Clinical Trial

DOUBLE BLIND TRIAL OF DEXTROMORAMIDE, METHADONE AND PETHIDINE IN THE TREATMENT OF SEVERE PAIN

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Severe pain is a recurrent problem in the treatment of many diseases, and its relief is an important part of the management of the illness. Many analgesics are in existence but few are really effective in therapy. Most people are still agreed that the drugs of the opiate group are probably the most effective for pain relief. Unfortunately, the use of these drugs is marred by bias and erroneous conclusions and has been found to be an effective and safe in this trial. For well-established and widely-used analgesic, it has been described by Janssen (1960), (1961), Deng, (1961), and Mats (1962); and it has been found to be an effective and safe analgesic in clinical practice.

Table 1—Dextromoramide 10 mg.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Length of effects (hours)</th>
<th>Side-effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raynaud’s disease</td>
<td>3</td>
<td>Nil</td>
</tr>
<tr>
<td>Diabetic gangrene</td>
<td>3</td>
<td>Nil</td>
</tr>
<tr>
<td>Pleurisy</td>
<td>4</td>
<td>Nil</td>
</tr>
<tr>
<td>Carcinomatosis</td>
<td>3</td>
<td>Nil</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage</td>
<td>4</td>
<td>Nil</td>
</tr>
<tr>
<td>Pleurisy</td>
<td>6</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage</td>
<td>6</td>
<td>Nausea</td>
</tr>
<tr>
<td>Coronary thrombosis</td>
<td>5</td>
<td>Nil</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage</td>
<td>12</td>
<td>Nausea</td>
</tr>
<tr>
<td>Carcinomatosis</td>
<td>No</td>
<td>No side-effects</td>
</tr>
<tr>
<td>Severe rheumatoid arthritis</td>
<td>5</td>
<td>Nil</td>
</tr>
<tr>
<td>Diabetic gangrene</td>
<td>4</td>
<td>Nil</td>
</tr>
<tr>
<td>Angina</td>
<td>4</td>
<td>Nil</td>
</tr>
<tr>
<td>Cervical spondylosis</td>
<td>6</td>
<td>Nil</td>
</tr>
<tr>
<td>Coronary thrombosis</td>
<td>6</td>
<td>Nil</td>
</tr>
<tr>
<td>Pleurisy</td>
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<td>Nil</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage</td>
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</tr>
<tr>
<td>Cerebral tumour</td>
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<tr>
<td>Severe migraine</td>
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<td>Dizziness</td>
</tr>
<tr>
<td>Cerebral hemorrhage</td>
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<tr>
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<td>12</td>
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<td>4</td>
<td>Nil</td>
</tr>
<tr>
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</tr>
<tr>
<td>Coronary thrombosis</td>
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<td>Faintness and dizziness</td>
</tr>
<tr>
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<td>4</td>
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</tr>
<tr>
<td>Lumbar spondylosis</td>
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<tr>
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</tr>
<tr>
<td>Gangrene</td>
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<td>Pleurisy</td>
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<td>Nil</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage</td>
<td>8</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Summary

30 patients; 29 obtained relief of from 1 to 12 hours, 5 patients developed side-effects—no respiratory depression.

Method

Three lots of tablets were prepared externally completely identical. Each tablet contained either 5 mg. of...
were assessed pain. The assessment.

Severe

Pleurisy

Pleurisy

Diabetic gangrene

Severe rheumatoid arthritis

Subarachnoid haemorrhage

Coronary thrombosis

Pleurisy

Disabling rheumatoid arthritis

Severe angina

Diabetic gangrene

Pleurisy

Sciatica

Diabetic gangrene

Pleurisy

Sciatica

Subarachnoid haemorrhage

Severe angina

Diabetic gangrene

Sciatica

Osteoporotic vertebral collapse

Angina

Osteoporotic vertebral collapse

Pleurisy

Cervical spondylosis

Coronary thrombosis

Cerebral tumour

Sciatica

Carcinomatosis

Axillary abscess

dextromoramide, 5 mg. of methadone or 50 mg. of pethidine. The dosage range of dextromoramide is from 5 to 10 mg., of methadone 5 to 10 mg., and of pethidine 50 to 100 mg. In order to obtain a standard effect it was decided to give the upper range of dosage and therefore all patients would be treated with either 10 mg. of dextromoramide, 10 mg. of methadone or 100 mg. of pethidine, this dose being contained in two tablets. Thus all the patients were prescribed two tablets of one of these analgesics, which were identified by letters A, B or C. Only the pharmacist knew which was which of these and this knowledge was not revealed until after the entire trial was completed. Thus neither doctors, nurses nor patients were aware of the contents of the tablets at the time of the trial and assessment. The patients were those admitted to a general medical ward and were suffering with a variety of conditions which had produced severe pain. They were assessed by the authors and were adjudged as being in need of a powerful analgesic because of this severe pain. Having thus been included in the trial they were prescribed, by a method of random selection,

either analgesic A, B or C. The results of therapy were recorded from the observations of the medical staff, nursing staff and the statements of the patients themselves as regards their feeling of relief from pain, the duration of this relief and the occurrence of any side-effects. An analysis of the results can be seen in Tables 1, 2, 3 and 4.

Results

As can be seen from the tables, differences between the three groups were not great. A total of 90 patients in all were included in the trial. In the dextromoramide group (30 patients) 29 patients obtained relief from pain and five patients developed side-effects, none of these being respiratory depression. In the methadone group (30 patients) 29 patients obtained relief of pain, 9 patients experienced side-effects, two of these being respiratory depression. In the pethidine group (30 patients) 25 patients obtained relief of pain and eight patients developed side-effects, two of which were
respiratory depression. The best average duration of relief of pain was dextromoramide with 4.4 hours, methadone came second with 3.8 hours and pethidine last with 3.6 hours.

**Discussion**

The use of oral analgesics is considerably larger than those given by injection because of their ease of administration. It is therefore important to know the relative efficacy and dangers of analgesics in common use. The trial results appear to confirm the clinical impression held by many people that there is little difference between the more powerful oral analgesics. However, dextromoramide does show marginal advantages over the other two agents. The average duration of pain relief was slightly higher, the incidence of side-effects lower than those of the agents.

In particular value outside hospital practice where relief of pain was dextromoramide with 4.4 hours, slightly higher, the incidence of side-effects lower than those of the agents. Although it is said that 'man made aspirin, morphine came from heaven', a patient suffering severe side-effects from morphine may well feel that the direction of origin of morphine may have been reversed! For this reason alternatives to morphine should always be considered, and of these the three employed in this trial are acceptable, with the evidence pointing to a marginal advantage to dextromoramide, particularly in cardio-respiratory or cerebral conditions.

**Summary**

A double-blind trial of dextromoramide, pethidine and methadone in severe pain was carried out. The results are not strikingly different, but marginal advantages in favour of dextromoramide do emerge, particularly for home use or in cardio-respiratory or cerebral cases.

### REFERENCES


Double Blind Trial of Dextrromoramide, Methadone and Pethidine in the Treatment of Severe Pain

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Postgrad Med J 1964 40: 103-105
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