

SUMMARY

A **TECHNIQUE** using a combination of drugs with minimum side effects and many advantages was used to anaesthetise patients for minor surgical procedures.

A **Hyoscine N Butyl Bromide** (Buscopan), **Diazepam** (Valium) and **Methohexitone** (Brietal) combination was used in 285 patients. Induction characteristics, intra-operative conditions and recovery were studied and analysed. It was found that this is an especially useful technique for cases of evacuation of incomplete abortion, check cystoscopies, minor skin grafts, incision and drainage of abscesses and minor trauma cases.

INTRODUCTION

THE VALUE of total intravenous Anaesthesia techniques has been well established since pollution of the operating theatre is reduced. Avoidance of repeated halothane anaesthesia prevents the possibility of halothane hepatitis. In addition, halothane does have a relaxant effect on the smooth muscle of the pregnant uterus possibly producing more bleeding.

In the past buscopan has been used as a premedicant drug. In this study it was used in combination with diazepam to add to its amnaesic effect. It also has a short duration of action on the heart and secretions. Brietal is an ultra-short acting barbiturate which is used due to its rapid recovery.

PROCEDURE

285 patients of both sexes and of different age groups (Table 1) were anaesthetised. The majority of patients in this study were for evacuation of uterus after incomplete or missed abortion (Table 2). All drugs were given in a standard

Diazepam-Hyoscine-N Butyl Bromide Methohexitone Combination for Minor Surgical Procedures

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dised way. Patients were premedicated with pethidine 1mg. per kg. body weight intramuscularly about 45 minutes before being sent to the theatre. Prior to induction; pulse rate and blood pressure were checked.

A wide bore butterfly needle was inserted in a large vein in the forearm. Induction was started by injection of diazepam 3mg. as the first dose; then incremental doses of 1mg. until the patient's eye lids covered half of the cornea or until 10mg. of diazepam was given. This was followed by 20mg. Buscopan. Brietal 30mg. was given as one bolus and the patient positioned on the table. Blood pressure and pulse rate were recorded again.

The surgeon was allowed to clean and drape; then a further 10mg. increment of brietal was

given before surgery began. Intra-operative pulse rate; blood pressure and any signs of light planes of Anaesthesia; like movements were recorded. If the movements were affecting the surgical procedure further increments of brietal were given. If conditions were still unsatisfactory; nitrous oxide and oxygen (60% & 40%) was given. These were classified as "Fair". Halothane 0.5% was given in the cases considered inadequately Anaesthetised. These cases were considered "Unsatisfactory" and the percentage is recorded in Table 4.

At the end of the procedure; the patients recovery was assessed by response to call. They were sent to the recovery room where pulse rate, blood pressure and respiratory rate were recorded. Other findings were also noted such as nausea, vomiting, pain and bleeding. Patients were kept in the recovery room for one hour as a standard procedure. In the ward, patients were visited and asked about recall of premedication, induction and intraoperative events, pain at the site of injection, abdominal pain, sickness and vomiting. Patients were allowed to go home after a minimum of six hours if they were daycases. Time of walking without support was noted in each patient. The results were analysed in Tables 5, 6.

DISCUSSION

Diazepam has been used as the sole agent or as an induction agent by various workers (Campan and Espagno 1964; Stouder and Edresen 1965 & 1966; Brown and Dundee 1968). For these purposes it was given at a dose ranging from 0.2 to 0.8 mg. per kg. The main disadvantage of such a dose was due to the delayed metabolism of diazepam into N-desmethyl

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diazepam and oxazepam; which are pharmacologically active. The concentration of these products after an initial fall; rises within 6 to 8 hours and again after 22 to 24 hours; producing sedation. When such large doses are avoided; the possibility of resedation does not arise. The use of Buscopan and Brietal helps reduce the dose of diazepam and hence these problems. The small doses of diazepam used still produced useful effects like retrograde amnesia; relief of anxiety and minimal cardiovascular and respiratory disturbances. It was noted that this combination also avoided the spasm of vocal cords in cervical dilatation. Buscopan is a potent belladonna drug. It is short-acting; has good drying effects and in addition; is a good amnaesic and sedative. The unpleasant action of the belladonna group like dry mouth and tachycardia were rarely seen after the procedure; as buscopan is short acting and its action over by the time the minor surgical procedures were complete.

Buscopan also has an inhibitory effect on peristalsis and helps prevent vomiting and sickness. Such advantages are not seen with atropine or hyoscine hydrobromide (Scopolamine) given intramuscularly.

Methohexitone though a barbiturate derivative is twice as potent as thiopentone and is metabolised three times faster. (Barson et al 1966; Taylor et al 1960). Hence the duration of action is shorter and is less cumulative. Brietal has little effect on the blood pressure and no bronchospasm is seen; so it is preferred in asthmatics. It produces occasional muscular twitching and hiccup

which were rarely seen because of the prior injection of diazepam (Table 7).

The combination of these three drugs reduces the dangers of over-sedation and resedation which may occur with diazepam alone if given as the sole anaesthetic. At the same time it produces good sedative and amnaesic effects without causing undue changes in pulse, blood pressure or respiration. With a good narcotic premedication it produces good introoperative conditions for surgery and smooth, rapid recovery afterwards. Most of the patients for evacuation of uterus did not have the troublesome bleeding which occurs with halothane, and many of these patients did not require ergometrine. By eliminating the use of halothane, theatre pollution and its possible harmful effects are avoided. It is especially suitable for those patients who need repeated anaesthesia at short intervals.

Due to the minimal cardiovascular disturbances of this combination of drugs, potentially risky patients can be safely anaesthetised (Table 9). In the recovery room most of the patients were found to be free of nausea and vomiting and other post-operative problems (Table 6 & 7).

CONCLUSION

This was a study using a combination of intravenous drugs which provided good operating conditions and few side effects. It was well accepted by the patients, easily managed by the anaesthetist, with minimal effects on the theatre personnel. We found it to be useful in many minor surgical procedures.

Table 1
No. of patients 285.

Male	Female	Mean age
59	226	33 years
(S.D. \pm 13.73) (18 yrs — 70 yrs)		

Table 2
Types of Surgery

Gynaecology	210
Urology (cystoscopy)	14
Haemorrhoidectomy	13
I & D of abscesses	14
Fracture reductions	8
Suturing of injuries	24
Skin grafting	2

Table 3
Duration of Anaesthesia

Time (minutes)	No. of patients.
1 - 15	198
16 - 30	50
31 - 45	31
46 - 60	3
above 60	3

Table 4
Operative Conditions

	<i>No. of patients</i>	<i>Percentage</i>
Satisfactory	237	83.16%
Fair	40	14.03%
Unsatisfactory	8	2.81%

Table 5
Recovery Index

	<i>No. of patients</i>	<i>Percentage</i>
Response to oral commands in O.T.	238	83.5%
Ability to raise the head within 10 minutes	173	60.1%
Ability to walk without support within 2 hours	243	85.3%

Table 6
Question asked to Patients and Number of Positive Replies

	<i>No. of patients</i>	<i>Percentage</i>
Pain at the site of injection	25	8.8%
Abdominal pain in gynae. patients	3	1.4%
Dreaming	—	—
Nausea & vomiting	6	2.11%
Recall of (a) Pre-induction phase	44	15.4%
(b) Induction phase	19	7.4%
(c) Intraop. phase	—	0

Table 7
Other Relevant Particulars

	<i>No. of patients</i>	<i>Percentage</i>
Excessive movement	39	13.7%
Hiccup	5	1.8%
Vomiting	5	1.8%
Crying (out of 210 gynae. pts.)	13	4.6%

Table 8
Dosage of Methohexitone used

(40 - 130 mg.)	Mean 79.36 mg. (S.D. \pm 32.78)
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Table 9
Risky Cases

1. 27 yrs. old female with 7 G % HB, with cardiomyopathy, hypertension; treated with digoxin, L- thyroxine and diuretics : for D & C;
Dose of Diazepam 5mg., Methohexitone 80mg., Buscopan 20mg. with N2O and O2 (60 & 40%) with 0.5% halothane.
2. 32 yrs. old female for D & C; Bronchial asthmatic. Obese with history of postanaesthetic pyrexia.
Dose of Diazepam 7.5mg., Buscopan 20mg., methohexitone 80mg.
3. 30 yrs. old asthmatic wheezing, on steroids and for

emergency evacuation of uterine remnants.

Dose Diazepam 7.5mg.,
Buscopan 20mg.,
Methohexitone 90mg.

4. 29 yrs. old male, who underwent major vascular grafts 2 days previously with 8.6 G. HB, for above knee amputation.

Dose of Buscopan 20mg.,
Diazepam 5mg., Brietal 50mg.

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