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"Amphetamine shock" during LSD-25 and mescaline psychosis

In order to widen the pharmacological and psychological investigations on the hallucinogen compounds, we submitted some subjects who were under the influence of LSD-25 or mescaline to the "amphetamine shock" (DELAY definition). Other authors (GOTTLIEB *et al.*, HUSTON *et al.*, RIGOTTI, and others), too, have introduced into psychodiagnostic techniques based on the association of amphetamine and other drugs (barbiturates).

In our tests, amphetamine (simpamina Recordati) was injected (20–30 mg, i.v.) rapidly, when the toxic psychosis from LSD-25 (200 γ per os), in 5 cases, and from mescaline (0.5 g i.v.), in 3 cases, was in full development. The subjects were: 5 patients with psychoneurosis, 1 with trauma of the brachial plexus, 1 with dementia paralytica, and 1 with a "phantom limb", following war amputation.

We did not encounter any important difference between the association of simpamina with LSD-25 or with mescaline. This is of some interest since, from a chemical point of view, there is a great similarity between amphetamine and mescaline, and therefore the structural affinity does not seem to play an important role here.

Variations of the emotional tone were observed after the injection of the sympathomimetic amine in practically all our cases, four of them presenting intense and clamorous manifestations. Emotive variations were, however, absent or very modest, during some control tests carried out with simpamina only on the same subjects. In all our cases the mood deteriorated after simpamina, independently of the modifications that were following the first effects of the two "hallucinogens".

The psychosensorial symptomatology increased or became manifest in 4 subjects, after the simpamina injection, while, in two, confusional and ideative disorders were remarkably increased.

Discussing our findings, we concluded, as regards the emotive symptomatology, that the effects of the simpamina seemed here to be enhanced, owing to the thymic lability provoked by the hallucinogen drugs. This lability is evidenced by the frequency of emotive oscillations in the course of the toxic psychosis due to LSD-25 or mescaline.

However, as far as the evidencing of the psychosensorial symptomatology and of the disorders of consciousness and ideation is concerned, we tend to hold the view that the effect of the LSD-25 and of the mescaline was augmented by the sympathomimetic amine. The latter may in fact exercise an analogous action in the course of a spontaneous psychosis, and never, or very rarely, can it of itself produce such phenomena in normal individuals.

From the point of view of the mechanisms of pharmacological action we may therefore conclude that, in the synergic tests, the effect of each of the drugs used has often been intensified, but never qualitatively modified. In view of present obscurity as to where and how the hallucinogens act, it is not possible to reach more precise conclusions. In seems, however, obvious that, in provoking the above-mentioned effects, amphetamine may act both on the diencephalon and on the cortex (reticular stimulation).

Finally, any assertion about the psychodiagnostic and therapeutic efficacy of the technique used here would require a vaster and more complete experimentation than we have been able to undertake.

On the whole, however, the correlation between the effect of amphetamine and the personality of the patients does not seem to have been increased. This might be attributed to the fact that the psychic conditions created by LSD-25 and mescaline, although they too depend partly on the personality of the subject, are, in fact, conditioned by too many variable factors and, moreover, show themselves to be very labile and fluctuating. In contrast, therefore, to what happens when amphetamine is associated with barbiturates, where the effect of the former drug may develop in disinhibited conditions, in our tests the effect itself seems to have been rendered less significant, even if intense, by the fact that the conditions in which it was manifested were unexpected and artificial.

As to the therapeutic effect, it was manifested, by means of an evidently suggestive mechaninism, in two subjects (hysterical psychoneurosis) in a moderate degree.

We may therefore conclude that the interest of our observations seems to lie more on a theoretical plane than on a practical one, and that it consists, above all, in the demonstration of the possibility of revealing, via the "amphetamine-shock", symptomatologic elements of the experimental psychosis in a manner strictly analogous to what happens with those of spontaneous mental diseases.

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