Buprenorphine Encyclopedia Article

Buprenorphine

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Buprenorphine

Buprenorphine is a semisynthetic OPIATE which is produced from thebaine, a naturally occurring ALKALOID present in the ripe pods of the opium poppy (*Papaner somniferum*). Buprenorphine has an ANALGESIC potency twenty-five to fifty times greater than MOR-PHINE on a weight basis. However, the analgesic actions of buprenorphine are quite similar to those of morphine and the other opiates after taking into consideration its greater potency. It is assumed that these effects are dependent upon its ability to act at *mu* (morphine) receptors in the brain. Once bound to the receptor, however, buprenorphine only produces a limited effect, and thus it is termed a partial AGONIST. This ability to produce only a partial response may explain why buprenorphine lowers breathing (respiratory depression) less than drugs such as morphine. Because it is a partial agonist, buprenorphine administration to morphine-depen-dent patients does not elicit significant withdrawal symptoms and can therefore be used as a metha-done-like opiate substitute in treatment programs. Another reason for the use of the agent in this respect is its particularly long duration of action. Single doses of buprenorphine can attenuate or prevent many of the actions of morphine for up to thirty hours. Thus, buprenorphine maintenance programs have been proposed to treat opiate addiction.

The interactions of buprenorphine with ANTAGONISTS are interesting. Buprenorphine actions can be readily prevented by antagonists such as NALOXONE, when the antagonist is administered prior to buprenorphine. However, antagonists given after buprenorphine do not readily reverse the opioid actions. This unique pharmacology distinguishes it from traditional opiates such as morphine.

Figure 1 *Buprenorphine*

Many believe that this observation is due to the prolonged occupation of the receptor by buprenorphine. Once it is bound, other drugs can no longer get to the receptor.

In the early 1990s, it was proposed that buprenorphine might also prove effective in lowering COCAINE use. Some studies in primates showed that buprenorphine lowered the amounts of cocaine taken. Although some small clinical studies in people also suggested a similar effect, more controlled studies did not show a special effect on cocaine use. More extensive work will be needed to determine whether buprenorphine can be useful in the treatment of cocaine abusers.

See Also

Heroin

Bibliography

JAFFE, J. H., & MARTIN, W. R. (1990). Opioid analgesics and antagonists. In A. G. Gilman et al. (Eds.), *Goodman and Gilman's the pharmacological basis of therapeutics*, 8th ed. New York: Pergamon.