Calcifediol/calcium polystyrene sulfonate/teriparatide/trimethoprim

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Hypercalcaemia (first report with calcium polystyrene sulfonate) and hyperkalaemia in elderly patients: 5 case reports

Five elderly patients developed hypercalcaemia during treatment with calcium polystyrene sulfonate, teriparatide and/or calcifediol, and one patient also developed trimethoprim-associated hyperkalaemia; in one patient, hypercalcaemia was associated with a drug overdose.

A 95-year-old man started receiving oral 6-hourly calcium polystyrene sulfonate 15g for hyperkalaemia. He developed asymptomatic hypercalcaemia of 2.91 mmol/L on the third day of therapy. Calcium polystyrene sulfonate was withdrawn and hypercalcaemia resolved within 24 hours.

An 82-year-old man developed hyperkalaemia of 6.4 mmol/L secondary to trimethoprim therapy [*details not stated*] and tissue breakdown. He began receiving 6-hourly calcium polystyrene sulfonate 15g [*route not stated*] and developed asymptomatic hypercalcaemia of 2.86 mmol/L within the following month. His calcium polystyrene sulfonate dosage was decreased to 10g/8h, and hypercalcaemia resolved [*outcome of hyperkalaemia not stated*].

A 77-year-old woman started receiving SC teriparatide 20 µg/24h for osteoporosis and subsequently developed transitory asymptomatic hypercalcaemia (2.64 mmol/L) [*duration of treatment to reaction onset not stated*]. Hypercalcaemia normalised without further intervention.

An 82-year-old woman with osteoporosis and dementia, who was receiving SC teriparatide 20 µg/24h and twice weekly oral calcifediol 0.266mg, developed general discomfort, vomiting and constipation [*duration of treatments to reaction onset not stated*]. Laboratory investigations revealed a calcium level of 3.24 mmol/L and a 25-OH vitamin D_3 level of 779.25 mmol/L. Teriparatide and calcifediol were discontinued. Calcaemia normalised, and she became asymptomatic within 72 hours.

An 85-year-old woman with dementia and recurrent falls was found to have a 25-OH vitamin D_3 deficiency and was prescribed fortnightly oral calcifediol 0.266mg. However, she inadvertently received daily calcifediol 0.266mg for 2 months. She remained asymptomatic, but hypercalcaemia of 2.94 mmol/L was found on routine investigation [*time to onset not stated*]. Calcifediol was withdrawn, and her calcium levels normalised.

Author comment: *When calcium resin, vitamin D at high doses or teriparatide are prescribed, or any combination of these substances or a combination with thiazides or calcium supplements in fragile elderly patients, serum calcium levels should be monitored carefully.*

Castellote Varona FJ, et al. Drug induced hypercalcemia in the elderly. Revista Espanola de Geriatria y Gerontologia 45: 308-309, Sep 2010. Available from: URL: http://dx.doi.org/10.1016/j.regg.2010.04.003 [Spanish; summarised from a translation.] - Spain

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» **Editorial comment:** A search of AdisBase, Medline and Embase did not reveal any previous case reports of hypercalcaemia associated with calcium polystyrene sulfonate. The WHO ADR database contained five reports of hypercalcaemia associated with calcium polystyrene sulfonate.