ORAL PENTAZOCINE AND PHENAZOCINE: A COMPARISON IN POSTOPERATIVE PAIN

BY

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SUMMARY

Orally administered pentazocine (Fortral) and phenazocine (Narphen) were compared for analgesia and side effects in a single-dose study of 284 patients with postoperative pain. Pain was assessed separately by patients and observers. Patients who were in moderate pain experienced better pain relief with pentazocine 75 mg than phenazocine 5 mg at 1 hour. There was a trend throughout for observers to assess pain as less severe when compared to the opinion of the patients. The incidence of side effects was low with both drugs. Pentazocine is a useful postoperative analgesic which is free from DDA restrictions.

Numerous clinical trials with the injectable form of pentazocine have demonstrated a good analgesic action with few side effects and a previous study in our hospitals (Conaghan et al., 1966) made these points in a comparison with phenazocine. In that trial pentazocine 38 mg gave, on average, analgesia equivalent to phenazocine 2.6 mg.

Recently pentazocine was introduced in tablet form. The object of the present investigation was to compare the same two drugs, given postoperatively in a single-dose trial. Serial assessments of pain were made separately by nurse-observers and patients and a wide variety of operations were included so as to resemble conditions that normally obtain in a general hospital situation.

METHOD

Patients were of either sex aged 16–75. None of those who had abdominal operations suffered from peritonitis. Patients who were pregnant, taking mono-amine oxidase inhibitors or suffered from renal or hepatic diseases were excluded, together with those weighing less than 50 kg or more than 100 kg. A single dose was given to each patient as soon as it was possible and necessary to administer an oral analgesic. Many had previously had intramuscular injections, but the effect of these and of the anaesthetic had worn off before the oral administration of the drug. The patients were bedfast during the 4 hour trial period.

The doses of the drugs, allocated to the patients in a predetermined random order were one 5 mg tablet of phenazocine or two 25 mg tablets of pentazocine. The person who administered the drugs did not also make the assessments, so the assessor was unaware which treatment was given. After about 100 patients had been treated, the dose of pentazocine was increased to three 25 mg tablets and the trial continued.

For each patient there was an envelope to record details of the patient, and four cards on which were noted the patient’s and observer’s assessment of pain, concomitant therapy and reports of side effects, at the time of the dose and at 1, 2 and 4 hours respectively. The cards were filed in the envelopes to avoid bias which may have occurred due to back reference. In addition, blood pressure was taken at the time of administration and 1 hour later.

It was intended that the number of observers in the trial be kept to a minimum and that all assessments relative to one patient be made by the same observer. It was not possible to keep to this last condition in a few cases because the last assessment was made 4 hours after the first, when observers had changed duties.

When the pain assessments were made, a standard question “How is your pain?” was asked. The observer also recorded an opinion. The

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patient was then asked “Do you feel well otherwise?” from which side effects were elicited.

RESULTS

Full details were available for 284 patients, 141 who had received phenazocine 5 mg, 57 pentazocine 50 mg, and 86 pentazocine 75 mg. Because of the different totals in each group, the numbers of patients will be converted to percentages of the totals for that group in some places to make between-group comparisons easier.

Sex and age.

The 284 patients consisted of 100 males and 184 females, and the between-treatment distributions of sex were similar.

The distribution of age among the males was unimodal with one peak, at 60–69 years, and the between-treatment distributions were similar. However, the age distribution of the females was bimodal, the peaks occurring at 30–39 years and 60–69 years. The age structure of the females was similar to that of the males, but with the addition of a younger group of patients who were undergoing mainly gynaecological operations.

Types of operations (table I).

Over half (52 per cent) had “intermediate” operations in general surgery, 17 per cent major abdominal general surgery and 5 per cent major neck or chest general surgery. A further 20 per cent had gynaecological operations and 6 per cent orthopaedic operations, and the differences between the drug groups are nowhere statistically significant.

The sample of patients who took part in this clinical trial was heterogeneous. While there were some imbalances between treatment groups especially with regard to age, differences are nowhere statistically significant. In the following tables the responses of the patients have been examined according to their initial level of pain, without regard to these other factors which we consider to be of less importance.

Interval between operation and trial drugs (table II).

In each group, the modal interval is 24–36 hours and the between-treatment distributions are not dissimilar.

Patient's assessment of pain (table III).

More than half the patients, 53 per cent, assessed their initial pain as moderate, and the differences between the treatment groups are not statistically significant.

As in our previous study of intramuscular pentazocine and phenazocine (Conaghan et al., 1966) pain relief scores (PRS) were computed by subtracting the pain intensity score at a given

<table>
<thead>
<tr>
<th>Drug</th>
<th>Percentage of patients with operation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>Pentazocine 50 mg</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Pentazocine 75 mg</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Phenazocine 5 mg</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>All groups</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
</tbody>
</table>

A=Gynaecological operations (i.e. repair of pelvic floor, hysterectomy, and tubal ligation).
B=Intermediate general surgical operations (i.e. appendicectomy, hernia, haemorrhoidectomy, saphenous ligation).
C=Major abdominal operations (mainly cholecystectomy, gastrectomy and prostatectomy).
D=Orthopaedic operations (i.e. mainly amputation, meniscectomy and Keller's operation).
E=Major operations of the chest and neck (i.e. mainly mastectomy, thyroidectomy and excision of the submandibular gland).

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Percentage distributions of interval between operation and trial drug.

<table>
<thead>
<tr>
<th>Drug</th>
<th>&lt;12</th>
<th>12&lt;24</th>
<th>24&lt;36</th>
<th>36&lt;48</th>
<th>48+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentazocine 50 mg</td>
<td>9</td>
<td>35</td>
<td>42</td>
<td>5</td>
<td>9</td>
<td>100% (37)</td>
</tr>
<tr>
<td>Pentazocine 75 mg</td>
<td>5</td>
<td>27</td>
<td>49</td>
<td>6</td>
<td>13</td>
<td>100% (86)</td>
</tr>
<tr>
<td>Phenazocine 5 mg</td>
<td>1</td>
<td>42</td>
<td>50</td>
<td>1</td>
<td>6</td>
<td>100% (141)</td>
</tr>
<tr>
<td>All groups</td>
<td>4</td>
<td>36</td>
<td>48</td>
<td>4</td>
<td>8</td>
<td>100% (284)</td>
</tr>
</tbody>
</table>

Lasagna and De Kornfeld (1960) have shown that when a patient is sleeping in the postoperative period, this is not necessarily an indication of effective analgesia in the sense that there would be no report of pain if the patient were wakened. Since we did not consider it justifiable to waken our patients in order to rate pain, pain intensity was not recorded for patients asleep, and thus no pain relief score could be computed for the period concerned.

Patient's assessment of pain “mild” at time of dose.

The numbers of patients in the two pentazocine groups (15 and 16 respectively) were considered too small to calculate reliable percentages. However, the sum of the numbers in the two groups is quite large and allows a (statistical) comparison between pentazocine (dose unspecified) and phenazocine 5 mg.

The distributions between the two drug groups at 2 and 4 hours are similar: about 50 per cent of patients obtained complete relief of pain (PRS 1) and about 10 per cent were asleep. At 1 hour the percentage of patients asleep was lower in the pentazocine group than in the phenazocine group (3 per cent v. 13 per cent, difference not statistically significant). The percentage with no pain relief (PRS 0) was higher in the pentazocine group (61 per cent v. 47 per cent, difference not statistically significant). It should be noted that within each group the percentage with complete relief increased with time. In fact, none of these patients asked for another analgesic, and thus all had partial relief, not indicated by this system of pain scoring. The peak mean PRS in patients in the mild pain group was 0.57 for both pentazocine groups together, and 0.56 for phenazocine (table IV).

Patient's assessment of pain “moderate” at time of dose.

At each assessment the percentage of patients in each group who were asleep was 10–15 per cent with the exception of the phenazocine group at 4 hours when the figure was 6 per cent. Also at each assessment, the percentage with complete pain relief (PRS 2) was highest in the pentazocine 75 mg group, and lowest in the phenazocine group, and within each drug group this percentage increased with time. The two pentazocine groups are similar in the distribution of the percentages with the various pain relief scores, so it is possible to combine the results in these two
groups and compare the combination with the results in the phenazocine group. At 1 hour the difference between the pentazocine groups combined and the phenazocine group in the percentage of patients with complete pain relief (21 per cent v. 8 per cent) is statistically significant (P<0.05). At 4 hours, the corresponding difference (47 per cent v. 31 per cent) does not quite reach the 5 per cent level of statistical significance, and at 2 hours the percentages are similar (29 per cent v. 27 per cent).

The peak mean PRS in patients with moderate pain was 1.26 for pentazocine 50 mg, 1.50 for pentazocine 75 mg, and 1.19 for phenazocine 5 mg (table IV).

**Patient's assessment of pain "severe" at time of dose.**

The small number of patients in the pentazocine 50 mg group, i.e. 16, makes the percentages unreliable.

At 1 hour, the percentages of patients asleep in the pentazocine 75 mg group was 3 per cent and in the phenazocine group was 15 per cent (difference not statistically significant). At later times the percentages were higher, about 20 per cent in each group. In the pentazocine 75 mg group, the percentage with complete pain relief (PRS 3) increased from zero at 1 hour to a maximum of 20 per cent at 4 hours. The percentages for the phenazocine group were similar; zero at 1 hour to a maximum of 18 per cent at 4 hours. The differences between the two drug groups are not statistically significant. The percentage with no pain relief (PRS 0) in the pentazocine 75 mg group decreased from 13 per cent to 7 per cent and on each occasion was thus less than the corresponding percentage in the phenazocine group (22–18 per cent), but the differences between the groups are not statistically significant. The peak mean PRS in patients with severe pain was 1.15 for pentazocine 50 mg, 1.96 for pentazocine 75 mg, and 1.59 for phenazocine.

**General comment.**

The differences between the mean PRS are noticeably large at 4 hours, where patients' assessments of pain are moderate or severe initially. The differences between the means just fail to reach the 5 per cent level of statistical significance (Kruskal-Wallis test). None of the other differences between the means are statistically significant either. However, there does seem to be a definite trend for pentazocine 75 mg to be the best, followed by phenazocine 5 mg, and then pentazocine 50 mg.

There is also a trend for the mean pain relief scores to increase up to the last assessment at 4 hours. Figure 1 shows the mean (patient) pain relief scores for those patients who were in moderate or severe pain initially. At 4 hours, the mean PRS was lowest in the pentazocine 50 mg group and highest in the pentazocine 75 mg group.

**Observer's assessment of pain (table V).**

For more than half of the patients (57 per cent) the observer assessed the pain as "moderate". Compared with the other two groups, the phenazocine group had relatively more patients in moderate pain as opposed to severe pain, but the differences between the drug groups are not statistically significant.

In the combined pentazocine group of patients with mild pain, the peak mean PRS was 0.71 (table VI). In the phenazocine group the figure was 0.62. In patients with moderate pain the percentage with complete pain relief (PRS 2)
Mean pain relief scores. Patient's assessments of pain, moderate or severe initially.

**TABLE V**
Percentage distributions of observer's assessment of pain at time of dose.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentazocine 50 mg</td>
<td>28</td>
<td>53</td>
<td>19</td>
<td>100%  (57)</td>
</tr>
<tr>
<td>Pentazocine 75 mg</td>
<td>21</td>
<td>52</td>
<td>27</td>
<td>100%  (86)</td>
</tr>
<tr>
<td>Phenazocine 5 mg</td>
<td>26</td>
<td>62</td>
<td>12</td>
<td>100%  (141)</td>
</tr>
<tr>
<td>All groups</td>
<td>25</td>
<td>57</td>
<td>18</td>
<td>100%  (284)</td>
</tr>
</tbody>
</table>

The patient's and observer's assessment of pain intensity are compared for all drug groups com-

Mean pain relief scores. Observer's assessments of pain, moderate or severe initially.

**TABLE VI**
Observer's assessment of pain. Mean pain relief score.

<table>
<thead>
<tr>
<th>Mean pain relief score in group receiving</th>
<th>Observer's assessment of pain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild initially</td>
</tr>
<tr>
<td></td>
<td>1 hr</td>
</tr>
<tr>
<td>Pentazocine 50 mg</td>
<td>0.62</td>
</tr>
<tr>
<td>Pentazocine 75 mg</td>
<td>0.63</td>
</tr>
<tr>
<td>Phenazocine 5 mg</td>
<td>0.53</td>
</tr>
</tbody>
</table>
bined and all categories of initial pain in figure 3. It will be seen here and in tables III and V that the observer consistently assessed the pain as less severe than the same pain assessed by the patient.

Effect on blood pressure.
The drugs had no appreciable effect on the blood pressure.

Side effects (excluding "sleepy" and "drowsy") (table VII).
Complaints of side effects were made in reply to the standard question "Do you feel well otherwise?", which was asked at each of the four assessments. If a patient complained of, say, nausea, at the time of the dose and again at a later assessment, then the later complaint was not regarded as a drug-induced side effect. Also, if a complaint was made only at the 4 hour assessment it was unlikely to be drug-induced. Isolated complaints at the 4 hour assessment were therefore disregarded.

Two patients had the same side effects (light-headedness and nausea) from other drugs as well as the trial drugs; these were anaesthetics and opiates. These complaints, however, have been included in the analysis.

Within the limitations of the remarks above, no distinction has been made between the occasion(s) on which a complaint was made by a patient, i.e. whether the complaint was at 1 hour, 2 hours, or on more than one occasion.

The between-drug distributions of numbers of side effects complained of are similar. For all treatment groups combined, 16/100 males (16 per cent) reported a total of 22 side effects (i.e. 1.4 side effects/male) and 29/184 females (16 per cent) reported a total of 35 side effects (i.e. 1.2 side effects/female). The percentages of males and females reporting side effects are equal and the average number of side effects is very similar. Hence in the table, showing the numbers of patients with individual side effects, the results for each sex have been combined.

The most common complaints were of hotness (12/284 patients, 4.2 per cent), dizziness (9 patients, 3.2 per cent), and nausea (7 patients, 2.5 per cent). It is remarkable that for each of the gastro-intestinal and nervous system side effects.

### Table VII

<table>
<thead>
<tr>
<th>Side effect</th>
<th>Pentazocine 50 mg</th>
<th>Pentazocine 75 mg</th>
<th>Phenazocine 5 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastro-intestinal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Vomiting</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Stomach ache</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flatulence</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nervous system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Vertigo</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Lightheaded</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Headache</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Shaky</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Autonomic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid pulse</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Hot</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Sweating</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Total number of patients in group

| Group        | 57 | 86 | 141 |

"Hot" includes "Hot and Cold" (one patient) and "High temperature—102°F" (another patient). "Dry mouth" includes "Thirsty" and "Funny taste" (one patient each).
effects, with the exception of dizziness, the incidence was higher in the pentazocine 50 mg group than in the pentazocine 75 mg group. However, the incidences of the autonomic side effects are at least as high in the pentazocine 75 mg group. The incidence of individual side effects in the phenazocine group was of approximately the same magnitude as in the other two groups; however, considering the side effects according to the three types, gastrointestinal, nervous system and autonomic, did not reveal any consistent pattern. The differences between the treatment groups in the incidences of individual side effects are not statistically significant.

One man experienced an hallucination 1 hour after the dose of pentazocine 75 mg. He said he saw “nice dreams, lots of sandwiches, bottles of wine, beautiful red lips”.

Sedation.

The answer to the question “Do you feel well otherwise?” was sometimes “sleepy” or “drowsy” (table VIII). Alternatively, the patient may have been asleep and this information may have been given at 1, 2 or 4 hours after the dose.

The table shows that 10 per cent of all patients were asleep 1 hour after taking the tablets. Only 2 per cent of patients were drowsy. It would be expected that this figure would be several times the percentage actually asleep.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Percentage of patients at 1 hour</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentazocine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 mg</td>
<td>Awake 90, Drowsy 5, Asleep 5</td>
<td>100%</td>
</tr>
<tr>
<td>75 mg</td>
<td>Awake 93, Drowsy - , Asleep 7</td>
<td>100%</td>
</tr>
<tr>
<td>Phenazocine</td>
<td>5 mg</td>
<td></td>
</tr>
<tr>
<td>5 mg</td>
<td>Awake 85, Drowsy 2, Asleep 13</td>
<td>100%</td>
</tr>
<tr>
<td>All groups</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

The percentages of patients asleep are similar in the two pentazocine groups (5 per cent and 7 per cent) and can therefore be combined. The difference between this figure, 6 per cent and the higher figure in the phenazocine group, 13 per cent, does not quite reach the 0.05 level of statistical significance. Two hours after the dose, the percentages asleep in each group were 15–17 per cent and those drowsy 1–5 per cent. At 4 hours, the percentages asleep in each group were 9–13 per cent, those drowsy about 1 per cent. The between-treatment distributions are similar at 2 and 4 hours.

DISCUSSION

Method.

Parkhouse and Holmes (1963) prefer one or two trained observers to assess the degree of postoperative pain. Nevertheless, in the numbers used in this study, several albeit usually experienced observers classed the pain throughout consistently as slightly less severe than did the patient.

We used the generally accepted three grades of pain, severe, moderate and mild. “Excruciating” or “unbearable” pains (Beecher, 1959) were not classed as a fourth grade, and it would not have been appropriate to treat such patients by the oral route. Patients asleep were excluded (Lasagna and De Kornfeld, 1960; Ward-McQuaid, 1969), but patients in pain may well prefer to sleep. In the same way drowsiness after operation might be regarded as desirable rather than a side effect, provided the patient could co-operate.

Patients after surgery are constantly exhorted at least to take deep breaths and move their legs, and they respond with varying degrees of enthusiasm. This makes it very difficult to assess mild pain, particularly with the relatively crude scoring method we used. The mild pain may be complained of only on movement, and then it depends on how much movement, and of what parts of the body, particularly in bedfast patients. Also mild pain may demand relief or may not. If patients in mild pain at 4 hours but not requiring another analgesic were scored half a point for example, in this series, half a point would be added to the pain relief scores. This might explain the anomaly that a larger percentage of patients initially in moderate or severe pain (as opposed to mild pain), obtained some relief following administration of an analgesic. Perhaps one-third of patients, and particularly those in mild pain, may be placebo reactors and confuse results in all groups (Beecher, 1959).
Analgesia.

We found that both pentazocine and phenazocine were effective analgesics. There was a definite trend for pentazocine 75 mg to be the best, followed by phenazocine 5 mg and then pentazocine 50 mg.

The difference between pentazocine 75 mg and phenazocine 5 mg in the percentage with complete relief at 1 hour was statistically significant for patients who had moderate pain initially. Pentazocine pain relief scores were also higher, but the differences between the means just failed to reach the 5 per cent level of significance.

We found the analgesic effects of pentazocine to be satisfactory, as did previous workers. Our results with phenazocine, about which less has been written, resemble those of Blair (1967), who had encouraging results with the usual oral route in patients with incurable malignant disease. Brown (1966), however, found that oral phenazocine gave relatively poor and variable results by mouth in patients with severe intractable pain, but these improved by the sublingual route.

Beaver and associates (1968) made the only other comparison between pentazocine and phenazocine, and they considered phenazocine had a “rather unimpressive oral efficacy”. There are four possible reasons for the difference between their results and ours. First, their investigations were carried out at different times, which has resulted in there being slight changes in procedure in the collection of data. Second, the composition of the groups differs. Third, these authors also said that the patient’s response was assessed after the first round of drugs, and the doses received in the second round were determined by that response. This technique was not applied in our trial. It may have helped, as they suggest, in the collection of a substantial amount of data on non-equianalgesic doses with a resulting decreased efficiency in the procedure. The pentazocine group on which assessments were carried out consisted of 16 men and 8 women, whereas the phenazocine group consisted of 12 men and 20 women. Fourth, as Houde, Wallenstein and Rogers (1960) state: “Projections of scores from one small population group to another, however, have extremely limited meaning”.

Side effects.

There was no real difference in the number of patients experiencing side effects (16 per cent) in men or women, or in the two drugs. Dizziness was more common with the 75 mg dose of pentazocine. In the phenazocine group 13 per cent were asleep compared with 6 per cent in the two pentazocine groups, but this was not statistically significant. Norris and Telfer (1970) in a double-blind trial of pentazocine and a lactose placebo, found that the mild sedation produced by pentazocine 50 mg given orally was not significantly greater than that produced by a placebo in 100 gynaecological patients.

In our previous trial between pentazocine and phenazocine injected intramuscularly (Conaghan et al., 1966), there were very few side effects. The oral preparations were given later in convalescence, when patients frequently make minor complaints.

One man who received pentazocine 75 mg experienced psychotomimetic effects. This adverse reaction has only rarely been reported following orally administered pentazocine (Kantor et al., 1966; Levy, Gaillon and Boiron, 1968).

Use of oral pentazocine and phenazocine after operation.

Potter and Payne (1970) have recently reviewed the newer analgesics and concluded that pentazocine is the most promising of the benzomorphan derivatives to reach clinical practice. In our surgical practice for the last 4 years we have used pentazocine intravenously for severe pain in a dose of 30–45 mg depending on body weight (Ward-McQuaid, 1969). We have not encountered side effects in these doses. For biliary and renal colics it is combined with an antispasmodic such as propantheline bromide (Pro-Banthine) 45 mg. For severe and moderate pain 30–45 mg is often given intravenously, most conveniently into the drip infusion, as a single dose, otherwise by intramuscular injection. A refinement is to give a smaller dose as required, “titrating” the drug against the pain.

We did not distinguish the analgesic effect of phenazocine from that of pentazocine by the intramuscular route (Conaghan et al., 1966), and the cost of these drugs is the same. Pentazocine is more convenient, as it is free from the restric-
tions of the Dangerous Drugs Act. We found both these drugs preferable to the opium alka-
loids and pethidine, as they caused less nausea and vomiting, and the patients were more co-
operative, moving around better and thus pro-
bably lowering the incidence of thrombo-
embolism and chest complications. Patients who are anxious, however, may also need a sedative.
At night we prefer the opium alkaloids for both pain relief and sleep, giving an anti-emetic for
those who become nauseated or vomit. If this con-
tinues to be troublesome, the next night pentazo-
cine may be substituted combined with a 
hypnotic.

Injections are easily carried out in hospital, but
the oral preparations have a useful part in moderate
pain requiring more analgesia than that afforded by paracetamol or aspirin.

The oral route is useful for severe pain at home. We have found pentazocine of great value in chronic pain. Tablets are particularly useful to give a patient who is going home after operation as a day case, or who is discharged the day after operation, often with a certain amount of post-
operative pain, which sometimes may be even severe. If there is nausea, the dose may be reduced,
and the tablets taken more often. Dizziness can be reduced by remaining at rest, and side effects get less with repeated doses when pain is persist-
tent. There is no constipation.

Pentazocine cannot be used sublingually. We can confirm, however, Brown’s (1966) finding of the analgesic value of 10 mg phenazocine dissolved slowly under the tongue in patients with chronic pain, and Hegarty (1970, personal communi-
tation) at this hospital also had similar results to those of Brown (1966) in over 30 patients.

We use pentazocine in preference to phenazo-
cine in other circumstances, because of the DDA
regulations, except in the very occasional patient who has had a previous unwanted side effect.

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ORAL PENTAZOCINE AND PHENAZOCINE: A COMPARISON

ORALES PENTAZOZIN UND PHENAZOZIN: EIN VERGLEICH DER POSTOPERATIVEN SCHMERZEN

ZUSAMMENFASSUNG


PENTAZOCINA Y FENAZOCINA POR VIA ORAL: UNA COMPARACION DEL DOLOR POSOPERATORIO

RESUMEN

Pentazocina (Fortral) y fenazocina (Narphen) administradas por via oral fueron comparadas en cuanto analgesia y efectos secundarios en un estudio de dosis única de 284 pacientes con dolor posoperatorio. El dolor fue valorado separadamente por los pacientes y observadores. Los pacientes con dolor moderado experimentaron un mayor alivio del dolor con pentazocina 75 mg que con fenazocina 5 mg después de una hora. Hubo una tendencia constante de los observadores de valorar el dolor como menos intenso que lo valorado por los pacientes. La frecuencia de efectos secundarios fue baja con ambos medicamentos. La pentazocina es un analgésico posoperatorio útil no incluido en las restricciones de la DDA.

BOOK REVIEW


Anaesthesia for Nurses. By Joan Hobkirk. Published by Baillière, Tindall & Cassell, London. Price £0.90.

Once an author has made the decision to write a book on anaesthesia for nurses, two major problems have to be faced. First, is the book to be directed towards all nurses or just to those who work mainly in operating theatres? Secondly, how can practical advice be given to nurses which will serve them in helping specialists who vary so much individually in the way they practise?

These two books, with their remarkably similar covers, have quite different approaches. Miss Hobkirk has written a short and simple account of anaesthesia which can be quickly read. Dr Zuck’s book is much more comprehensive, covering as it does practically all aspects of the specialty in some depth, and will be an admirable reference book for nurses, without in any way being stuffy or indigestible.

The virtues of simplicity are many, but there are also vices, and Miss Hobkirk’s book suffers from the latter. While procedures are described quite well, there sometimes appears to be lack of understanding of the principles underlying them. It is, of course, very easy for a doctor to pick out points with which he disagrees in a book written by a nurse. However, this reviewer was irked by certain things: Queen Victoria is given a mention under chloroform but not Simpson; oxygen and carbon dioxide are described under anaesthetic gases and it is not clear that they are not anaesthetics; no guidance is given regarding pressure gauges on cylinders and what they indicate; methylamphetamine is mentioned several times, in spite of the fact that its manufacture has been stopped; nothing is said about autoclaving or “sanitizing” endotracheal tubes which is a common practice in many hospitals; flowmeters are incorrectly described; shock is not caused by sweating; lignocaine does not deteriorate on autoclaving.

Dr Zuck writes very well and always maintains interest. Starting with an excellent historical section, he describes the basic concepts of modern anaesthesia lucidly. Chapters on local anaesthesia, obstetric anaesthesia, resuscitation of the newborn and explosions are included, in addition to the more usual topics. One would have liked more details on shock and its management and on patient monitoring. However, nurses should enjoy and value this book.

A final brief, and perhaps carping, criticism of both books: tongue forceps are still mentioned, albeit unenthusiastically; procaine is put into cardiac arrest packs and no mention is made of the fact that laryngeal spasm can be considerably relieved by forcible forward displacement of the mandible.

D. B. Scott