PROGRESS REPORT ON STUDIES FROM THE CLINICAL PHARMACOLOGY SECTION OF THE ADDICTION RESEARCH CENTER

by

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Direct Addiction Studies With Butorphanol

Single dose studies conducted previously indicated that butorphanol produced subjective effects resembling those produced by cyclazocine, pentazocine and nalorphine rather than morphine.[1] Further studies indicated that in subjects dependent upon 60 mg of morphine daily, butorphanol neither precipitated nor suppressed abstinence.[1]

A direct addiction study was initiated in 7 subjects to determine if butorphanol produced physical dependence. One subject withdrew from the study at a dose level of 24 mg for reasons unrelated to the study. In the other 6 subjects butorphanol was administered in increasing doses 4 times daily to a stabilization dose of 48 mg (12 mg q.i.d.). From single dose estimates of miotic, euphoric and analgesic potencies, this dose of butorphanol would be equivalent to approximately 240 mg of morphine daily.

During the first few days of drug administration subjects commonly complained of racing thoughts and "seeing my thoughts." Following this subjects began reporting drowsiness and increased awareness of body sensations. Some subjects also complained that the drug made them suspicious and paranoid. Subjects appeared sedated and spent most of their time in bed. Yet, when questioned they would complain of inability to sleep. Furthermore, even when subjects appeared to be sleeping soundly, they were easily aroused. Subjects reported a number of symptoms associated with opiates such as constipation, nausea and difficulty urinating. However, analysis of the chronic dose questionnaire[2] indicated that subjects most frequently identified the effects of butorphanol as a barbiturate with lesser identifications as an opiate, as marijuana or thorazine (Table 1). The observers identified butorphanol