Protocol driven administration of intravenous Zoledronic Acid in post-menopausal women with osteoporosis in KKH
A Patient Safety Initiative

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Introduction

Intravenous Zoledronic Acid infusion decreases bone turnover and improves bone density in post-menopausal women with osteoporosis. However, its administration is associated with complications such as hypocalcemia and osteonecrosis of the jaw. Furthermore, its use is contraindicated in patients with renal impairment. The Family Medicine Team in KKH developed a standardized protocol for intravenous Zoledronic Acid administration in 2009, to reduce the above mentioned complications.

Objectives

To develop a protocol to ensure safe administration of intravenous Zoledronic Acid.

Methodology

Intravenous Zoledronic Acid prescribed for postmenopausal patient with osteoporosis

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Pre-screening assessment: serum calcium, phosphate, vitamin D measurements as well as renal and liver panel tests*

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Team ensures Creatinine Clearance is ≥ 40ml/min and calcium and vitamin D levels are normal

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Designated nurse ensures dental check-up is done before proceeding with the injection

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Designated nurse reminds patient a day prior to Zoledronic Acid infusion to have sufficient hydration

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Follow-up phone calls post-infusion are made by designated nurse to assess concerns and side effects

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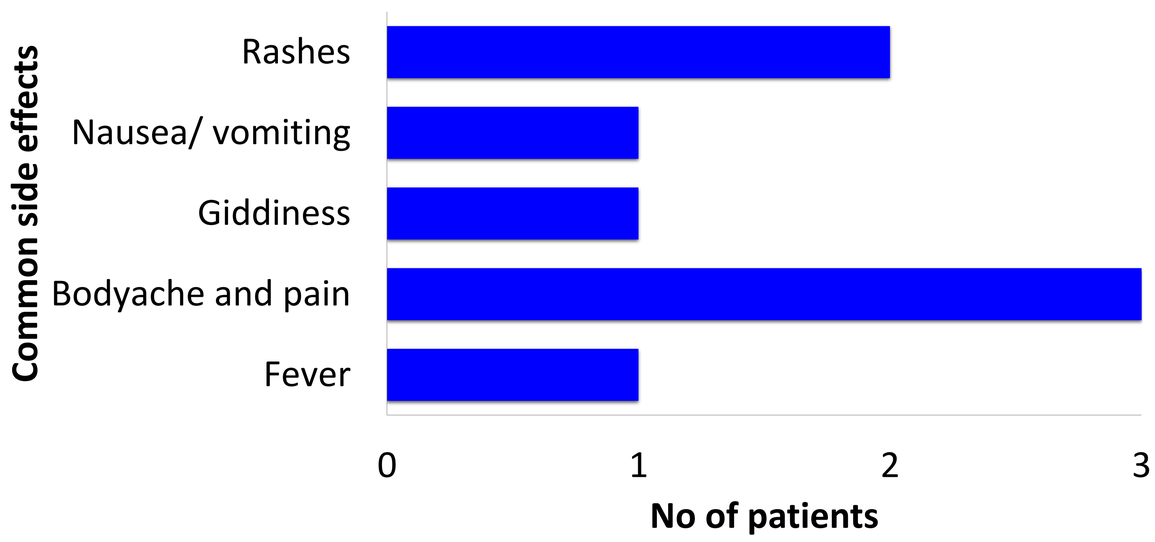
3 months after infusion, patients are reviewed by the managing doctor to assess post-infusion renal function

*Refer "Osteoporosis pre-screening" order set

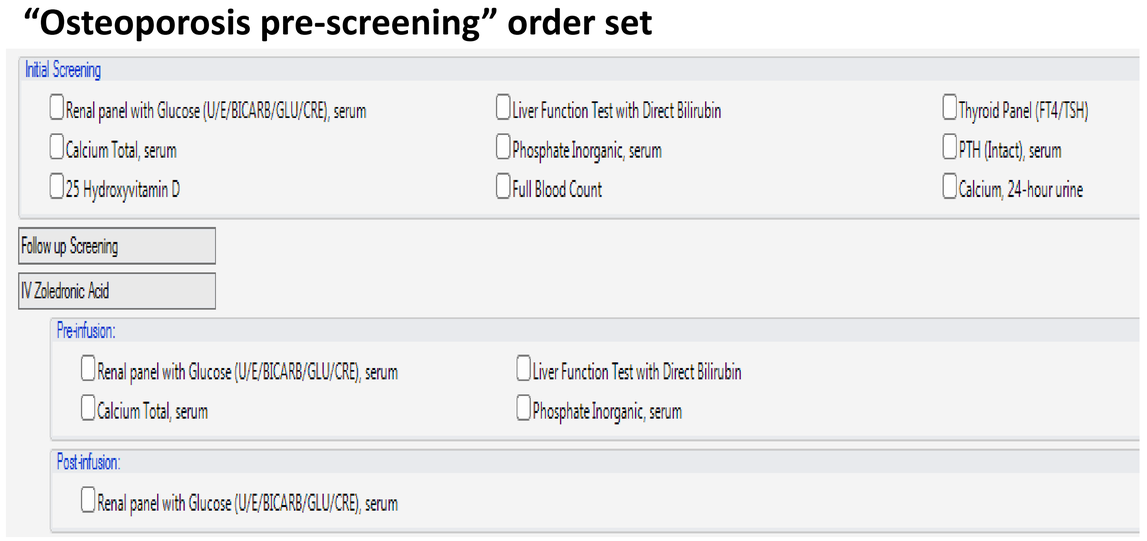
Results

From 2009 to March 2015, 99 post-menopausal patients with osteoporosis prescribed Intravenous Zoledronic Acid treatment were screened via Zoledronic Screening Protocol. No post-infusion renal impairment was detected.

Common side effects reported post IV Zoledronic Acid administration



"Osteoporosis pre-screening" order set



Conclusion

Intravenous Zoledronic Acid administration with the current protocol has been shown to be safe with minimal adverse effects.