CME

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Quiz: Hypocalcemia Secondary to Zoledronate Therapy in a Patient With Vitamin D Deficiency

EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants will be able to:

1. Identify the potential risk factors for the development of hypocalcemia in a patient treated with intravenous zoledronate.
2. Describe the mechanism of action of bisphosphonates such as zoledronate.
3. Articulate an appropriate evaluation for a patient prior to receiving zoledronate.

PUBLICATION DATE: August 10, 2015

EXPIRATION DATE: August 10, 2016

QUESTIONS

1. Risk factors for the development of hypocalcemia secondary to zoledronate therapy include:
   - ❑ Hypomagnesemia, hyperparathyroidism, renal failure, vitamin D deficiency.
   - ❑ Hyponatremia, vitamin D deficiency, hypoparathyroidism, hypomagnesemia.
   - ❑ Hypoparathyroidism, hyperkalemia, renal failure, vitamin D deficiency.
   - ❑ Hypoparathyroidism, hypomagnesemia, vitamin D deficiency, renal failure.
   - ❑ Renal failure, hypomagnesemia, hyperparathyroidism, hyponatremia.
2. Side effects of intravenous zoledronate include nephrotoxicity, osteonecrosis of the jaw, and hypocalcemia.
   - ❑ True
   - ❑ False
3. About 10% of serum calcium is ionized and physiologically active.
   - ❑ True
   - ❑ False
4. The mechanism of action of zoledronate includes preventing of osteoclastic resorption of bone and promoting osteoclast apoptosis.
   - ❑ True
   - ❑ False
5. The authors of this article suggest the following routine screening for patients being treated with IV bisphosphonates such as zoledronate:
   - ❑ A. Vitamin D levels, magnesium level, parathyroid level.
   - ❑ B. Parathyroid level, renal function, calcium level.
   - ❑ C. Calcium level, parathyroid level, renal function.
   - ❑ A, B, and C.
   - ❑ None of the above.

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