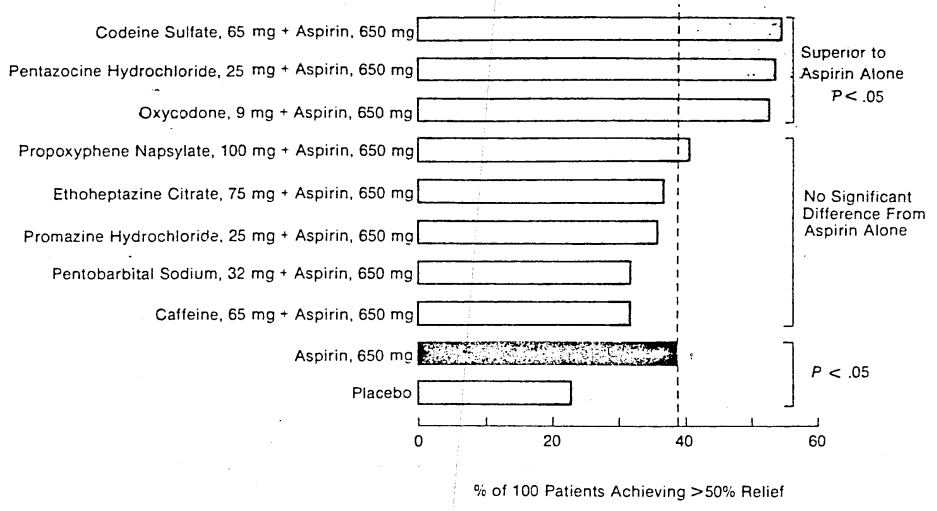

Comparative therapeutic effect of placebo, aspirin alone, and aspirin combinations according to percentage of patients achieving significant (ie, more than 50%) relief of pain.

significance was confirmed, was done by the Fisher least-significant-difference method.

Results

To avoid any possible distortion and to make full use of data, analgesic effects were evaluated in three ways.

First to be studied was the proportion of patients who claimed greater than 50% pain relief at any time during the six hours following drug administration. This approach seemed to be best in selection of patients who obtained a truly useful therapeutic effect. The results (Figure) indicated that aspirin alone had a significant advantage in analgesic effect over placebo. The combinations of aspirin plus either caffeine, pentobarbital, promazine, ethoheptazine, or propoxyphene were not significantly superior to aspirin alone. The combinations of aspirin plus either codeine, oxycodone, or pentazocine were essentially equal in their significant superiority to aspirin alone as well as to each of the other aspirin combinations.

The second means of analysis (Table 1) employed the mean percentage of analgesia achieved by each of the ten drugs as described by each patient. This method allows a relative crediting of all the degrees of analgesic effect varying from none to complete relief of pain. Again, aspirin is significantly superior to placebo; again, the combinations of aspirin plus either caffeine, pentobarbital, promazine, ethoheptazine, or propoxyphene showed no significant superiority to aspirin; and again, aspirin plus either codeine, oxycodone, or pentazocine are significantly superior to aspirin alone. By this means of analysis, aspirin plus propoxyphene assumes an equivocal position, ranking above aspirin alone but not at statistically significant levels, and ranking significantly below aspirin plus codeine or oxycodone but not significantly below aspirin plus pentazocine.

The third method of analysis (Table 1), perhaps the most important one from a comparative standpoint, employs the relative ranking of analgesic effect assigned by each patient to each of the test drugs or combinations, ie, the drug to which an individual patient attributed the greatest percentage of relief of pain was given the rank of one, the lowest percentage of pain relief a rank of ten. Ties were broken on the basis of duration of relief of pain. The figures recorded in Table 1 are the sums of ranks accorded each drug (or combination) by the 100 patients. All of the study preparations demonstrate a significant advantage over placebo. Still, aspirin plus either codeine, oxycodone, or pentazocine are the leaders with a significant advantage over aspirin alone. Again, aspirin plus propoxyphene is in fourth position, significantly inferior to aspirin plus either codeine or oxycodone, but not significantly different from aspirin alone. Analgesic ranks of each of the other combinations are approximately that of aspirin.

For none of the three methods of analysis did the order in which the drug preparations were given have a detectable influence on the grade of therapeutic effectiveness accorded any single drug. The latin-square design of this study permitted a careful analysis which led to this finding.

No practical advantage was found for any of the study drug preparations with regard to the median time elapsed from ingestion to onset of definite pain relief. This ranged from