

SECTION OF OBSTETRICS.

THE TREATMENT OF PUERPERAL ECLAMPSIA BY LARGE DOSES OF MORPHINE, WITH A SERIES OF HITHERTO UNPUBLISHED STATISTICS FROM THE ROTUNDA HOSPITAL, DUBLIN.

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THERE is no subject in obstetrics to which a greater interest attaches than to that of eclampsia. It may with truth be said that our knowledge of its pathology is as obscure as the symptoms of the disease are well known. Theorists, however, of recent years have shown a remarkable agreement in attributing the symptoms to an auto-intoxication of some kind. It seems reasonable, from anatomical indications, to assume the truth of this; but as to whether the poison is generated in the liver or in the kidneys, or is absorbed from the intestines, it is not the purpose of this paper to discuss. Neither is it intended to deal with the tissues in which it is most likely to be deposited. Much confusion has arisen from, and much harm has followed, the dogmatic statements of would-be authorities concerning this disease; statements that can in no way be substantiated. For example, Edgar writes:—"Expectant or palliative treatment will almost surely be followed by death of the child, and about one-third of the mothers succumb (!) But if the uterus is promptly evacuated by suitable surgical means the child's life is preserved and the mother is practically subjected to no danger."

It will be shown later, on what a small foundation of fact these statements are based; but although such assertions as these may be disproved they will in all probability influence the treatment for many years. Operative treatment, in the writer's opinion, is to be condemned as dangerous and useless. It is a fact that in many cases the fits continue after the uterus is evacuated, as proved by the following statistics:—In Schauta's Clinique, with a total of 342 cases of eclampsia, in 82 cases the fits originated after the birth of the child. In 185 cases, in which the fits had begun during the labour, 123 did not improve after the delivery, and in 50 of these the fits even increased in intensity. In the Clinique of Rostock, out of 63 cases there were only 18 in which the fits entirely ceased after delivery. Herman, in analysing 2,142 cases of eclampsia, shows that active treatment gives 1 to 2 per cent. better results than expectant treatment of the most diverse kind, but even here it must be remembered that operative measures were performed in hospitals under the most favourable conditions.

It has fallen to the writer's lot to see three cases of eclampsia successfully treated in the Rotunda Hospital during his short connection with that maternity, and the results impressed him so favourably that he determined to compile the statistics of the disease for the last 13 years—*i.e.*, since the introduction of morphine as the treatment. These statistics have not before been published, and the results are so remarkably good that they deserve to be widely known. Before dealing with the figures, however, a few words must be said as to the special method of treatment. In the year 1892 Sir William Smyly, at that time Master, on consideration of the high mortality from eclampsia during the previous years, introduced the treatment by heroic doses of morphine warmly recommended by

Veit. Then intervened a transitional period, 1892-1893, during which chloroform and chloral were added to morphine as the treatment. From this point onwards, Veit's treatment has been rigorously employed. Recently it has been amplified by the addition of new measures suggested by the theories of toxæmia.

The main object of treatment must be—first, the arrest of the fits; second, the elimination of the septic toxins of eclampsia from the system; third, the placing of the patient in the best possible position for the avoidance of pulmonary complications; and, fourth, the surveillance of the conditions of the heart, lungs, and kidneys, and the stimulation of these organs where necessary.

Induction of labour is never performed, nor is labour counted on in this treatment. In fact we know that every manipulation of the cervix reacts on the already super-sensitive reflex, and precipitates the convulsions. Further, we know that such manipulations increase the risk of sepsis to which the eclamptic seems to have a peculiar liability. The only intervention permissible locally (and this only in very exceptional cases) is the application of forceps, the head being on the vulva.

We will not discuss here the prophylactic treatment which is only hygienic, and will at once take up the treatment of developed eclampsia. We will give the smallest details in the technique, for we believe them all to be essential and to have each their *raison d'être*. Firstly, half a grain of morphine is given hypodermically, and repeated, if necessary, in a dose of quarter of a grain every two hours, up to a maximum total of two grains in 24 hours. When possible, large quantities of water are given to drink; but where this practice is rendered impossible or dangerous by a semi- or a wholly-comatose condition, or by intractability of the patient, the fluid is given by a

stomach tube. By this means the stomach is washed out with three to four pints of hot water. Half a pint of water is left in the stomach, and to this are added, still through the tube, two ounces of castor oil and three to four drops of croton oil.

Immediately after the above the patient is placed on the side, a long tube is introduced gradually *per anum*, first the lower part of the intestinal canal being filled with soapy water and flushed, and then, as the tube ascends, the higher part. This manipulation is persisted in as long as faecal material is passed through the tube. About a pint of saline solution is left in the intestine.

The patient is now allowed to lie on her side, covered with warm blankets, and with poultices about her loins (to alleviate the congestion of the kidneys), special care being taken not to make the poultices too hot. We say this because we have seen several cases where the patient was injured by poultices which would have had no injurious effect on the skin of a healthy woman, but which are dangerous in the condition of lowered sensibility and vitality, a condition peculiar to the eclamptic.

Now we come to the third point (and one that is very important where the patient is comatose)—namely, the prevention of fluid or foreign bodies entering the trachea, and so causing pulmonary oedema and its sequences. For this purpose the patient must be kept continuously on her side; *absolutely* no nourishment must be given by the mouth, because the digestive function is in abeyance, and head must be turned to the side to facilitate the flow of mucous from the mouth.

Another very important point we wish to emphasise is that a gag must not be used; this statement is based on the known physiological fact that swallowing is impossible unless the jaws can be apposed.

The fourth point in the treatment is carried out by injections of digitalin when the pulse becomes feeble and rapid, and of atropine when the respiration becomes slow and sighing; and by saline infusions in very serious cases. Again, in cases of plethora, phlebotomy preceding the saline infusion may be of service.

We cannot lay too much stress on the importance of the washing out of the intestinal canal as thoroughly as possible. This part of the treatment aims at the increased elimination of the toxins by the intestinal tract during the temporary suspension of the filter-action of the kidneys.

It is also notable that constipation is a frequent precursor of eclampsia.

Many theorists blame morphine as dangerous to mother and child. We admit that it may have a deleterious effect on the respiration of the mother, but hold that it has no injurious effect on the maternal kidney action.

Again, as regards the child, it will be generally admitted that the administration of morphine cannot add, to any appreciable extent, to the immense danger already existing from the presence of the eclamptic poison.

Before giving a few figures to show the results of the morphine treatment in the Rotunda Hospital, we wish to emphasise one point—namely, the necessity of commencing the treatment in an early stage of the disease. The great majority of the deaths we have to mention are those of patients who came into the hospital moribund.

Let us give a few figures from various authors for comparison with those of the Rotunda Hospital. Herman gives a mortality of 20 per cent.; Williams, 20-25 per cent.; Edgar, 25-35 per cent. The mortality in the Rotunda Hospital during the years 1889 to 1892, before the introduction of Veit's treatment, was *35.3 per cent.* The present statistics show a mortality of *16.9 per cent.*, a

reduction of more than 50 per cent. This average is obtained from the occurrence of 12 deaths in 71 cases.

From the 1st of November, 1892, to the 1st of November, 1905—being 13 years—we find 70 cases of eclampsia occurring in 47,924 deliveries, being an average of 0.146 *per cent.*, or one case of eclampsia in 694. This number we find to be only about half that of the Vienesé Clinique—namely, 0.25 *per cent.*

It follows from the above statistics that this morbid state is remarkably less frequent in Dublin than in other places.

CONCLUSION.

From the numbers mentioned above we hold that we have sufficient grounds on which to base our argument in favour of the expectant treatment detailed in this paper, especially as in all cases of eclampsia this one method of treatment has been rigorously adopted.

We believe that in many cases the chief reason for more active treatment has been a want of pluck on the part of the medical attendant. We know well that it often requires a higher degree of courage to sit down and wait than to satisfy the family by a huge waste of energy.

SIR ARTHUR MACAN said that the treatment by morphine was well known to him, even before Sir William Smyly was Master of the Rotunda. One reason why he did not adopt the morphine treatment was that he was satisfied with the results obtained by the treatment used while he was Master. This was a large turpentine enema, and chloroform to begin with, followed by chloralhydrate per rectum, as much as 3ii in three or four hours. The sweating treatment was not much used, but since then he had used the hot air bath with very satisfactory results. He thought that the profession almost universally recognised that the termination of labour was a very important point in the treatment,

For the use of dilators, Cæsarean section, &c., all pointed to a belief in the efficacy of delivering the woman and a non-belief in the efficacy of the morphine treatment.

DR. HORNE said that to compare statistics of twenty-five years ago with statistics of the last ten or fifteen years was very erroneous, owing to the advent of Listerism, by which the mortality had been greatly lessened. He would not like it to be laid down that there was any routine treatment for eclampsia. Every case had to be treated on its merits and its condition on admission. He related a case which had occurred in the National Maternity Hospital this year, remarkable from the fact that it commenced in the fifth month. He had hoped to have learned the cause of the eclampsia, but it was passed over in the paper by saying that it was due to an "auto-intoxication." No special form of treatment could be relied on, and we must be prepared to use morphine, or, in certain cases, Cæsarean section, vaginal section, Bossi's dilator, &c.

DR. JELLET said he would have liked Dr. de la Harpe to have gone into the question of the operative treatment of eclampsia. He was in thorough accord with Dr. Horne that no fixed line of treatment could be carried through in every case, nor did he believe that any one theory or set of causes would be found which could be laid down as the cause of eclampsia. One class of cases would be found to be due to one set of causes, &c., and treatment could then be classified accordingly. He said he was interested in the radical treatment of eclampsia, principally owing to the fact that he had been represented by Dr. Herman, in a paper read before the Medical Society of London, as having recommended such treatment at a time when he was distinctly opposed to it. Since then, in view of more modern statistics than those quoted by Dr. Herman, he was inclined to look on this treatment with more favour in serious cases. He quoted some of these statistics. He would not argue that radical treatment was the right one to adopt in all cases, but he did think that there were grounds for taking it into consideration and for considering whether, in cases that appeared to be severe, the radical treatment of emptying the uterus should not be adopted from the start.

DR. HASTINGS TWEEDY said that he considered it a pity

that one line of treatment could not be followed, as the cases were few in number. So long as we believe that no hard and fast line of treatment should be followed, we should be working in the dark. No useful statistics could be compiled, and one could not say what was the best line of treatment to adopt. He believed that the infrequency of eclampsia in Dublin was due to the habits of the people. In hot countries people accustomed themselves to very little fluid, but in Ireland the women drank a good deal of tea, &c. As to causation, he did not think that our knowledge of treatment would be brought much forward by knowing what the poison was. We had fair grounds for saying it was a toxæmia in the system. We saw lots of toxæmia, which just fell short of eclampsia, headaches, drowsiness, dulness, &c. He considered that the Master of any hospital should be very careful to include in his statistics every form of fit that came in, except epilepsy, as eclampsia.

DR. NEILL said he had seen a good number of cases of eclampsia in the Coombe Hospital. In one remarkable case the child was lying transverse, and as soon as the malposition was corrected the eclampsia ceased. The other cases were treated with morphine. Some of them were very bad, but all got well. Two or three minims of croton oil and vapour baths were given in every case.

DR. GIBBON FITZGIBBON said that one point which had been largely ignored was the question of purgation. It was the treatment adopted in combination with the other palliative measures, and even in those cases where radical treatment was undertaken. In the morphine treatment a large amount of purgation was gone in for. The bowels and stomach were washed out, and sometimes up to seven minims of croton oil were given to clear out the bowels. Sinclair and Johnston reported a series of sixty-three cases occurring from 1847 to 1854. Among those three or four which were probably epileptic were included in the recoveries. There were thirteen deaths, but a certain number were certainly due to septicæmia. In those cases the treatment practised for the first five years was free venesection, and large enemata and purgatives were also given. In the last two years of that series venesection was continued, but the purgation was left out, and there was a considerably higher death-rate. He thought the

question of purgation was a good deal neglected, and deserved more attention than it received.

THE PRESIDENT said that he desired to add his quota to the praise already bestowed on the paper to which they had just listened. It is plain, from a study of the old Masters' books in the Rotunda Hospital, that free venesection was the routine treatment of puerperal eclampsia for nearly a century after the opening of the hospital, and in many of the cases, even those admitted in coma, recovery took place. After the discovery of chloroform it also came into use, sometimes alone, sometimes combined with venesection. Dr. Atthill records an interesting case in which chloroform produced no effect in mitigating the seizures till blood was drawn, and subsequent recovery ensued. In one case of convulsions in a primipara far advanced in pregnancy, he injected chloral subcutaneously, and recovery followed. No method of rapid emptying of the uterus had ever commended itself to the speaker, though he is firmly convinced of the wisdom of expediting delivery by any gentle methods available, such as the use of forceps when the head is easily within reach. He had tried venesection, sometimes alone, sometimes followed by intravenous saline injection, but without success, possibly because the patients were beyond the reach of any treatment.

DR. DE LA HARPE replied.