A COMPARISON BETWEEN PROCHLORPERAZINE AND CHLORPROMAZINE IN MENTAL DEFICIENCY

By

H. P. ROBB, M.B., Ch.B., D.P.M.

Deputy Medical Superintendent
Aycliffe Hospital, Heighington, Darlington, County Durham
formerly Junior Hospital Medical Officer
Ladysbridge Certified Institution, Banff, Scotland

Introduction

Tranquillizing drugs that have been used in mental deficiency include reserpine, chlorpromazine, promazine, mepazine, hydroxyzine and prochlorperazine.

Esen and Durling (1) thought that the tranquillizing drugs in general were a useful preliminary to psychotherapy. However, the response to individual drugs has been variable.

Using *reserpine*, Johnston and Martin (2) found 49 out of 60 defectives showed some improvement. Horenstein (3) found the same with 9 out of 12 and thought the lower grades showed a better response. G. R. Sprogis *et al.* (4) agreed, finding improvement in 67 out of 70.

Using *chlorpromazine* the comparative figures for improvement were Johnston and Martin, 23 out of 27; Horenstein, 9 out of 12; Sprogis, 57 out of 59.

According to G. Tarjan *et al.* (5), 70–80 per cent. of 278 defectives showed some improvement with chlorpromazine; Adamson *et al.* (6) found 32 out of 40, and the present author, Robb (7), 36 out of 42 improved.

Blair and Harold (8) stated that only 1 out of 10 hyperactive mentally retarded children did not improve.

With *mepazine* Gillie (9) reported little change in 30 low-grade patients.

With *promazine* Bergin and Bergin (10) thought that epileptic defectiveness showed the most marked improvement.

Using *hydroxyzine* Craft (11) found no change in 23 low-grade patients.

With *prochlorperazine* Pilkington (12) reported appreciable improvement in 65 per cent. of 88 defectives. The response was most marked amongst those exhibiting simple hyperactivity and affective disorders.

Kline *et al.* (13) found that 2 defectives with psychosis showed no response and that one other was slightly improved.

According to F. A. Freyhan (14) 6 improved and one did not. A. Achaintre *et al.* (15) reported improvement in 6 out of 13 defective schizophrenics.

The purpose of the present trial was to assess the merits of prochlorperazine relative to chlorpromazine by exhibiting it to 23 mental defectives whose response to chlorpromazine was known.

Procedure and Dosage

Selection of Patients

There were 17 female patients (7 high grade and 10 low grade) and 6 male patients (2 high grade and 4 low grade).

https://doi.org/10.1192/bjp.106.445.1413 Published online by Cambridge University Press

The low grades were hyperactive, restless and destructive. The high grades were irritable, quarrelsome, impulsive and emotionally labile.

Their ages ranged from 17 to 48 years—the average age being 28 years. They included four epileptics; one low-grade male; and one high-grade and two low-grade females.

Dosage

The dosage of prochlorperazine was 100 mg. daily, given as 4 × 25 mg. tablets ("Stemetil"). This dosage was maintained for 11 weeks, being reduced only to counter side-effects.

Assessment of Results

The results were assessed from daily and weekly reports of the senior nursing staff and from weekly clinical assessments.

Four categories were used:

"Marked Improvement" if they could no longer be distinguished from more stable companions by behaviour alone.
"Slightly Improved" if their outbursts became more sporadic.
"No Change".
"Worse".

Special attention was paid to the presence or absence of aggressive hyperactivity; destructiveness and impulsiveness; and also to the presence of drowsiness; tremor; salivation; and of other signs of Parkinsonian picture.

Results

(1) On prochlorperazine 100 mg. daily:

	Much Improved	Slightly Improved	No Change	Worse
Male:				
High Grade	—	1	1	—
Low Grade	—	—	4	—
Female:				
High Grade	1	6	—	—
Low Grade	—	4	4	2
Total	1	11	9	2=23

(2) Comparative figures for the same patients on 300 mg. chlorpromazine by mouth daily, were:

	Much Improved	Slightly Improved	No Change	Worse
Male:				
High Grade	—	1	1	—
Low Grade	—	1	3	—
Female:				
High Grade	—	7	—	—
Low Grade	—	4	6	—
Total	—	13	10	—=23

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Two low-grade patients who had shown slight improvement with chlorpromazine were worse with prochlorperazine; as also was a low-grade patient who had been unchanged on chlorpromazine.

One high-grade patient who was slightly improved on chlorpromazine was much improved on prochlorperazine.

The overall picture, irrespective of grade was as follows:

	Some Improvement	No Change	Worse
Prochlorperazine ..	12 (52·2%)	9 (39·1%)	2 (8·7%)
Chlorpromazine ..	13 (56·5%)	10 (43·5%)	

For both drugs, the figures for improvement are lower here than in the series quoted earlier. In those, the figures for improvement were: for prochlorperazine 63 per cent. (70 out of 111), and for chlorpromazine 77 per cent. (360 out of 468).

Side-Effects

There was no agranulocytosis, jaundice, skin rashes, photosensitivity or excessive weight gain.

There was no increase in the incidence of seizures amongst the epileptics in the series—but they were kept on their anticonvulsant medication throughout. However, one female with no previous history of epilepsy had an epileptiform seizure during treatment.

Five females became dull, drowsy, lethargic with salivation, tremor, and "Parkinsonian" picture. Two other females showed tremor only and another only salivation.

These side-effects were treated by dose reduction and by giving 50 mg. promezathine parenterally. Recurrence seemed to be prevented by oral administration of 25–50 mg. promezathine daily. These side-effects did not seem to be related to the therapeutic response.

Conclusions

Because of the small numbers involved, only general conclusions can be drawn, namely:

(1) Prochlorperazine, in the dosage used, may be of help in some mental defectives who have not responded to chlorpromazine and may sometimes enhance improvement already exhibited.

(2) Apart from the patients already mentioned it did not seem to lead to the drowsiness of chlorpromazine.

(3) The side-effects may alarm patient's relatives and it is not recommended in this dosage for use outside hospital without supervision.

Summary

Prochlorperazine in a dosage of 100 mg. daily was given to 23 mental defectives for 11 weeks. 52·2 per cent. showed some improvement. The comparable figure for chlorpromazine was 56·5 per cent.

Acknowledgment

I have to thank Dr. T. Dymock, Physician Superintendent (now retired), Ladybridge Certified Institution, Banff, Scotland, for his kind encouragement and for permission to publish.

https://doi.org/10.1192/bjp.106.445.1413 Published online by Cambridge University Press

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https://doi.org/10.1192/bjp.106.445.1413 Published online by Cambridge University Press