

# THE ANAESTHETIST'S APPROACH TO HIBERNATION THERAPY IN THE TREATMENT OF PSYCHONEUROSIS

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Certain patients undergoing treatment for psychoneurosis, have been found to benefit from what is known as 'hibernation therapy' as an adjunct to psychotherapy. In Durban this falls within the province of the anaesthetist, and over the last 2 years I have treated 58 cases. The problem here is rather different from that posed by hibernation for surgery, in that the treatment is repeated several times in the same patient, and that prolonged unconsciousness rather than analgesia is aimed at. Results are best if unconsciousness lasts at least 6 hours, and each patient receives between 5 and 8 treatments, the number being decided upon by the psychiatrist.

## PROCEDURE

The method first employed was a slight modification of that described by Baxter *et al*.<sup>1</sup>; 1/100 gr. of atropine was given subcutaneously, and 1 hour thereafter 50 mg. of promethazine hydrochloride (Phenergan), 250 mg. of diethazine hydrochloride (Diparcol), 50 mg. of chlorpromazine hydrochloride (Largactil) and 100 mg. of pethidine, mixed together and diluted to 20 c.c. in normal saline, were given intravenously. The time taken for the injection was 5 minutes.

The atropine appeared to serve no useful purpose, however, and caused unnecessary discomfort, and the unconsciousness lasted only 3-4 hours. Contrary to Baxter's experience, 6 out of the 10 patients so treated developed painless thrombosis of the injected veins. A normal saline intravenous drip was therefore set up, and the above mixture was injected into the rubber tubing high up near the drip chamber, over 10-15 minutes, the atropine being omitted. Sleep now lasted approximately 6 hours, but thrombosis was still troublesome and was a cause of some concern as several treatments are given to each patient. This has been largely obviated by thoroughly mixing the drugs with 250 c.c. of normal saline and administering as an intravenous drip over 20 minutes. The arm is elevated on a pillow to facilitate venous drainage and after the drip has been discontinued it is gently massaged cephalad to ensure that no solution lies stagnant in the veins. Redness sometimes occurs along the vein; this may be due to the fact that pethidine is a histamine liberator.<sup>2</sup>

Unconsciousness is deep for about 6 hours, and the patient is very drowsy for a further 2-4 hours. Diparcol has recently been omitted, with no appreciable difference.

Treatment is repeated daily in the early morning, the best results being obtained if a day free of treatment is

allowed on the 4th and 6th days. A barbiturate is prescribed at night.

Largactil has been found to be the ataractic drug of choice in this series; other drugs have not given the same depth or length of unconsciousness. 'It (chlorpromazine) remains the ataractic of choice in the treatment of psychoses, and in the mental hospitals it is used on a greater scale than other ataractics'.<sup>3</sup>

## Nursing

A special nurse is in attendance during the time of hibernation to watch the pulse and respiration and to control the restlessness or even somnambulism that develops in certain patients.

## Food

Food is withheld for 4 hours before treatment, but this is no hardship since treatment begins at 7.30 a.m. As soon as consciousness has fully returned food and drink is given but kept lukewarm in case the heat-regulating mechanism has not returned to normal. The patient is encouraged to have a good dinner in the evening, because this is really the only meal that is taken.

## OBSERVATIONS

**Pulse Rate.** As the drugs begin to take effect there is usually a tachycardia of 100-120 per minute, and a feeling of palpitations. The latter soon passes off as sedation comes on, but the tachycardia may persist up to an hour. In 2 cases extrasystoles were noticed as tachycardia ended, and remained for 4 hours. In both cases this occurred with all treatments given.

**Blood Pressure.** This usually remains at the patient's normal level but may fall a little—rarely more than 10 mm. Hg. This is probably due to the fact that no change in posture or surgical manoeuvre occurs.

**Tolerance.** A striking feature is the rapid development of tolerance to Largactil and Phenergan. By the third treatment an extra 12 mg. of each is required to produce 6 hours' sleep, and by the end of a series many patients are receiving almost twice the initial dose.

**Skin.** Pallor is usually marked, but the skin remains warm.

**Temperature.** The rectal temperature remains constant, probably because the patients are in bed and covered.

**Respiration** usually remains unchanged in rate, but becomes somewhat more shallow. One rather feeble elderly

woman became cyanosed, but the administration of oxygen by nasal catheter for 5 minutes sufficed to tide her over this period. Since then elderly or feeble patients are given only one-half the dosage of the drugs.

*Restlessness* may occur, but is easily controlled in most patients. Some may develop somnambulism, and must be restrained. Three patients, all of whom were drug addicts, became so excited that treatment had to be discontinued. Most patients, however, sleep quietly.

### *Results*

As this paper deals only with the anaesthetic approach to the subject, results will not be discussed here, but they

are most encouraging. It must be stressed that the treatment is to be combined with psychotherapy.

### SUMMARY

A method of inducing hibernation for psychiatric treatment is described. Patients' reactions, and difficulties likely to be encountered, are discussed.

### REFERENCES

1. Baxter, R. W., Bolster, J. A. and McKechnie, S. (1954): *Anaesthesia*, **9**, 79.
2. Schachter, M. (1925): *Brit. Med. J.*, **1**, 324.
3. Editorial (1957): *S. Afr. Med. J.*, **31**, 161.