, out of 41 cases, found that 34 were delivered without untoward symptoms. It may be taken as proved, therefore, that albuminuria is by no means necessarily accompanied by eclampsia. Cases were also observed in which the albumin only appeared after the convulsion; and in these it was evident that the retention of urinary elements could not have been the cause of the attack; and it is highly probable that in them the albuminuria was produced by the same cause which induced the convulsion. Special attention has been called to this class of cases by Braxton Hicks,² who has recorded a considerable number of them. He says that the nearly simultaneous appearance of albuminuria and convulsion—and it is admitted that the two are almost invariably combined—must then be explained in one of three ways:

1. That the convulsions are the cause of the nephritis.
2. That the convulsions and the nephritis are produced by the same cause, *e. g.*, some detrimental ingredient circulating in the blood, irritating both the cerebro-spinal system and other organs at the same time.
3. That the highly congested state of the venous system induced by the spasm of the glottis in eclampsia is able to produce the kidney complication.

More recently Traube and Rosenstein have advanced a theory of eclampsia purporting to explain these anomalies. They refer the occurrence of eclampsia to acute cerebral anæmia resulting from changes in the blood incident to pregnancy. The primary factor is the hydræmic condition of the blood, which is an ordinary concomitant of pregnancy, and, of course, when there is also albuminuria, the watery condition of the blood is greatly intensified; hence the frequent association of the two states. Accompanying this condition of the blood, there is increased tension of the arterial system, which is

¹ Amer. Journ. of Med. Sciences, 1861.

² Obst. Trans., 1867, vol. viii. p. 323.

favoured by the hypertrophy of the heart which is known to be a normal occurrence in pregnancy. The result of these combined states is a temporary hyperæmia of the brain, which is rapidly succeeded by serous effusion into the cerebral tissues, resulting in pressure on its minute vessels and consequent anæmia. There is much in this theory that accords with the most recent views as to the etiology of convulsive disease; as, for example, the researches of Kussmaul and Tenner, who had experimentally proved the dependence of convulsions on cerebral anæmia, and of Brown-Séquard, who showed that an anæmic condition of the nerve-centres preceded an epileptic attack. It explains also very satisfactorily how the occurrence of labor should intensify the convulsions, since, during the acme of the pains, the tension of the cerebral arterial system is necessarily greatly increased. There are, however, obvious difficulties against its general acceptance. For example, it does not satisfactorily account for those cases which are preceded by well-marked precursory symptoms, and in which an abundance of albumin is present in the urine. Here the premonitory signs are precisely those which precede the development of uræmia in chronic Bright's disease, the dependence of which on the retention in the blood of urinary elements can hardly be doubted. Moreover, it has been shown by Löhlein and others that on post-mortem examination the brain does not, as a rule, exhibit the œdema, anæmia, and flattened convolutions which this theory assumes.

MacDonald¹ has published an interesting paper on this subject, in which he describes two very careful post-mortem examinations. In these he found extreme anæmia of the cerebro-spinal centres, with congestion of the meninges, but no evidence of œdema. He inclines to the belief that eclampsia is caused by irritation of the vasomotor centre in consequence of an anæmic condition of the blood produced by the retention in it of excrementitious matters which the kidneys ought to have removed, this over-stimulation resulting in anæmia of the deeper-seated nerve-centres and consequent convulsion.

Excitability of the Nervous System in Puerperal Women as Predisposing to Convulsions.—The key to the liability of the puerpera to convulsive attacks is no doubt to be found in the peculiarly excitable condition of the nervous system in pregnancy—a fact which was clearly pointed out by the late Dr. Tyler Smith and by many other writers. Her nervous system is, in this respect, not unlike that of children, in whom the predominant influence and great excitability of the nervous system are well-established facts, and in whom precisely similar convulsive seizures are of common occurrence on the application of a sufficiently exciting cause.

Exciting Causes.—Admitting this, we require some cause to set the predisposed nervous system into morbid action, and this we may have either in the toxæmic or in an extremely watery condition of the blood, associated with albuminuria; or along with these, or sometimes independently of them, in some excitement, such as strong emotional disturbance. It is highly probable, however, that extreme

¹ See his volume of collected essays, entitled *Heart Disease during Pregnancy*. London, 1878.

anæmia is one of the actual conditions of the nerve-centres—a fact of much practical importance in reference to treatment.

Treatment.—The management of cases in which the occurrence of suspicious symptoms has led to the detection of albuminuria has already been fully discussed (p. 215). We shall therefore, here, only consider the treatment of cases in which convulsions have actually occurred.

Until quite recently venesection was regarded as the sheet-anchor in the treatment, and blood was always removed copiously, and, there is sufficient reason to believe, with occasional remarkable benefit. Many cases are recorded in which a patient, in apparently profound coma, rapidly regained her consciousness when blood was extracted in sufficient quantity. The improvement, however, was often transient, the convulsions subsequently recurring with increased vigor. There are good theoretical grounds for believing that bloodletting can only be of merely temporary use, and may even increase the tendency to convulsion. These are so well put by Schroeder, that I cannot do better than quote his observations on this point: "If," he says, "the theory of Traube and Rosenstein be correct, a sudden depletion of the vascular system, by which the pressure is diminished, must stop the attacks. From experience it is known that after venesection the quantity of blood soon becomes the same through the serum taken from all the tissues, while the quality is greatly deteriorated by the abstraction of blood. A short time after venesection we shall expect to find the former blood-pressure in the arterial system, but the blood far more watery than previously. From this theoretical consideration, it follows that abstraction of blood, if the above-mentioned conditions really cause convulsions, must be attended by an immediate favorable result, and, under certain circumstances, the whole disease may surely be cut short by it. But, if all other conditions remain the same, the blood-pressure will after some time again reach its former height. The quality of blood has in the meantime been greatly deteriorated, and consequently the danger of the disease will be increased."

These views sufficiently well explain the varying opinions held with regard to this remedy, and enable us to understand why, while the effects of venesection have been so lauded by certain authors, the mortality has admittedly been much lessened since its indiscriminate use has been abandoned. It does not follow because a remedy, when carried to excess, is apt to be hurtful that it should be discarded altogether; and I have no doubt that in properly selected cases and judiciously employed, venesection is a valuable aid in the treatment of eclampsia, and that it is specially likely to be useful in mitigating the first violence of the attack and in giving time for other remedies to come into action. Care should, however, be taken to select the cases properly, and it will be specially indicated when there is marked evidence of great cerebral congestion and vascular tension, such as a livid face, a full bounding pulse, and strong pulsation in the carotids. The general constitution of the patient may also serve as a guide in determining its use, and we shall be the more disposed to resort to it if the patient be a strong and healthy woman; while on the other

hand, if she be feeble and weak, we may wisely discard it and trust entirely to other means. In any case it must be looked upon as a temporary expedient only, useful in warding off immediate danger to the cerebral tissues, but never as the main agent in treatment. Nor can it be permissible to bleed in the heroic manner frequently recommended. A single bleeding, the amount regulated by the effect produced, is all that is ever likely to be of service.

As a temporary expedient, having the same object in view, compression of the carotids during the paroxysms is worthy of trial. This was proposed by Trousseau in the eclampsia of infants, and in the single case of eclampsia in which I have tried it, it seemed decidedly beneficial. It is simple, and it offers the advantage of not leading to any permanent deterioration of the blood, as in venesection.

As a subsidiary means of diminishing vascular tension the administration of a strong purgative is desirable, and has the further effect of removing any irritant matter that may be lodged in the intestinal tract. If the patient be conscious, a full dose of the compound jalap powder may be given, or a few grains of calomel combined with jalap; if comatose and unable to swallow, a drop of croton oil or a quarter of a grain of elaterium may be placed on the back of the tongue.

The great indication in the management of eclampsia is the controlling of convulsive action by means of sedatives. Foremost amongst them must be placed the inhalation of chloroform, a remedy which is frequently remarkably useful, and which has the advantage of being applicable at all stages of the disease, and whether the patient be comatose or not. Theoretical objections have been raised against its employment, as being likely to increase cerebral congestion: of this there is no satisfactory proof; on the contrary there is reason to think that chloroform inhalation has rather the effect of lessening arterial tension, while it certainly controls the violent muscular action by which the hyperæmia is so much increased. Practically no one who has used it can doubt its great value in diminishing the force and frequency of the convulsive paroxysms. Statistically its usefulness is shown by Charpentier in his thesis on the effects of various methods of treatment in eclampsia, since out of sixty-three cases in which it was used, in forty-eight it had the effect of diminishing or arresting the attacks, one only proving fatal. The mode of administration has varied. Some have given it almost continuously, keeping the patient in a more or less profound state of anæsthesia. Others have contented themselves with carefully watching the patient, and exhibiting the chloroform as soon as there were any indications of a recurring paroxysm, with the view of controlling its intensity. The latter is the plan I have myself adopted, and of the value of which in most cases I have no doubt. Every now and again cases will occur in which chloroform inhalation is insufficient to control the paroxysm, or in which, from the very-cyanosed state of the patient, its administration seems contra-indicated. Moreover, it is advisable to have, if possible, some remedy more continuous in its action and requiring less constant personal supervision. Latterly the internal administration of chloral has been recommended for this purpose. My own

experience is decidedly in its favor, and I have used, with, as I believe, marked advantage, a combination of chloral with bromide of potassium, in the proportion of twenty grains of the former to half a drachm of the latter, repeated at intervals of from four to six hours. If the patient be unable to swallow, the chloral may be given in an enema or hypodermically, six grains being diluted in $\bar{5}$ j of water, and injected under the skin. The remarkable influence of bromide of potassium in controlling the eclampsia of infants would seem to be an indication for its use in puerperal cases. Fordyce Barker was opposed to the use of chloral, which he thought excited instead of lessening reflex irritability.¹ Another remedy, not entirely free from theoretical objections, but strongly recommended, is the subcutaneous injection of morphia, which has the advantage of being applicable when the patient is quite unable to swallow. It may be given in doses of one-third of a grain, repeated in a few hours, so as to keep the patient well under its influence. It is to be remembered that the object is to control muscular action, so as to prevent as much as possible the violent convulsive paroxysm, and, therefore, it is necessary that the narcosis, however produced, should be continuous. It is rational, therefore, to combine the intermittent action of chloroform with the more continuous action of other remedies, so that the former should supplement the latter when insufficient. Inhalation of the nitrite of amyl has been recommended on physiological grounds as likely to be useful, and is well worthy of trial; but of its action I have, as yet, no personal experience. Several very successful cases of treatment by the inhalation of oxygen have been recorded by Schmidt, of St. Petersburg.² Pilocarpine has recently been tried, in the hope that the diaphoresis and salivation it produces might diminish arterial tension and free the blood of toxic matters. Braun³ administered three centigrammes of the muriate of pilocarpine hypodermically, and reports favorably of the result; Fordyce Barker,⁴ however, was of opinion that it produced so much depression as to be dangerous.

Other remedies, supposed to act in the way of antidotes to uræmic poisoning, have been advised, such as acetic or benzoic acid, but they are far too uncertain to have any reliance placed on them, and they distract attention from more useful measures.

Precautions during the Paroxysm.—Precautions are necessary during the fits to prevent the patient injuring herself, especially to obviate laceration of the tongue; the latter can be best done by placing something between the teeth as the paroxysm comes on, such as the handle of a teaspoon enveloped in several folds of flannel.

Obstetric Management.—The obstetric management of eclampsia will naturally give rise to much anxiety, and on this point there has been considerable difference of opinion. On the one hand, we have practitioners who advise the immediate emptying of the uterus, even when labor has commenced; on the other, those who would leave the labor entirely alone. Thus Gooch said: "Attend to the convulsions,

¹ The Puerperal Diseases, p. 120.

² London Med. Record, 1886, vol. xiv. p. 75. (Extr. from Russkaja Meditz., 1885, No. 32, p. 506.)

³ Berl. klin. Wochenschr., June 16, 1879.

⁴ New York Med. Record, March 1, 1879.

and leave the labor to take care of itself;" and Schroeder said: "Especially no kind of obstetric manipulation is required for the safety of the mother," but he admitted that it is sometimes advisable to hasten the labor to insure the safety of the child.

In cases in which the convulsions come on during labor, the pains are often strong and regular, the labor progresses satisfactorily, and no interference is needful. In others we cannot but feel that emptying the uterus would be decidedly beneficial. We have to reflect, however, that any active interference might, of itself, prove very irritating and excite fresh attacks. The influence of uterine irritation is apparent by the frequency with which the paroxysms recur with the pains. If, therefore, the os be undilated and labor have not begun, no active means to induce it should be adopted, although the membranes may be ruptured with advantage, since that procedure produces no irritation. Forcible dilatation of the os, and especially turning, are strongly contra-indicated.

The rule laid down by Tyler Smith seems that which is most advisable to follow—that we should adopt the course which seems least likely to prove a source of irritation to the mother. Thus, if the fits seem evidently induced and kept up by the pressure of the foetus, and the head be within reach, the forceps may be resorted to. But if, on the other hand, there be reason to think that the operation necessary to complete delivery is likely *per se* to prove a greater source of irritation than leaving the case to Nature, then we should not interfere.

[If called to a case of convulsions followed by coma in a primipara near term, but not in labor, draw off a little urine and examine it, as the patient may be far advanced in Bright's disease and the coma purely uræmic. In such a case little can be gained by bringing on labor and delivering the foetus.

Eclampsia is sometimes purely reflex, and not at all dangerous, although it may be alarming. The convulsive movements may arise from nerve-disturbance due to the foetal head distending the cervix in the last stage of dilatation in primiparæ. When the head begins to distend the perineum the convulsive seizure often ceases. Such patients are safer without the forceps.—ED.]

CHAPTER IV.

PUERPERAL INSANITY.

Classification.—Under the head of "Puerperal Mania," writers on obstetrics have indiscriminately classed all cases of mental disease connected with pregnancy and parturition. The result has been unfortunate, for the distinction between the various types of mental disorder

has, in consequence, been very generally lost sight of. But little study of the subject suffices to show that the term puerperal mania is wrong in more ways than one, for we find that a large number of cases are not cases of "mania" at all, but of melancholia; while a considerable number are not, strictly speaking, "puerperal," as they either come on during pregnancy, or long after the immediate risks of the puerperal period are over, being in the latter case associated with anæmia produced by over-lactation. For the sake of brevity the generic term, "puerperal insanity," may be employed to cover all cases of mental disorders connected with gestation, which may be further conveniently subdivided into three classes, each having its special characteristics, viz.:

- I. *The insanity of pregnancy.*
- II. *Puerperal insanity*, properly so called; that is, insanity coming on within a limited period after delivery.
- III. *The insanity of lactation.*

This division is a strictly natural one, and includes all the cases likely to come under observation. The relative proportion these classes bear to each other can only be determined by accurate statistical observations on a large scale, but these materials we do not possess. The returns from large asylums are obviously open to objection, for only the worst and most confirmed cases find their way into these institutions, while by far the greater proportion, both before and after labor, are treated in their own homes.

Proportion of these forms of insanity. Taking such returns as only approximate, we find from Dr. Batty Tuke¹ that in the Edinburgh Asylum, out of 155 cases of puerperal insanity, 28 occurred before delivery, 73 during the puerperal period, and 54 during lactation. The relative proportions of each per hundred are as follows:

Insanity of pregnancy	18.06 per cent.
Puerperal insanity	47.09 "
Insanity of lactation	34.83 "

Marcé² collects together several series of cases from various authorities, amounting to 310 in all, and the results are not very different from those of the Edinburgh Asylum, except in the relatively smaller number of cases occurring before delivery. The percentage is calculated from his figures:

Insanity of pregnancy	8.06 per cent.
Puerperal insanity	58.06 "
Insanity of lactation	30.30 "

As each of these classes differs in various important respects from the others, it will be better to consider each separately.

The **Insanity of Pregnancy** is, without doubt, the least common of the three forms. The intense mental depression which in many women accompanies pregnancy, and causes the patient to take a despondent view of her condition, and to look forward to the result of her labor with the most gloomy apprehension, seems to be often

¹ Edin. Med. Journ., vol. x.

² Traité de la Folie des Femmes enceintes.