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A SEVERE CASE OF ECLAMPSIA TREATED BY LUMBAR PUNCTURE.

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In view of the grave prognosis, the critical condition, the eventual recovery and some special points in the treatment, the following case is considered worth reporting.

Mrs. R. was admitted to the Helena Hospital, Shorncliffe, in the late second stage of labour on July 20, 1937, at 7.30 a.m., having travelled in a motor ambulance car from an out-station twenty-five miles away.

She was a 21-year old primipara in a very sound state of health and with no history of any kind of fits or of other serious diseases.

Her pregnancy had been uneventful and at no time showed evidence of renal trouble, the urine having been tested for albumin at weekly intervals during the last two months before term. It must be noted, however, that though she had kept herself regular with mild aperients she had no motion during the two days preceding her confinement, nor was it found possible to give her the customary enema on admission, labour being too far advanced.

An hour and a quarter later she was delivered normally of a seven and a quarter pound female baby. Four hours afterwards she complained of violent headache, and fifteen minutes later she had a severe convulsion lasting about three minutes.

By the small hours of the morning of the second day, i.e. during the period of fifteen hours, she had had fourteen fits, all very violent and accompanied by extreme cyanosis during the tonic stage, each lasting about three minutes, and leaving the patient exhausted. After the third fit there was no return to consciousness during the intervals, in fact after the sixth fit coma was deep, breathing stertorous, some cyanosis was present and mucus accumulated in the fauces.

The urine after the first fit contained no albumin. This appeared later but never in large amounts.

The blood pressure reading was 190/90 mm. hg. The temperature never rose above 99°F. and the pulse rate, after the later fits, was never less than 100.

By this time the following measures had been adopted without avail: (1) At first bromides and opiates by the mouth, followed later by four-hourly hypodermic injections of morphia; (2) copious high colonic lavage which was returned clear; (3) gastric lavage with half an ounce of magnesium
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sulphate left in the stomach; (4) venesection; (5) alkaline intravenous saline; (6) atropin hypodermic injections to control mucus formation.

The prognosis was then considered extremely grave in view of the following points: (1) The onset of convulsions occurring after delivery; (2) the severity and long duration of the fits; (3) the comparatively large number of fits at first at about two-hourly intervals, but with shortening intervals as the case progressed; (4) the advent of deep coma; (5) the high blood-pressure; (6) the signs of cyanosis, shock, and incipient pulmonary oedema. In fact the case seemed hopeless.

It was then that the probability of raised intracranial and intrathecal pressure suggested itself. This pressure might be relieved by lumbar puncture, as in cases of status epilepticus.

This was accordingly carried out. The cerebrospinal fluid was very definitely under pressure; it poured out from the needle and it was not until fifty cubic centimetres of cerebrospinal fluid (about half the total normal amount) had been released that it dripped at the normal rate.

Only two more fits occurred shortly afterwards; both these were comparatively mild and transient, lasting only half a minute.

Meanwhile the patient was still in imminent danger because of shock and prostration (pulse 140, weak) and because of impairment of respiration, partly from shallow breathing (? morphia) and partly from filling of the bronchial tubes with secretion.

All hopes of saving the patient’s life had been given up, but as a last resort the following measures were adopted: (1) The foot of the bed was raised to encourage secretions to run into the pharynx whence they were constantly swabbed away; (2) more atropin was given; (3) continuous inhalation of oxygen was begun; (4) periodical inhalations of carbon dioxide, particularly through the nostrils, at ten-minute intervals. These “blasts” of carbon dioxide not only deepened respiration, but also momentarily brought the patient out of her coma, made her cough and improved her circulation; (5) coramine 1.7 cubic centimetres repeated with digitalin 1/100 grain after an hour to stimulate and maintain the circulation.

These measures were so successful that three hours after their institution the pulse had dropped to 96, with a good volume. The blood-pressure had dropped to 138/80. All accumulation of bronchial secretion had disappeared, and there was but little cyanosis left.

During the remainder of the second day the patient was unconscious, though not deeply comatose. She also tended to become restless. A second high colonic lavage was given in the morning and was returned slightly coloured; but the first motion since admission occurred in the afternoon. Potassium bromide was given rectally to control restlessness. Four-hourly rectal salines and two-hourly hypodermic injections of coramine were also given.

On the third day the patient was on the border line of consciousness, i.e. could be roused. All treatment was stopped except a third high colonic
lavage which this time brought away accumulations of faeces and undigested
matter. As rectal salines were not being retained, nasal feeding was
instituted.

On the fourth day the patient recovered consciousness and was able to
take food by the mouth. She had been unconscious over sixty-four hours.

On the fifth day, the breasts showing normal activity, she began to feed
her baby.

On the seventh day albumin had disappeared from the urine. Proteins
were added to the diet and the patient was considered out of danger.

On the tenth day she was allowed up, and on the fourteenth day she
was discharged from hospital in a normal state of health, her baby having
gained six ounces in weight.

In conclusion, there are some points of interest which seem to emerge
from this case:—

(1) In view of the much discussed ætiology of eclampsia, it seems
probable in this case that an intoxication of intestinal origin played its
part. The bowels had been inactive two days before the onset of labour
and were only properly relieved forty hours later, after the third high
colonic lavage.

(2) Albuminuria need not precede the fits; it only manifested itself later
in this case and in comparatively small amounts.

(3) The usual measures in the treatment failed to arrest the course
of the disease, or even to control the fits in any way. Though it is realized
that abatement of symptoms and cessation of fits does sometimes occur,
irrespective of the forms of treatment adopted, it is to be noted that lumbar
puncture was followed by two more fits only, and that these were of a
comparatively mild and fleeting nature. This result is attributed to the
relief of intrathecal and intracranial pressures, and therefore lumbar
puncture is suggested as a measure worth considering.

(4) One cannot help wondering whether morphia is the sedative of
choice in such cases, as it tends to enhance such unfavourable symptoms
as shallow breathing, coma, cyanosis, and pulmonary oedema.

(5) This case also illustrates the benefits derived from oxygen and
carbon dioxide inhalations in a case showing signs of shock, cyanosis and
pulmonary oedema.

The carbon dioxide not only improved the action of the respiratory and
cardiac pumps, but it also lessened the coma and assisted the patient to
rid herself of fluids accumulated in the bronchial tree. It lessened acidosis
and improved oxygenation.