

# The Atlantic Provinces Medical Peer Review



## MANAGEMENT OF SPECIFIC DISEASE ENTITIES

### Nephrology # 2 - HYPERPARATHYROIDISM

It is important to note that these guidelines are meant to be of assistance to assessors in making observations. They should not be taken as standards of any of the Atlantic Provinces Licensing Authorities.

**Risk factors:** age, female, chronic lithium , history of neck irradiation

**Etiology:**  
primary hyperparathyroidism: solitary adenoma, diffuse hyperplasia caused by multiple adenomas, multiple endocrine neoplasia Types I & II, familial hypocalciuric hypercalcemia, parathyroid carcinoma  
secondary hyperparathyroidism: chronic renal disease, general skeletal/renal resistance to PTH  
tertiary hyperparathyroidism: chronic renal disease

#### Signs & Symptoms:

- renal: nephrolithiasis, nephrocalcinosis, reduced GFR, thirst, polydipsia, polyuria,
- gastrointestinal: ABD distress, PUD, pancreatitis, vomiting, anorexia, constipation, weight loss
- skeletal: bone pain, cystic bone lesions, spontaneous fracture, osteoporosis
- mental: fatigue, apathy, anxiety, depression, psychosis
- neurologic: somnolence, coma, diffuse EEG changes
- neuromuscular: muscle fatigue, weakness, hypotonia:
- cardiovascular: hypertension, short QT interval
- articular/periarticular: arthralgia, gout, pseudogout, periarticular calcification
- ocular: band keratopathy, conjunctivitis, conjunctival calcium deposits

#### Diagnosis:

- tests: elevated serum immunoreactive PTH, elevated corrected serum calcium, low phosphate levels, elevated serum chloride, metabolic acidosis, 24 hour urine for calcium and creatinine excretion
  - imaging: neck US, thallium Tc scanning, CT, MRI, Tc 99m sestamibi scan with single photon emission CT, bone densitometry
  - per cutaneous needle biopsy aspiration for cytology and PTH determination; open surgical removal with frozen section diagnosis
  - differential diagnosis: malignancy of lung, breast, multiple myeloma, lymphoma, leukemia, prostate; Paget's disease; granulomatous disease: sarcoidosis, TB, histoplasmosis, coccidioidomycosis;
- drugs (thiazide diuretics, vitamins A & D, lithium)

#### Therapies:

- if clinically indicated: loop diuretics, bisphosphonates, calcimimetics, hormone replacement
- surgery: surgical removal of diseased gland
- follow-up: post-op course requires following of serum calcium to ensure hyperparathyroid state does not redevelop

	N/A	E	S	D
Clinical history and physical exam are documented.				
It is evident that appropriate tests have been ordered and completed.				
Appropriate therapies are used and regularly reviewed.				

COMMENTS: \_\_\_\_\_  
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