Butorphic® Injection CIV
(butorphanol tartrate)

Opiate agonist-antagonist for 3 to 4 hour pain relief.

Butorphic® provides the convenience of a 20 mL Vial
Lower inventory cost
Less chance of vial puncture contamination
Fewer expiry worries
Less time exposed to extreme field storage conditions
Unparalleled dosing economy
Manufactured in the U.S.A.

Butorphanol tartrate, opiate agonist-antagonist, has long been a staple in veterinary medicine for fast-acting relief of moderate to severe pain.

The Butorphic® brand provides you with the quality clinical performance you demand and the unprecedented economic advantage you expect from Akorn Animal Health.

ANADA # 200-332, Approved by FDA
Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.
In ponies, butorphanol given intramuscularly at a dosage of 0.22 mg/kg was shown to alleviate experimentally induced visceral pain for about 4 hours.5

In horses, intravenous dosages of butorphanol ranging from 0.05 to 0.4 mg/kg were shown to be effective in alleviating visceral and superficial pain for at least four hours, as illustrated in the following figure:

**Chemical Structure:**

Each mL of Butorphic Injection contains 10 mg butorphanol base (as tartrate), 3.3 mg citric acid, USP, 6.4 mg sodium chloride, USP, and 0.47 mg benzethonium chloride, USP, q.s. with water for injection, USP.

**CLINICAL PHARMACOLOGY**

**Comparative Pharmacology**

In animals, butorphanol has been demonstrated to be 4 to 30 times more potent than morphine and pentazocine (Talwin®-V) respectively.1 In humans, butorphanol has been shown to have 5 times more potent than morphine and pentazocine.2,3 Butorphanol has 15 to 20 times the oral antitussive effect than morphine and 30 times more potent than pentazocine.

As an antagonist, butorphanol is approximately equivalent to nalorphine and 30 times more potent than pentazocine.4

Cardiopulmonary depressant effects are minimal after treatment with butorphanol as demonstrated in dogs.5 humans,6,7 and horses.8 Unlike classical narcotic agonist analgesics which are associated with decreases in blood pressure, reduction in heart rate, and concomitant release of histamine, butorphanol does not cause histamine release.1 Furthermore, the cardiopulmonary effects of butorphanol are not distinctly dosage related but rather reach a ceiling effect beyond which further dosage increases result in relatively lesser effects.

Reproduction: Studies performed in mice and rabbits revealed no evidence of impaired fertility or harm to the fetus due to butorphanol tartrate. In the female rat, parenteral administration was associated with increased nervousness and decreased care to the newborn, resulting in a decreased survival rate of the newborn. This nervousness was seen only in the rat species.

**Equine Pharmacology**

Following intravenous injection in horses, butorphanol is largely eliminated from the blood within 3 to 4 hours. The drug is extensively metabolized in the liver and excreted in the urine.

**REFERENCES**


**AKORN Animal Health**

Manufactured by:
AKORN, Inc.
Lake Forest, IL 60045

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