GENERAL ANAESTHESIA FOR A MORPHINE ADDICT

A. KILPATRICK
Victoria Infirmary, Glasgow

THE established drug addict presents the anaesthetist with an interesting problem when a major operation is proposed. As few references to this are made, either in the literature or in the text-books, it is thought that the following account of the management of such a case will be of interest.

CASE HISTORY

The patient, an unmarried woman, aged 54 years, was admitted to hospital on 11.4.54. She gave a long history of abdominal trouble with seven previous abdominal operations between 1926 and 1951. The original complaint was low right-sided abdominal pain. In 1926 a colopexy was performed and in the next few years two laparotomies were carried out because of continued pain. Then in 1946, an attempt to undo the colopexy resulted in an external ileal fistula which closed spontaneously. Since then she has had another three operations to relieve intestinal obstruction due to adhesions. At the last of these the jejunum and transverse colon were anastomosed. In 1951 the patient has since suffered from severe colic and diarrhoea.

The patient had been taking morphine by injection since 1942, and the symptoms produced by the jejuno-colic anastomosis aggravated the addiction. When admitted on 11.4.54, for closure of the anastomosis, the patient’s average daily consumption of morphine was 7 grains (450 mg.) in 1-grain (64-mg.) doses. Her maximum had been 12 grains (768 mg.) in 24 hours and she had often taken single doses of 2 grains (128 mg.). Even with this dosage she was able to work in her home and her garden and to drive her car.

On admission, the patient’s general condition was fairly good. Mentally, she was very alert, taking a keen interest in affairs. A tall woman, she was thin, but not markedly so, and had lost 42 lb. (19.1 kg.) in the previous three years. The pupils were in a position of mid-dilatation, reacting to light, and she complained of no symptoms due to morphine. The blood pressure was 130/90; haemoglobin 11.3 g. per cent.

For many years, in addition, she had been taking a sedative at night and required a different drug every few months as she rapidly acquired a tolerance towards each in turn. Most of these had been of the barbiturate series.

No record is available of her previous anaesthetics from the point of view of the anaesthetist.
The high degree of tolerance shown to morphine and barbiturates was the reason for choosing diazepam (40 mg) orally and then sodium phenobarbitone (Sodium Gardena) 3 grains (1.5 mg.) intramuscularly. The patient was read the previous day's newspaper and completed her income tax returns.

To counter the drug resistance, preoperative medication similar to that used by Baxter, Bolser and McKee (1954) during their investigation of phenothiazine derivatives was employed except that scopo- lamine was substituted for atropine for the additional hypnotic effect. Promethazine hydrochloride (Phenergan) was used for its potentiating action on the anaesthetic drugs, its hypnotic action, and its effect of reducing metabolism.

The anaesthetic technique was that normally used for major abdominal surgery except that slightly more pentidine and thiopentone were given than for routine cases. The patient's condition during the operation was good and there were no postoperative sequelae associated with the anaesthesia.

Macintosh and Bannister (1952) have stated that morphine addicts are not more difficult to anaesthetize than normal patients.
patients, provided the drug is not withheld pre-operatively. They recommend a slightly larger than normal dose of morphine for premedication. However, it was decided in the case described to try to avoid morphine in the 3 hours preceding operation and the last dose was given 3½ hours before induction of anaesthesia.

Minnitt and Gillies (1948), quoting Johnson, state that many of the abnormal phenomena occurring during general anaesthesia in persons addicted to morphine and alcohol are due to defective tissue oxygenation in the nervous system. The patient in the case described was given a 50 per cent mixture of oxygen which should be more than adequate for tissue oxygenation even after 2 hours anaesthesia. Promethazine, by reducing metabolism and oxygen requirements, would further protect the nervous system from oxygen lack.

An attempt was made by Abreu and Emerson (1939) to support experimentally clinical opinions that morphine addicts were relatively insusceptible to anaesthetics and that alcoholic patients were difficult to induce. They found that mice habituated to alcohol were significantly more resistant to induction with ether than were saline-treated controls. However, with mice treated daily with morphine there was a significant decrease in resistance.

Recently, Dundee, Gray, Mesham and Scott (1953) found a morphine addict resistant to their pethidine, promethazine and chlorpromazine (Largactil) “cocktail”. Autonomic blockade was incomplete and there was only a slight fall in rectal temperature.

**COMMENT**

It is felt that the pre-operative promethazine hydrochloride played a major role in the anaesthetic technique described. Although the total amount of pethidine and thiopentone used in the course of the anaesthesia was greater than might be expected for normal patients, the increase was not in proportion to the increased tolerance exhibited by the patient. She stood the operation extremely well and no unusual reaction occurred during or after anaesthesia.

**SUMMARY**

The medical history of a morphine addict is briefly described with illustrations of the high degree of tolerance to morphine and barbiturates.

An account of the anaesthetic management is given and the total amount of each drug used is stated. Promethazine hydrochloride (Phenergan) was given pre-operatively.

Literature referring to anaesthesia for morphine addicts is reviewed.

It is believed that promethazine hydrochloride played a major role in the successful management of the anaesthesia.

**ACKNOWLEDGMENTS**

I wish to thank Mr. W. Ian Gordon, under whose care the patient was admitted, for permission to publish this report and his interest in it. I am also grateful to my senior anaesthetic colleagues for their encouragement and advice.

**REFERENCES**


