

INTRAVENOUS PERFUSIONS OF MONOCHLORIMIPRAMINE. TECHNIQUE AND RESULTS

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The intravenous use of monochlorimipramine (M.C.I.) enlarges the clinical use of anti-depressives and proposes new points of view concerning the treatment of mental disorders.

The therapeutic efficacy and the small number of secondary effects of M.C.I. are well known after previous studies: Carney and Black (1967); Symes (1967); Brandner (1964); Morel-Maroger (1967); Rojas Ballesteros *et al.* (1967); López Ibor Jr (1966) and Fernández Córdoba and López Ibor Jr (1967). The intravenous use was first reported by Sigwald and Raymondeau (1966).

TECHNIQUE

The M.C.I. is perfused intravenously dissolved in 100 to 150 ml of physiologic or glucose solution. The dose of M.C.I. is progressively increased up until 75 to 150 mg, rarely more, which can be repeated in the afternoon. The venous sclerosis which is produced in long treatments is a limitation to the daily double perfusion. The treatment may be completed with an oral or intramuscular intake up to a total daily dose of 150 to 400 mg. The duration of the perfusion is about 30 to 45 min. (with the exception of the two first days of treatment when the time is almost 2 hours). Two very important factors in our technique are the *rapid increase in the dose and the speed of administration* which are accompanied by progressive improvement of the clinical effect, naturally with some exceptions. Both these factors suggest the hypothesis of a 'chemical or pharmacological shock-like action'. To avoid tensional variations dihydroergotamine methanesulfonate or other substances are added to the perfusion.

METHOD AND RESULTS

The selection of the patients has been made taking into account more than a nosological classification of the clinical picture, the degree of disturbance in the endothymic or vital level in the sense of López Ibor (1966). The more 'vital' the depressions, the better the results.

1. Depressions

118 cases have been treated, 57 of them were collected for this paper in order to have a follow-up of more than 8 months.

In 26 cases of typical endogenous depressions the remission of the depression was achieved in a period which ranged generally between 10 and 30 days. The improvement began between the 2nd and the 5th day in 18 cases.

In the more chronic forms (8 cases) of 1 to 3 years' evolution in which earlier treatments had failed, including electroshock, the remissions were achieved in a period of 4 to 7 or 8 weeks. In some cases 2 to 4 electric treatments were needed after the M.C.I. treatments. In 3 of the cases longer series had to be given.

In depressions, hypochondriac symptomatic and in depressive equivalents (8 cases), the symptomatology is lessened in the course of several weeks until total remission. Thymopathic pains and paresthesiae are specially sensible to the treatment.

In 6 cases of depression with paranoid delusions and of pure paranoid delusions which came to us with the diagnosis of schizophrenia and which we did not include in this group, the M.C.I. produced good results. An initial improvement in the mood is achieved in a few

days and after several weeks (6.5 as mean value) the delusional syndrome loses consistence at the same time that the patient is able to take a critical distance to it.

In 10 cases of depressive alterations in abnormal, neurotic and immature personalities the M.C.I. normalized the mood. About 7 to 8 weeks were needed, appearing evidently 'a posteriori' before the initial disturbance of the mood or biotonus, which was masked by the psychodynamic symptoms, responded to therapy. In this way other therapeutic approaches (psychotherapy, sociotherapy, etc.) were facilitated.

2. *Obsessive neurosis*

We believe that even if M.C.I. is not a definite treatment for obsessive neurosis in every case it opens a hopeful research pathway to the pharmacological treatment of these patients. We refer here to 16 patients. Usually on the 2nd to 5th day a change is noticed which consists of an elevation of the biotonus and a change of behaviour which becomes less dependent on the obsessions and in this way more sociable, although the obsessions persist. After about 5 weeks (and only in 2 cases was it before the 3rd week) the patient becomes stronger in confronting his obsessions and little by little they start interfering less with his normal behaviour. This improvement may continue. The treatment has to be prolonged for about 6 to 10 weeks.

In 2 cases (12%) with a most rapid improvement the obsessions disappeared and the patients went back to a normal life. In 7 cases (44%) the improvement was so great that in spite of persisting symptoms these did not interfere with normal life nor did they mean a load for the patient. In 4 cases (25%) they went back to a normal life although the obsessions still preserved the capacity to harass them. Before the treatment these 4 patients were under a severe degree of invalidity and no treatment had brought any success.

In 3 cases (20%) the results were null, in two of them a leucotomy was performed later on because of the failure of any other treatment.

3. *Mental anorexia*

In the 4 cases treated it was possible in about 10 weeks to carry the weight to a normal level and there was improvement of the psychopathologic disturbances and of the behaviour. In one, menstruation reappeared. We believe that M.C.I. is one of the essential therapeutic steps in the treatment of mental anorexia. This research is still in course.

4. *Schizophrenia*

We began to treat schizophrenia psychosis to try to learn more about the mechanism of action of the drug from the clinical point of view. The 11 cases treated are few and not homogeneous, so that no general conclusions could be drawn. However, we have observed two facts. First, in cases of acute onset with delusional mood (Wahnstimmung), guilt delusion etc., there is a favorable effect. Secondly, in chronic cases also with delusional symptoms in which other treatments had little effect, we observed how, in spite of prolonged persisting delusion, the patient placed himself further away from it and sometimes even a complete dissolution of the delusion was achieved.

SECONDARY EFFECTS

Apart from drowsiness, constipation, dryness of mouth, obesity, mydriasis, nausea and vomiting, the only serious secondary effects are the following: acute glaucoma (in doubtful relation with the treatment) and epileptic fits (two cases). Because of the fits we have made continuous recordings during the perfusion and again half or one hour later, as well as routine recordings at several intervals during the treatment. However, only discrete alterations could be noticed.

In prolonged treatment with higher dosages it is not rare to observe a parkinson-like face with exophthalmus and other parkinson-like signs, as well as obesity.

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