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EXPERIENCES WITH THE USE OF RESERPINE ON THE CHRONICALLY DISTURBED MENTAL PATIENT

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Since the use of Reserpine was introduced in psychiatric institutions varied reports have been published on the efficacy of the drug in the chronically-disturbed mental patient. The lay press has hailed it as a panacea for diverse mental ailments with such effect that we have been approached by relatives of patients requesting its use. Unfortunately our initial experiences were not in accordance with the claims made by other observers. We used initial supplies with caution. The dosage seldom exceeded 3 mg. per diem and the duration of treatment was usually 1 month. The response obtained was unsatisfactory and further trials were discontinued.

On further discussion with the manufacturer's representative we came to the conclusion that the discrepancy between our results and those published in the journals were possibly due to (*a*) insufficient doses or (*b*) premature discontinuation of therapy. It was therefore decided to recommence trials with larger doses used over a longer period.

TRIAL SERIES

For this series 17 of the most disturbed patients in the refractory ward were selected. Of these, 12 were chronic schizophrenics and 5 suffered from epileptic psychosis. Trials were begun on moderate doses of 1 mg. orally or intramuscularly per diem, gradually increased until the appearance of untoward side-effects led us to consider further increases an unjustifiable risk.

All but 2 of the patients were disordered to the extent that most of our observations were entirely objective. The main guides to the effect of the drug and dosage control were the response of the cardiovascular system and changes in the general behaviour of the patient.

Non-Epileptic Cases

To deal first with the patients who were not suffering from epilepsy, it was noted that in 3 cases oral doses would be increased up to 10 mg. daily while in the others the doses varied from 4 to 8 mg. daily. The shortest period required to reach the optimum dose was 3 weeks, and the longest 8 weeks. Too rapid an increase in dosage often resulted in hypotension and bradycardia. This was overcome by reducing the dose for another 7 days before increasing to a desired maximum. Resort was had to intramuscular and intravenous use only in cases of extreme negativism when the patient could not be coaxed into taking oral medication. With these parenteral routes of administration untoward side-effects appeared much earlier and in a more marked degree. During the 2nd week of the trials patients could be encouraged to take the tablets orally. Tact and patience are essential on the part of the nursing staff to steer them through this phase. With intramuscular medication it was found unnecessary to use more than 3 mg. a day or to continue it for longer than 10 days. No fixed dosage-schedule can be presented, for it was found that individual responses varied.

Attempts to work out a schedule according to the patient's weight and pre-trial blood-pressure readings produce inconsistent results.

Before the trials these patients were the most difficult nursing problems in the ward. They were unapproachable, destructive and violent, requiring heavy sedation and maintenance electroplexy regularly. Their condition can briefly be described as chronically excited mental disorganization with explosive episodes, some in response to apparently fixed delusions and others apparently motiveless. One patient suffering from chronic schizophrenia of over 20 years' standing, unresponsive to all the routine forms of electrical and drug restraint commonly used, required on an average 5 hours' seclusion daily.

Of the 12 schizophrenics, trials were discontinued in 4 because of the persistence of undesirable reactions or untoward physiological effect. In the remaining 8 patients it was noticed that there was a gradual but generalized decline of psychomotor activity. Explosive

episodes became less frequent and eventually ceased. The patients were more subdued, and capable of carrying out simple instructions, and they managed to adjust themselves more satisfactorily to the ward routine. It was disappointing to note that at no time was the basic pattern of the psychosis altered in any respect. The 3 phases noted by Barsa & Kline[1] were not conspicuous and we tended to regard them as the exception rather than the rule. The shortest period that elapsed before noticeable response was obtained was 5 weeks, and the longest 16 weeks. Physically, each patient put on an average of 9 lb. in weight. There were no dietery alteration introduced during the trials and we concluded that the increase in weight was the direct result of the insidiously progressive inertia on the same calorie intake as obtained before the trials. It was pleasing to note that although the patients were more at ease with their environment the narcotizing effect so commonly found with the use of the opiates, barbiturates and paraldehyde were completely absent. Rapport could be established with the patients at any time and they could be roused from sleep without any signs of undue drowsiness. We found that eventually we could eliminate all other sedation. During the early stages of the trials we were compelled to prescribe decreasing doses of the sedatives which were being used on the patients before the trials. The most satisfactory and safest of these was paraldehyde, the effects of which appeared to be enhanced on our Reserpine patients.

Epileptic Psychosis

Patients suffering from epileptic psychosis, especially those of long standing and deteriorated types, are generally speaking a nursing problem in mental hospitals. Most require heavy doses of phenobarbitone used in conjunction with one or other of the anti-convulsants to suppress their seizure rate. They eventually become drowsy and retarded, living a mechanical sort of existence, and with time exhibit the neurotoxic effects of continuous phenobarbitone medication. On the rationale that if the sedative effect of Reserpine could replace that of phenobarbitone, there might be a change for the better. Twelve male non-Europeans were selected for this trial and the phenobarbitone was gradually replaced by the Reserpine over a period of a week. There was a dramatic increase in the frequency of major seizures and trials were discontinued after 14 days. In the 5 epileptic patients selected in our series of 17 in the refractory ward, it was thus decided to use Reserpine in conjunction with the phenobarbitone-anticonvulsant routine. It was found within a fortnight that there was a slight increase in the rate of seizures and no beneficial effect on the general behaviour. Furthermore the side-effects of the drug appeared to be more prominent. According to the *Lancet*[2] Reserpine facilitates convulsions in epileptics and antagonizes the effect of phenytoin. It suggests that the 2 drugs should not be used together.

Side-Effects

These usually presented themselves during the induction period. Frequently they were the result of too rapid an increase in dosage and could be controlled by moderation of the dosage. Once the patients had been stabilized we did not notice any unusual reactions. A satisfactory aspect of the side-effects was that they were all reversable on withdrawal of the drug. The following were the most troublesome that we noticed during our trials:

(*a*) *Hypotension and Bradycardia.* These are listed together because there appeared to be a proportionate relationship in their variations. It is claimed that Reserpine has little or no effect on the normotensive patient. Our experience was that there was a drop of up to 10 mm. Hg. in both systolic and diastolic readings. The degree of bradycardia, accompanied by an appreciable fall in pulse volume, was alarming at times. The slowest pulse-rate witnessed was 38 per minute. This responded to nikethamide within 2 hours, and to a subsequent reduction in dosage of Reserpine. It was noted that the blood pressure and pulse-rate were influenced by exercise. In patients examined immediately after a phase of excitement the readings returned to normal. At rest they were found to be below normal (normal being taken as the pre-trial readings of the individual patient). Once the patient had been stabilized we did not notice any undue signs in this respect.

(*b*) *Decrease in Exercise Tolerance.* Because of the uncooperative disposition of the patients no precise tests of exercise tolerance could be performed, but in all the cases after moderate exercise the increased respiratory and pulse rates, plus the general demeanour of the patients, led us to conclude that the exercise tolerance of the individual was definitely reduced in comparison with the patient's pre-trial behaviour. This is to a certain extent desirable in a chronically excited patient but the extreme should be avoided by dosage modification.

(*c*) *Mental Depression.* As most of our observations were objective the assessment of this symptom was difficult. One of our epileptics lapsed into a state of acute depression which did not respond to the usual recommended antidotes and only to drug withdrawal.

(*d*) *Aggravation of the Psychosis* caused by fears produced by the physical effects of the drug. Two of the cases managed to convey that they experienced sensations that they were suffocating. They reacted by becoming aggressive and violent. We terminated therapy during the 3rd week.

(*e*) *Tachycardia.* A persistent tachycardia was observed in 2 cases. They both presented signs of cardiac inefficiency of such severity and persistence that we discontinued trials. The first case was suffering from a well-compensated mitral stenosis before the trials; in the second we could find no organic relationship. Both presented the signs late in the 2nd week of the trials.

Contra-indications to Reserpine

Physical contra-indications are fortunately few. In hypotensive states the drug, although not absolutely contra-indicated, should be used with caution. Further study of the effect of heavy doses of Reserpine in the presence of organic heart-disease should prove interesting.

Psychiatric contra-indications include the following:

1. *Certain depressed states.* Although not included in the series reported above, we have treated 3 cases

where it was apparent that the depression was precipitated by the injudicious use of Reserpine-like drugs: (1) A psychoneurotic anxiety reaction appearing in the involutional period of European male; (2) an elderly European male suffering from psychosis with cerebral arteriosclerosis, who was restless and agitated; (3) an elderly European female being treated for hypertension with a Reserpine-like drug. All three presented a picture of severe depression which was not relieved by withdrawal of the drug, and were subsequently compelled to undergo a course of electric shock therapy for relief. We thus concluded that the use of the drug in depressed states should be limited.

2. *Epileptic psychosis.* See above.

3. *Electric shock therapy.* We have had occasion to administer shock therapy to a patient in a state of acute mania who was on Reserpine. This was followed by a state of physical shock and the patient was resuscitated with difficulty. Further cases have been quoted in the literature.[3]

CONCLUSION

We now conclude from the results obtained in our trials that Reserpine will establish itself in institutional psychiatry. It has supplied us with another means of drug restraint and facilitated the nursing of disturbed mental patients. It has introduced a new atmosphere into the refractory ward and there is a possibility that with its more widespread use maintenance electric shock therapy may be reduced by 60%. Unfortunately, in chronic cases it has produced no recoveries nor had any influence on the hospital discharge rate.

Another factor to be considered is whether it will be necessary to continue the medication indefinitely or whether it will be possible to discontinue it after the patients have been stabilized at a satisfactory level for a determined period.

SUMMARY

Reserpine was tried in 17 cases in a psychiatric refractory ward. Of the 17 cases on trial, therapy had to be discontinued in 9 because of the persistence of unsatisfactory side-reactions. Of the 8 remaining cases all were subdued and showed a satisfactory response. No recoveries were produced but the response obtained has led us to believe that its more widespread use in chronically-excited mental patients is justifiable. In the cases which responded to the drug all other sedatives and maintenance electroplexy have been dispensed with.

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