Heroine

Drug Interactions:

"Drug Interactions The concomitant use of other central nervous system depressants including sedatives or hypnotics, general anesthetics, phenothiazines, tranquilizers and alcohol may produce additive depressant effects. Respiratory depression, hypotension and profound sedation or coma may occur. When such combined therapy is contemplated, the dose of one or both agents should be reduced. Narcotic analgesics, including Hydromorphone Hydrochloride Injection may enhance the action of neuromuscular blocking agents and produce an increased degree of respiratory depression."

Precautions:

"PRECAUTIONS General Because of its high concentration, the delivery of precise doses of Hydromorphone Hydrochloride Injection may be difficult if low doses of hydromorphone are required. Therefore, Hydromorphone Hydrochloride Injection should be used only if the amount of hydromorphone required can be delivered accurately with this formulation. In general, narcotics should be given with caution and the initial dose should be reduced in the elderly or debilitated and those with severe impairment of hepatic, pulmonary or renal function; myxedema or hypothyroidism; adrenocortical insufficiency (e.g. Addison’s Disease); CNS depression or coma; toxic psychoses; prostatic hypertrophy or urethral stricture; gall bladder disease; acute alcoholism; delirium tremens; or kyphoscoliosis. In the case of Hydromorphone Hydrochloride Injection, however, the patient is presumed to be receiving a narcotic to which he or she exhibits tolerance and the initial dose of Hydromorphone Hydrochloride Injection selected should be estimated based on the relative potency of hydromorphone and the narcotic previously used by the patient. (See Dosage and Administration section). The administration of narcotic analgesics including Hydromorphone Hydrochloride Injection may obscure the diagnosis or clinical course in patients with acute abdominal conditions and may aggravate preexisting convulsions in patients with convulsive disorders. Reports of mild to severe seizures and myoclonus have been reported in severely compromised patients, administered high doses of parenteral hydromorphone, for cancer and severe pain. Opioid administration at very high doses is associated with seizures and myoclonus in a variety of diseases where pain control is the primary focus. Narcotic analgesics including Hydromorphone Hydrochloride Injection should also be used with caution in patients about to undergo surgery of the biliary tract since it may cause spasm of the

sphincter of Oddi. Drug Interactions The concomitant use of other central nervous system depressants including sedatives or hypnotics, general anesthetics, phenothiazines, tranquilizers and alcohol may produce additive depressant effects. Respiratory depression, hypotension and profound sedation or coma may occur. When such combined therapy is contemplated, the dose of one or both agents should be reduced. Narcotic analgesics, including Hydromorphone Hydrochloride Injection may enhance the action of neuromuscular blocking agents and produce an increased degree of respiratory depression. Pregnancy Category C Human Adequate animal studies on reproduction have not been performed to determine whether hydromorphone affects fertility in males or females. There are no well-controlled studies in women. Reports based on marketing experience do not identify any specific teratogenic risks following routine (short-term) clinical use. Although there is no clearly defined risk, such reports do not exclude the possibility of infrequent or subtle damage to the human fetus. Hydromorphone Hydrochloride Injection should be used in pregnant women only when clearly needed (see Labor and Delivery and Drug Abuse and Dependence). Animal Literature reports of hydromorphone hydrochloride administration to pregnant Syrian hamsters show that Hydromorphone Hydrochloride Injection is teratogenic at a dose of 20 mg/kg which is 600 times the human dose. A maximal teratogenic effect (50% of fetuses affected) in the Syrian hamster was observed at a dose of 125 mg/kg. Labor and Delivery Hydromorphone Hydrochloride Injection is contraindicated in Labor and Delivery (see Contraindications section). Nursing Mothers Low levels of narcotic analgesics have been detected in human milk. As a general rule, nursing should not be undertaken while a patient is receiving Hydromorphone Hydrochloride Injection since it, and other drugs in this class, may be excreted in the milk. Pediatric Use Safety and effectiveness in children have not been established. Geriatric Use Clinical studies of Hydromorphone Hydrochloride Injection did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy (See PRECAUTIONS)."

Description:

"DESCRIPTION Hydromorphone Hydrochloride Injection, USP, a hydrogenated ketone of morphine, is a narcotic analgesic. Chemically it is 4, 5 -Epoxy-3-hydroxy-17-methylmorphinan-6-one hydrochloride. HIGH POTENCY hydromorphone hydrochloride is available in AMBER single dose vials for intravenous (IV), subcutaneous (SC), or intramuscular (IM) administration. Each 1 mL of sterile solution contains 10 mg hydromorphone hydrochloride with 0.2% sodium citrate, and 0.2% citric acid solution, and

Water for Injection, USP. The structural formula of hydromorphone hydrochloride is: M.W. 321.8 The molecular formula is C 17 H 19 NO 3 • HCl Structural Formula"

Indications and Usage:

"INDICATIONS AND USAGE Hydromorphone Hydrochloride Injection, USP is indicated for the relief of moderate-to-severe pain in narcotic-tolerant patients who require larger than usual doses of narcotics to provide adequate pain relief. Because Hydromorphone Hydrochloride Injection contains 10 mg of hydromorphone per mL, a smaller injection volume can be used than with other parenteral narcotic formulations. Discomfort associated with the intramuscular or subcutaneous injection of an unusually large volume of solution can therefore be avoided."

Warnings:

"WARNINGS Drug Dependence Hydromorphone Hydrochloride Injection can produce drug dependence of the morphine type and therefore has the potential for being abused. Psychic dependence, physical dependence and tolerance may develop upon repeated administration of Hydromorphone Hydrochloride Injection and it should be prescribed and administered with the same degree of caution appropriate for the use of morphine. Since Hydromorphone Hydrochloride Injection is indicated for use in patients who are already tolerant to and hence physically dependent on narcotics, abrupt discontinuance in the administration of Hydromorphone Hydrochloride Injection is likely to result in a withdrawal syndrome. (See Drug Abuse and Dependence). Infants born to mothers physically dependent on Hydromorphone Hydrochloride Injection will also be physically dependent and may exhibit respiratory difficulties and withdrawal symptoms. (See Drug Abuse and Dependence). Impaired Respiration Respiratory depression is the chief hazard of Hydromorphone Hydrochloride Injection. Respiratory depression occurs most frequently in the elderly, in the debilitated, and in those suffering from conditions accompanied by hypoxia or hypercapnia when even moderate therapeutic doses may dangerously decrease pulmonary ventilation. Hydromorphone Hydrochloride Injection should be used with extreme caution in patients with chronic obstructive pulmonary disease or cor pulmonale, patients having a substantially decreased respiratory reserve, hypoxia, hypercapnia, or preexisting respiratory depression. In such patients even usual therapeutic doses of narcotic analgesics may decrease respiratory drive while simultaneously increasing airway resistance to the point of apnea. Head Injury and Increased Intracranial Pressure The respiratory depressant effects of Hydromorphone Hydrochloride Injection with carbon dioxide retention and secondary elevation of

cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or preexisting increase in intracranial pressure. Narcotic analgesics including Hydromorphone Hydrochloride Injection may produce effects which can obscure the clinical course and neurologic signs of further increase in pressure in patients with head injuries. Hypotensive Effect Narcotic analgesics, including Hydromorphone Hydrochloride Injection, may cause severe hypotension in an individual whose ability to maintain his blood pressure has already been compromised by a depleted blood volume, or a concurrent administration of drugs such as phenothiazines or general anesthetics (see also Precautions - Drug Interactions). Hydromorphone Hydrochloride Injection may produce orthostatic hypotension in ambulatory patients. Hydromorphone Hydrochloride Injection should be administered with caution to patients in circulatory shock, since vasodilation produced by the drug may further reduce cardiac output and blood pressure."

Pregnancy:

"Pregnancy Category C"

Overdosage:

"OVERDOSAGE Serious overdosage with Hydromorphone Hydrochloride Injection is characterized by respiratory depression, somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, constricted pupils, and sometimes bradycardia and hypotension. In serious overdosage, particularly following intravenous injection, apnea, circulatory collapse, cardiac arrest and death may occur. In the treatment of overdosage primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. NARCOTIC-TOLERANT PATIENT Since tolerance to the respiratory and CNS depressant effects of narcotics develops concomitantly with tolerance to their analgesic effects, serious respiratory depression due to an acute overdose is unlikely to be seen in narcotic-tolerant patients receiving Hydromorphone Hydrochloride Injection for chronic pain. NOTE: In such an individual who is physically dependent on narcotics, administration of the usual dose of the antagonist will precipitate an acute withdrawal syndrome. The severity will depend on the degree of physical dependence and the dose of the antagonist administered. Use of a narcotic antagonist in such a person should be avoided. If necessary to treat serious respiratory depression in the physically dependent patient, the antagonist should be administered with extreme care and by titration with smaller than usual doses of the antagonist. NON-TOLERANT

PATIENT The narcotic antagonist, naloxone, is a specific antidote against respiratory depression which may result from overdosage, or unusual sensitivity to Hydromorphone Hydrochloride Injection. A dose of naloxone (usually 0.4 to 2.0 mg) should be administered intravenously, if possible, simultaneously with respiratory resuscitation. The dose can be repeated in 3 minutes. Naloxone should not be administered in the absence of clinically significant respiratory or circulatory depression. Naloxone should be administered cautiously to persons who are known, or suspected to be physically dependent on Hydromorphone Hydrochloride Injection. In such cases, an abrupt or complete reversal of narcotic effects may precipitate an acute abstinence syndrome. Since the duration of action of Hydromorphone Hydrochloride Injection may exceed that of the antagonist, the patient should be kept under continued surveillance; repeated doses of the antagonist may be required to maintain adequate respiration. Apply other supportive measures when indicated. Supportive measures (including oxygen, vasopressors) should be employed in the management of circulatory shock and pulmonary edema accompanying overdose as indicated. Cardiac arrest or arrhythmias may require cardiac massage or defibrillation."