A SHORT SURVEY OF METHYLPENTYNOL

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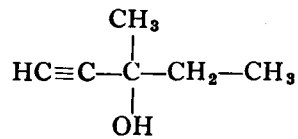
OVER the last few months there has been considerable interest aroused by the medical and the more sensational lay press regarding the "confidence" drug "Oblivon" and the possibilities it may embrace. The medical reports warrant further interest, and after trial in a few selected cases the field was extended to include a variety of procedures and diseases. This was started six months ago and nearly two hundred cases were used—a small series for the purpose. Naturally with a potentially fit Service population the numbers are not by any means large and the uses varied widely. A brief description of the drug will be given and the results obtained will be analysed. There follows a survey of the conclusions as reported from other trials.

METHYLPENTYNOL

It is reported that certain members of the group of compounds called the simple unsaturated aliphatics possess certain features in common, but so far the one of greatest possible clinical use is the 3-methyl pentyne-ol-3, more widely known as methylpentynol or "Oblivon." It is a mild sedative hypnotic. It is distinct chemically and pharmacologically from the barbiturates. Its action is rapid and brief, being more rapidly absorbed, quickly metabolized, and having no cumulative toxicity. It has no analgesic properties, does not depress respiration and is not an antispasmodic. It appears to have a clinical action within five to ten minutes, and to be effective for about one hour. It is completely metabolized within two hours. Urine analysis and blood examination have shown no change attributable to the drug. No undesirable side effects have been noticed even when given over a period of six months.

It is interesting to note that methylpentynol consists of only carbon, hydrogen and oxygen as opposed to most known sedative hypnotics.

The structural formula is :



The drug has no attributable effects on the electro-encephalogram patterns for normal physiological sleep.

RESULTS OF TRIAL

A total of a 194 cases were selected. They were selected for the obvious reason that there was no benefit to be derived from administering the drug to the completely stable, undisturbed patient when the whole exercise was to determine the usefulness of the drug with the apprehensive and nervous unco-operative pat ent. The accent was necessarily on ear, nose and throat cases and those of allied departments owing to the investigator's speciality. In all patients the administration of the drug was regarded as part of the treatment and the patient's attention was not too obviously drawn to the anticipated effect of the drug. It was thought that explanations pre-operatively might engender false results. The elixir was given in almost all cases rather than capsules so that higher doses could be given more easily if necessary and possibly more uniformity of absorption obtained. Unfortunately, the drug has a strong "spearmint" flavour which can be masked to some extent by concentrated fruit juices. It is understood that efforts to produce a better flavour have so far failed owing to the reduction of the stability of the drug. The dosages were kept uniform so that adults received 500 mg. (8 ml. of elixir or two capsules) and children 250 mg.

Out of a total of 105 antrum punctures good results were obtained in 85 cases, the operator feeling that the patient was not uneasy, and there were no after-effects or "hangovers." In 13 cases there was slight subjective sensation from the drug, in 7 no effects at all. No cases showed side effects. Similar results were obtained in cases for removal of nasal polypi, cauterization of nose, and in a few other minor procedures. In removal of tonsils and adenoids by the dissection method premedication consisted of atropine and methylpentynol. Twenty-five cases were observed. In two cases the methylpentynol was given ten to fifteen minutes prior to going to the theatre, but in the remainder this was extended to an hour. It was considered that the troublesome nausea experienced earlier would be reduced, and when used as a premedication absorption appears to be significantly slower. Although the children were not necessarily asleep on arrival in the theatre, induction of anæsthesia was smooth. There were no after-effects except in two cases where the premedication had been given early. Post-operative vomiting occurred, but with an increased time interval this was overcome. As an hypnotic in patients who had hitherto taken barbiturates, methylpentynol was used successfully over long periods. This was in home conditions and would most probably be unsuccessful under ward or institutional conditions in producing the required sleep.

In three out of four asthmatics with an asthmatical attack the results were surprising, but there was no response at all in the one case. In dental cases the drug seems to have a definite advantage, and dental officers report that it has its use not only prior to extraction but also in the examination of recruits, some of whom have never seen a dentist before and are especially apprehensive. Two bronchograms were done with success, one of which had previously failed due to the patient's nervousness and lack of co-operation. Two patients with mild tinnitus following trauma were helped in getting off to sleep, with no after

effects. Throughout the series the patients were carefully observed prior to giving the drug and questioned afterwards and in a good many cases questionnaires were completed. Such reports as "I wish I always felt the same," or "I always faint when I have my T.A.B. injections," were all too common.

Table of results of trial

Type of case	Total	Good results	Some useful effects	Side effects	No effects
Antrum washouts	105	85	13	0	7
Nasal polyp	7	5	2	0	0
Nasal cauterisation ...	15	12	3	0	0
Tonsils, adenoids (children)	25	20	3	2	0
Circumcision (children) ...	2	2	0	0	0
Asthma	4	3	0	0	1
Dentals	30	25	4	0	1
Bronchogram	2	2	0	0	0
Hypnotic, long term ...	2	2	0	0	0
Mild tinnitus—hypnotic ...	2	2	0	0	0
Total	194	158	25	2	9

SURVEY OF THE LITERATURE

This survey covers the more important literature published on methylpentynol and reveals the differing opinions on the real usefulness of the drug.

Bourne (1954) conducted an investigation into methylpentynol in labour and found no contraindications, and noted that patients with fear and apprehension of such a degree that they would have been difficult to handle, or would have required an increased amount of sedation, seemed to respond best. Young (1954) reports increased post-operative restlessness occasionally in children following eye operations, but was very encouraged by the pre-operative state of the children. Satisfactory results with electro-encephalography in children were obtained by using the drug as a mild sedative in doses up to 750 mg. (Tükel & Tükel, 1952). Tuberculous children were reported by Malone, Klimkiewicz & Gribetz (1952) to gain more than twice as much weight in four months than those not receiving the drug. This they attributed to relief of tension and wakefulness.

Trotter (1953) found that 42.5 per cent. of patients were apprehensive prior to extractions under local anæsthesia, while with the use of methylpentynol 94.5 per cent. of patients were entirely freed of apprehension. 500 mg. were given ten to fifteen minutes prior to administering the local anæsthesia. Psychological effect of administering the drug was ruled out by the use of a control capsule containing an inert substance. There were no toxic or after effects in any patients.

Glatt (1954) gave 250 mg. to 1,250 mg. to a series of fifty alcoholics in an institution to induce sleep. The results were not unsatisfactory and those who had wakeful nights said they felt calmer and relaxed and went to bed less fearful of possible sleeplessness. No harmful side effects were noted. Most of

the patients after a few weeks were able to sleep without sedation. Boag (1954) found no success using methylpentynol as an alternative to barbiturate hypnotics, particularly with the customary nocturnal noise of hospital wards, but thought it might be useful in patients' homes for treatment of insomnia. He did, however, note success in a number of ward procedures such as lumbar punctures, paracenteses and biopsies.

Davis (1954) also found that in confirmed barbiturate addicts it was difficult if not impossible to wean such patients on to methylpentynol. He thought the indications differed and considered methylpentynol permitted sleep by counteracting mild emotional tension rather than by inducing sleep as do the barbiturates. Exton-Smith (1954) used the drug to allay the anxiety prior to administration of a barium enema. The radiological examination was facilitated by the patient's fullest co-operation. He also gave methylpentynol to asthmatics in four-hourly doses as long as the attack lasted.

May & Ebaugh (1953) found favourable results as a sedative in elderly patients where the mental confusion of barbiturates was overcome. Christine Rendell (1954) reported 62 cases of premedication before removal of tonsils and adenoids in children. She found the drug filled the desired requirements but failed to produce sleep. The children, however, arrived in the anæsthetic room without exception quite happy, co-operative, and sometimes sleepy. The elixir was given at one and a half hours pre-operatively and in the dosage of 500 to 750 mg.

It is now found to be useful in migraine in abating the attack at the onset. There has been evidence to suggest the use of methylpentynol in stammering, travel sickness, and in mild sexual neuroses.

CONCLUSION

While the trial described here is small and limited, the review of the literature leaves no doubt as to the already proven usefulness of methylpentynol in such clinical applications as minor surgery, alcoholism, obstetrics, dentistry, etc. It seems likely, too, that the field may be extended even more, especially with the development of the drug or its biochemical allies.

The popularity of the drug in the lay press arises, of course, from the social uses which cannot be ignored—*e.g.*, prior to interviews, examinations and public appearances. It is interesting also to envisage a likely use of the drug or some similar combination in times of apprehension or need for building morale under circumstances of atomic warfare, assault landings, paratroop training, etc.

The whole essence of the indications for methylpentynol must be a state of apprehension or nervous tension for which the drug appears to be a specific.

Toxicity is practically absent, and two deaths so reported were in point of fact cases where more than one barbiturate in addition had been involved.

I would like to thank British Schering Ltd. for their liberal supply of the drug and for their kind co-operation.

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