

## A summary of key findings to guide use of cinacalcet

- A parathyroidectomy results in a 3.1% 30 day mortality (50% secondary to cardiovascular, 18% infective) compared to a 1.2% rate for matched controls. In the same study, the 5 year relative risk of death was 10-15% lower than the matched controls (median survival 53.4 months after parathyroidectomy vs 46.8 months for the controls) (Kidney Int. 2004;66:2010-6)
- Improved haemoglobin, reduced erythropoietic hormone use and improved quality of life are associated with parathyroidectomy (Am J Surgery 2002 183:199-204, Nephron 2001 88(2):149-55, J Nephrol 2003;16:878-885)
- The longest trial data for cinacalcet is 2 years with no mortality benefit demonstrated. To date, cinacalcet has not been shown in randomized controlled trials to significantly influence quality of life (clinically), levels of hemoglobin, the use of erythropoietic hormones, reduce the use of standard phosphate binders, calcitriol or vitamin D analogues, or all cause mortality or rate of hospitalization. (Kidney International 2005; 68:1793-1800)
- Cinacalcet plus a “physiologic” dose of Vitamin D analogue will result in KDOQI biochemical targets (Ca, PO<sub>4</sub>, Ca X PO<sub>4</sub>, iPTH) to be met for moderate (baseline median iPTH 63.176 pmol/L) secondary hyperparathyroidism. For patients with iPTH > 31.8 pmol/L, 46% more patients studied were able to meet the PTH target of  $\leq 31.8$  pmol/L compared to placebo (56% vs 10%). Likewise, 35% more patients met both iPTH and Ca X PO<sub>4</sub> targets than placebo (41% vs 6%). (Kidney International 2005; 67, 760-771).
- Cinacalcet has been noted to reduce overall fractures but more lower-extremity fractures seemed to occur in the cinacalcet group. (Kidney International 2005; 67, 760-771).
- Cinacalcet is associated with an absolute 13% increase in nausea (32% vs. 19%), a 14% increase in vomiting (30% vs. 16%) and a 5% absolute increase in hypocalcemia (5% vs. <1%). In the trials, 15% of cinacalcet treated subjects withdrew due to adverse events compared to 8% of the control group (N Eng J Med 2004; 350:1516-25).
- It has been suggested that a preferred method to manage patients on cinacalcet may be to reduce vitamin D analogue doses to a physiologic level (eg 0.25 mcg PO three times a week) and non-calcium-based phosphate binders and increase the calcium in the dialysate bath while liberalizing the calcium-based phosphate binder intake above the KDOQI limit of 1.5 g/day. This method would have the effect of reducing the vitamin D downregulation of the calcium receptors in the parathyroid gland, limiting the absorption of phosphate while maximizing cinacalcet’s action on the calcium receptors.(Seminars in Dialysis 18(3): 226-238 (2005))



Dan Martinusen  
Chair, Pharmacy & Formulary Review Committee  
BC Provincial Renal Agency