DISODIUM PAMIDRONATE

Protocol for use in patients with renal disease

Amended from the Wollongong Renal Unit For St George Hospital, Jan 2010.

DISODIUM PAMIDRONATE

- ***Other names:***
  APD, or AHPrBP (Aminohydroxypropylidene bisphosphonate disodium)
  Pamidronate, Aredia
- ***Action:***
  Inhibiting bone resorption with apparently minimal effect on bone mineralisation.

INDICATIONS IN RENAL PRACTICE

- Hypercalcemia of secondary hyperparathyroidism in patients unfit to have a parathyroidectomy when all other interventions eg adjustment of dialysate calcium levels, cessation of calcitriol or calcium containing phosphate binders, cinacalcet, has failed.

- Calciphylaxis in the setting of advanced renal failure

DOSE

Serum Calcium*	**Recommended dose**
< 3.0	30 mg
3.0 to 3.5	60 mg
>3.5	90 mg[1]

Data on the use of Pamidronate in calciphylaxis is anecdotal and its use in this situation is left to the discretion of the treating physician

*Based on corrected serum calcium

The maximum dose per treatment is 90 mg-Higher doses achieve no greater clinical benefit

ADMINISTRATION

- **Patients on Dialysis**:
  - Recommended dose in 500 ml normal saline or 5% dextrose infused intravenously over 4 hours.

- **Patients with renal failure not on dialysis**
  - Recommended dose in 500 ml of normal saline or 5% dextrose over 4 hours. In those with congestive cardiac failure, caution is advised and the solution may be made up in 250 ml before infusion over 4 hours

[1]Evidence on the use of Pamidronate in renal failure is limited and a maximum infusion rate of 20 to 22 mg/hr in those with mild to moderate renal failure is recommended

Responsibilities

1. **Consultant/registrar responsibility**: Aredia to be written on Prescription chart as a single dose only
2. **The RN responsibilities when giving this drug are as follows**: Ca and Mg levels are checked prior to administration. The blood tests should be within 2 weeks of the planned administration date. Alert the registrar if the corrected serum calcium is less than 2.10 mmol/L and the serum magnesium level is below 0.7 mmol/L before administering.

PRECAUTIONS AND CONTRAINDICATIONS

- Do not co-administer with other bisphosphonates eg. Etidronate, Clodronate
- Should only be used in life-threatening instances in children and pregnancy
- AVOID breastfeeding
- Do not administer if hypersensitivity to bisphosphonates is known.
- If outpatient when receiving infusion, advise not to drive themselves home or use dangerous equipment for 24 hours- rare reports of drowsiness and dizziness

ADVERSE REACTIONS

- Pyrexia (generally after first dose) occurs within 24 hours of infusion and may last for 48 hours - usually resolves spontaneously
- Rigors (within 24 hours of infusion)
- General malaise
- Infusion site reactions: pain, phlebitis, swelling
- Transient bone pain
- Nausea
- Headache
- Hypocalcaemia, hypomagnesaemia

MONITOR

- Urea, electrolytes, creatinine, serum calcium and full blood count **in 1 week**
- Alert the registrar/ renal physician if corrected serum calcium is less than 2.0 mmol/L , the serum Magnesium is less than 0.7 mmol/L, phosphate less than 0.8 mmol/L or if the serum creatinine (in those not on dialysis) increases by 90 umol/L
- If blood tests are abnormal they are to be checked again 2 weeks later

REFERENCE

1. Australian Product Information Literature (TGA approved) accessed through eMIMS, CMPMedical Australia Pty Ltd, April 2008