

in action, the combination ought to be of service in the treatment of trypanosomiasis in man.

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A CASE OF CEREBRO-SPINAL MENINGITIS : LUMBAR PUNCTURE : RECOVERY.

By JAMES DONELAN, M.B.,

Chevalier of the Crown of Italy; Physician, Italian Hospital, London.

In view of the increasingly-frequent occurrence during the last few weeks of cases of cerebro-spinal meningitis the following instance seems worthy of record, especially in view of the immediate improvement that followed the surgical intervention.

The patient, an English architect, aged 50, who had met with reverses of fortune, was found comatose in his lodgings on October 25th, 1904, and removed to the Holborn Infirmary, where in an interval of consciousness he was able to communicate with his friends, and was transferred to the Italian Hospital on October 26th. From his own subsequent account he was in his usual good health until October 23rd, when he was seized with shivering, violent headache, and severe pain in his neck and back. He became unconscious, and must have been in that state for nearly two days before he was found. In the hospital he lay semicomatose, but roused when spoken to and complained of intense occipital pain extending along his neck and spine. The neck was rigidly extended owing to clonic spasm of the muscles, and there was some opisthotonos, though not in a marked degree. Kernig's sign was easily elicited both in the sitting and recumbent postures. The conjunctivae were suffused and the pupils widely dilated, but reacted to light and for accommodation. There was a petechial rash all over the body, especially on the lower extremities, while the skin generally was hyperaesthetic. He was perspiring moderately, and the sweat had the peculiar odour usually associated with typhus. There was some coryza, with muco-purulent discharge from the nostrils; no bacteriological examination of this secretion was, however, made. The bowels were constipated and the breath extremely foul, partly owing, no doubt, to the neglected state of his teeth and the existence of an extensive pyorrhoea alveolaris. The temperature on admission was 100.3° F. and the pulse 108. The blood count showed leucocytosis, 26,000 per c.mm. There were no pulmonary or other symptoms than those already given.

In view of the coryza, the case was at first regarded as one of influenzal cerebro-spinal meningitis; still, the possibility of it being a sporadic example of epidemic cerebro-spinal meningitis was considered, and the patient was isolated. He was given a calomel purge followed by an enema, and ice was applied to the head and along the spine. A mixture containing 20 minims of the ammoniated tincture of quinine and 5 minims of glycerine of carbolic acid in cinnamon water was given every four hours, and 20 gr. of bromide of potassium on the first two evenings. He was put on milk diet without alcohol.

On the 28th—that is, the fifth day from the seizure and within forty-eight hours of his admission—the leucocytosis having advanced to 36,000, the temperature to 101° F., and no improvement in the other symptoms having taken place, but, on the contrary, a slight degree of aphasia having presented itself, it was decided to employ the lumbar puncture. This was performed under strict aseptic conditions by Mr. G. Lenthal Cheatle, surgeon to the hospital. The fluid, about 4 oz., rushed out with considerable force, and was slightly turbid when held to the light. Its withdrawal appeared to have an immediately beneficial effect, as the patient became quite conscious in a few hours, and the pain, muscular spasm, and aphasia gradually disappeared in about two days. On the day following the puncture the temperature fell to 99°, and he said he felt quite well but weak. Next day the temperature rose to 101.6°, but fell after the bowels were relieved by an enema.

In view of the great improvement in his condition it was

not thought necessary to repeat the lumbar puncture; the cutaneous hyperaesthesia, however, persisted, but disappeared at the end of the first week. He made an uninterrupted recovery in two weeks. He remained in the hospital, however, until he could be sent to a convalescent home, and was transferred to the care of the dental surgeon, Mr. McKay, who successfully treated his pyorrhoea.

A portion of the fluid removed through the lumbar puncture was examined by Mr. Cheatle at King's College, and was found to contain numerous polynuclear leucocytes, some of which enclosed the diplococcus intracellularis. A similar result was obtained from the specimen examined in the hospital laboratory by Dr. V. Pereira, Resident Medical Officer. It is perhaps to be regretted that a bacteriological examination was not made of the coryzal discharge or of the thick spongy incrustation on the teeth, as it may have thrown some light on the path of invasion.

I think it may be fairly claimed that in this case its remarkably favourable termination was due to the early employment of the lumbar puncture. The therapeutic value of this procedure has been much disputed, but it has always had a strong advocate in Netter, who advises early and repeated lumbar puncture. The value of any remedy is proverbially enhanced by its speedy employment. *Cito, bene, et recte*, and the withdrawal of the fluid at the earliest possible moment seems to be imperatively called for in cerebro-spinal meningitis. Properly carried out it can do no harm, while it is of the utmost importance to relieve tension on such essentially vital parts of the human organism. By so doing one has the best chance of avoiding pus formation, which will almost inevitably take place if the patient continues to live and the tension is not relieved.

Those who, like the writer, remember something of the Dublin epidemics of twenty years ago and over will recall the fact that patients who died on the second or third day had their meninges only congested, and the subarachnoid space more or less distended with a clear or slightly milky fluid. On the other hand, in those who did not die for a week or more the fluid varied from a yellowish creamy exudate to green pus. Had Quincke's suggestion been in vogue in those days and the tension been relieved by early lumbar puncture it is probable there would have been far fewer opportunities of viewing the last two stages of the inflammation *post mortem*. It may, perhaps, be said that patients have recovered without lumbar puncture, and that many died after several weeks in whom after death the fluid was found clear or nearly so. This, however, seems to point rather to greater resistance to probably a small initial dose of the diplococcus or one of less intense virulence. It cannot possibly be thought that the disease is in any sense self-limited, or that the adoption of measures to relieve tension as early as possible is other than imperatively necessary.

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THE SODIUM SALTS OF THE COUMARIC ACIDS AS THERAPEUTIC AGENTS.

By GILBERT T. MORGAN, D.Sc.LOND., F.I.C.,

Royal College of Science, South Kensington.

The hypodermic application of sodium cinnamate in aqueous solutions (hetol) or dissolved in glycerine, as recommended by the author in the *Lancet*, July 12th, 1902, p. 66, still continues to receive considerable attention, and among the more recent developments of the treatment based on the use of this therapeutic agent may be mentioned the serum obtained by the firm of Kalle and Co., of Biebrich-am-Rhein, from tuberculous horses after repeated injections of the cinnamate (German patent No. 147,470).

Another point of interest bearing on the connexion between the chemical structure of cinnamic acid and its physiological action is the discovery that phenylpropionic acid