Zoledronic acid infusion
to a patient with contraindications
(17HDC00010, 15 June 2018)

General practitioner ~ Medical centre ~ Zoledronic acid ~ Renal impairment ~ Diuretic therapy ~ Standard of care ~ Vicarious liability ~ Right 4(1)

A woman with a complicated medical history, who was receiving diuretics, was referred to the pain clinic at a public hospital by her general practitioner (GP) for consideration of epidural steroids for sciatica and spinal stenosis symptoms. She was later identified by the pain clinic as a good candidate for pamidronate trials. Pamidronate is administered in the treatment of osteoporosis and to provide related acute pain relief. The trial did not start immediately.

Renal function blood test results taken and monitored by the public hospital over a 12 month period indicated deterioration in the woman's renal function. These blood tests were accessible to her GP.

When the woman attended at the medical centre in pain and before the trial started, the GP offered the woman a zoledronic acid (used to treat bone disease) infusion for pain relief, believing zoledronic acid and pamidronate to be interchangeable. The woman was provided with an information sheet and signed a consent form before her GP administered the zoledronic acid infusion.

The medsafe datasheet for zoledronic acid states that its use in patients with severe renal impairment is contraindicated. Calculation of creatinine clearance levels should be undertaken to minimise the risk of renal adverse reactions. It also states that concomitant diuretic therapy is a risk factor for renal impairment following administration of zoledronic acid.

In the days following the infusion, the woman became increasingly unwell. Nine days after the infusion, she was admitted to hospital and blood tests showed acute renal failure. The woman died that day.

Findings

The Deputy Commissioner found that the GP prescribed and ordered the administration of zoledronic acid to the woman without first calculating her creatinine clearance, despite her clinical records showing a progressive deterioration in her renal function in the previous 12 months and the fact she was taking diuretics. He was also concerned that the GP lacked awareness that severe renal impairment was contraindicated. The Deputy Commissioner found that the GP failed to comply with the Medical Council of New Zealand's *Good Prescribing Practice* statement in that he did not assess the woman's condition adequately before prescribing and ordering the administration of zoledronic acid, and did not ensure that he was familiar with the contraindications of the medication before prescribing it. For these reasons, it was held that the GP failed to provide services to the woman with reasonable care and skill and, accordingly, breached Right 4(1).

The Deputy Commissioner was critical that the GP offered the woman zoledronic acid in place of pamidronate without realising that they were not interchangeable, and had different clinical indications and pharmacokinetic profiles.

The medical centre was found vicariously liable for the GP's breach of Right 4(1).

Recommendations

It was recommended that the medical centre undertake an audit of all patients who have received zoledronic acid infusions in 2018 to confirm that renal function investigations are being considered prior to a zoledronic acid infusion being given; the Medical Council of New Zealand consider whether a review of the GP's competence is warranted, and the GP provide a written apology to the woman's family.