FDA Drug Safety Communication

FDA investigating risk of severe hypocalcemia in patients on dialysis receiving osteoporosis medicine Prolia (denosumab)

May necessitate increased blood calcium monitoring

11-22-2022 FDA Drug Safety Communication

The U.S. Food and Drug Administration (FDA) is investigating the risk of severe hypocalcemia with serious outcomes, including hospitalization and death, in patients with advanced kidney disease on dialysis treated with the osteoporosis medicine Prolia (denosumab). Our review of interim results from an ongoing safety study of Prolia suggests an increased risk of hypocalcemia, or low calcium levels in the blood, in patients with advanced kidney disease. Preliminary results from a separate internal FDA study further investigating hypocalcemia in dialysis patients treated with Prolia show a substantial risk with serious outcomes, including hospitalization and death.

Because of the frequency and seriousness of these risks, we are alerting health care professionals and patients about them and that we are continuing to evaluate this potential safety issue with Prolia use in patients with advanced kidney disease, particularly those on dialysis. We will communicate our final conclusions and recommendations when we have completed our review or have more information to share.

Patients should not stop Prolia treatment without first consulting your health care professional, as stopping may worsen your bone condition. Talk to your health care professional about any concerns you may have, including possible alternative treatments. Tell your health care professional if you experience any symptoms of low blood calcium levels such as unusual tingling or numbness in the hands, arms, legs, or feet; painful muscle spasms or cramps; voice box or lung spasms causing difficulty breathing; vomiting; seizures; or irregular heart rhythm.

Health care professionals should consider the risks of hypocalcemia with the use of Prolia in patients on dialysis. When Prolia is used in these patients, adequate calcium and vitamin D supplementation and frequent blood calcium monitoring, possibly more often than is already being conducted, may help decrease the likelihood or severity of these risks. Advise patients on dialysis to immediately seek help if they experience symptoms of hypocalcemia.

Prolia is a prescription medicine approved in June 2010 to treat postmenopausal women with osteoporosis at high risk for bone fracture. Prolia was later approved to treat men with osteoporosis, glucocorticoid induced osteoporosis, bone loss in men receiving androgen deprivation therapy for prostate cancer and in women receiving aromatase inhibitor therapy for breast cancer. Prolia works by blocking a protein called RANK (receptor activator of nuclear factor kappa beta) and helps prevent bone cells called osteoclasts from breaking down bone in the body. A health care professional administers Prolia by injection once every six months.

When FDA first approved Prolia, we required the manufacturer, Amgen, to conduct a long-term safety study in women with postmenopausal osteoporosis and men with osteoporosis. Our review of the interim results from this ongoing safety study suggests an increased risk of hypocalcemia with Prolia in

patients with advanced kidney disease. In addition, adverse event reports submitted to FDA showed severe and symptomatic hypocalcemia, including hospitalization and death, is occurring in patients with advanced kidney disease treated with Prolia. Preliminary results from a separate internal FDA study investigating the risk of hypocalcemia suggest that patients on dialysis treated with Prolia are at substantial risk for severe and symptomatic hypocalcemia, including hospitalization and death.

We urge health care professionals and patients to report side effects involving Prolia or other medicines to the FDA MedWatch program, using the information in the "Contact FDA" box at the bottom of the page.

Health care professionals, patients, and consumers can sign up for email alerts about Drug Safety Communications on medicines or medical specialties of interest to you.

Related Information

- National Institute of Arthritis and Musculoskeletal and Skin Diseases: Osteoporosis Overview
- Hypocalcemia
- The FDA's Drug Review Process: Ensuring Drugs Are Safe and Effective
- Think It Through: Managing the Benefits and Risks of Medicines