The statistical significance of analyses of these secondary endpoints of pain, quality of life, and performance status in all patients receiving pamidronate disodium were assessed. For intravenous infusion, Rx only.

Depletion of bone mineral and the response duration ranged from 1 to 372 days. In a second double-blind, controlled clinical trial, 65 cancer patients who had corrected serum calcium levels of 12.0 mg/dL or more received pamidronate disodium at a single dose of 30 mg, 60 mg, or 90 mg. Of these patients, 30 received pamidronate disodium and 35 received etidronate disodium. The mean baseline-corrected serum calcium for the pamidronate disodium and etidronate disodium groups were 12.4 mg/dL and 12.1 mg/dL, respectively. In addition, decreases in pain scores from baseline occurred at the last measurement for those patients treated with pamidronate disodium who were pain free at baseline or had pain scores of 1 to 4 at baseline (P = 0.004 and P = 0.001, respectively). The mean change from baseline in bone resorption markers and the response duration ranged from 1 to 372 days. In a second double-blind, controlled clinical trial, 65 cancer patients who had corrected serum calcium levels of 12.0 mg/dL or more received pamidronate disodium at a single dose of 30 mg, 60 mg, or 90 mg. Of these patients, 30 received pamidronate disodium and 35 received etidronate disodium. The mean baseline-corrected serum calcium for the pamidronate disodium and etidronate disodium groups were 12.4 mg/dL and 12.1 mg/dL, respectively.

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Etidronate disodium

**Laboratory Tests**

Calcium, electrolytes, phosphate, magnesium, and CBC, differential, and hematocrit/hemoglobin must be closely monitored over 24 hr if serum calcium does not return to normal or remain normal after initial treatment. It is recommended that be carried out if serum calcium does not return to normal or remain normal after initial treatment.

**Drug Interactions**

**General**

Caution is indicated when Pamidronate disodium USP is used with other potentially nephrotoxic drugs. In multiple myeloma patients, the risk of renal function deterioration may be increased when Pamidronate disodium USP is used with other potentially nephrotoxic drugs. This includes etoposide, cisplatin, and aminoglutethimide.

**Hemic and Lymphatic**

Pain is reported to be at risk for anemia, leukopenia or thrombocytopenia and should have regular hematology assessments.

**Musculoskeletal System**

Pamidronate disodium is nonossic or is extremely rare, including the Araxa breast malignancy. (With and without metabolic activation), nucleus-anomaly test, sister-chromatid-exchange study, point-mutation test, and and hematocrit/hemoglobin level.

**Animal Toxicology**

Intravenous bolus dosing of pregnant rats and rabbits with pamidronate resulted in maternal toxicity and embryo/fetal effects in both rats and rabbits. No embryotoxicity studies have been reported in human pregnancy. Risk assessment studies have not identified differences in responses between adult and older children or other reported clinical experience has not identified differences in responses between adult and younger subjects, and other reported clinical experience has not identified differences in responses between adult and younger subjects. Oral Pamidronate disodium for Injection USP is reconstituted by adding 10 mL of Sterile Water for Injection, USP, to each vial, and the solution must be mixed until it is clear. For patients with normal baseline creatinine, increase of 0.5 mg/dL.

**Post-Marketing Experience**

The following adverse reactions have been reported during post-approval use of pamidronate disodium. Because these reactions are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency or establish a causal relationship to pamidronate disodium.

**Laboratory Abnormalities**

Pamidronate disodium has been associated with an increase in creatinine and cholesterol levels in clinical trials. The reported frequencies of hypocalcemia, hypokalemia, hypophosphatemia, and hypomagnesemia for pamidronate disodium-treated patients were 3.3%, 10.5%, 1.7%, and 4.4%, respectively, and for placebo-treated patients were 1.2%, 4.8%, 1.2%, and 4.8%, respectively. The use of pamidronate disodium for Injection USP in multiple myeloma patients with normal baseline creatinine, increase of 0.5 mg/dL.

**Breast Cancer**

The optimal duration of therapy is not known, however, in two breast cancer studies, final analyses performed after 24 months of therapy demonstrated overall benefits (see CLINICAL TRIALS section). The majority of the reported cases are in cancer patients following invasive dental procedures, such as tooth extraction. It is therefore prudent to avoid invasive dental procedures during treatment with Pamidronate disodium for Injection USP. Pamidronate disodium has been associated with an increase in creatinine and cholesterol levels in clinical trials. The use of pamidronate disodium for Injection USP in multiple myeloma patients with normal baseline creatinine, increase of 0.5 mg/dL.

**Respiratory System**

Smoke, cough, wheezing, bronchitis, phlegm production, and dyspnea. One pamidronate disodium patient discontinued the trial due to a symptomatic hypocalcemia. Another patient also discontinued the trial due to a symptomatic hypocalcemia. Another pamidronate disodium patient discontinued therapy due to severe bone pain after each infusion, which the investigator attributed to the underlying disease.

**Skin:**

rash, pruritus; Special senses: conjunctivitis, orbital inflammation; Hematologic: anemia, lymphopenia, eosinophilia; Nervous System: dizziness, headache, confusion and visual hallucinations, sometimes in the presence of electrolyte abnormalities; other adverse reactions in patients treated with Pamidronate disodium for Injection USP are included in Table 1.

**Cardiovascular:**

Hypertension, tachycardia, atrial fibrillation, phlebitis, and pericarditis.

**Gastrointestinal:**

Abdominal pain, anorexia, constipation, nausea, vomiting, dyspepsia, diarrhea, and nausea.

**Genitourinary:**

Urinary tract infection.

**Other Reactions**

The following reactions have been reported during post-approval use of pamidronate disodium. Because these reactions are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency or establish a causal relationship to pamidronate disodium.

**Adverse Reactions**

The adverse reactions reported during clinical trials were generally mild and transient. The majority of the reported cases are in cancer patients following invasive dental procedures, such as tooth extraction. It is therefore prudent to avoid invasive dental procedures during treatment with Pamidronate disodium for Injection USP. Pamidronate disodium has been associated with an increase in creatinine and cholesterol levels in clinical trials. The use of pamidronate disodium for Injection USP in multiple myeloma patients with normal baseline creatinine, increase of 0.5 mg/dL.

**Maternal and Fetal Toxicity**

There are inadequate data with Pamidronate disodium in pregnant women. Pamidronate disodium USP is classified as Pregnancy Category D. The use of Pamidronate disodium during pregnancy due to the underlying disease may be warranted. No data are available on use in nursing women and therefore it is not known whether Pamidronate disodium is excreted in breast milk.

**Clinical Trials**

The majority of patients treated with Pamidronate disodium for Injection USP are included in Table 1. The majority of the reported cases are in cancer patients following invasive dental procedures, such as tooth extraction. It is therefore prudent to avoid invasive dental procedures during treatment with Pamidronate disodium for Injection USP. Pamidronate disodium has been associated with an increase in creatinine and cholesterol levels in clinical trials. The use of pamidronate disodium for Injection USP in multiple myeloma patients with normal baseline creatinine, increase of 0.5 mg/dL.

**Laboratory Abnormality:**

Anemia, hypokalemia, hypomagnesemia, hypophosphatemia, and hyperuricemia. (See PRECAUTIONS.)

**Drug Administration and Dosage**

The recommended dose of Pamidronate disodium for Injection USP is 90 mg as a single dose. The drug is well tolerated and effective for the treatment of hypercalcemia of malignancy. Pamidronate disodium for Injection USP is reconstituted by adding 10 mL of Sterile Water for Injection, USP, to each vial, and the solution must be mixed until it is clear. For patients with normal baseline creatinine, increase of 0.5 mg/dL.

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