Meet the Expert Session Summary

Normocalcemic Primary Hyperparthyroidism

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May 16, 2015

I Have No Disclosures

The Evolving Clinical Picture of Primary Hyperparathyroidism

Before 1970: Symptomatic Disease
Bones, stones, and groans

After 1970: Asymptomatic Disease
Biochemical and BMD abnormalities

After 2000: Symptomatic or Asymptomatic Disease
May present with *only* elevated PTH levels
(Normocalcemic PHPT)

Normocalcemic PHPT

- PHPT traditionally defined by hypercalcemia and elevated or inappropriately normal PTH
- PTH increasingly being sent for patients without history of hypercalcemia
- Patients now being diagnosed with normocalcemic PHPT in the setting of elevated PTH and consistently normal serum calcium
- Consistent with hypothesized preclinical phase of PHPT, when PTH is elevated but serum calcium is still normal. Hypothesis generated to explain observation that many abnormalities of PHPT already exist at the time of biochemical diagnosis

The Development of PHPT: An Evolving View

OLD:

SUBCLINICAL	CLINICAL →
Phase I: Normocalcemic	Phase II: Hypercalcemic

NEWER:

SUBCLINICAL	CLINICAL →
Phase I: Normocalcemic • *Symptomatic* • **Asymptomatic**	Phase II: Hypercalcemic

Available data from Columbia & other sources will be reviewed briefly

Normocalcemic PHPT: Definition

- Developed 3rd International Conference on Asx PHPT 2008
  - **Normal Total & Ionized Calcium**
    - NOT NECESSARY TO MEASURE IONIZED CALCIUM IF TOTAL CALCIUM HIGH
  - **Elevated PTH**
    - IF CALCIUM ELEVATED, NORMAL PTH IS INAPPROPRIATE
  - **Rule-Out Secondary Causes of HPT**
    - Vitamin D Deficiency Most Common Cause
      - 25OHD level 20 vs 30 ng/ml unknown
    - Malabsorption
    - Hypercalciuria
    - Renal insufficiency/failure
    - Medications that could alter calcium homeostasis
      - Thiazide diuretics, Lithium

International Workshops on the Management of Asymptomatic PHPT

3rd Workshop in 2008

- First formally recognized
- Expert panel stated it was premature to suggest guidelines for the normocalcemic variant

4th Workshop in 2013

- Definition unchanged
- Expert panel suggested nomogram for management
  - BASED UPON VERY LIMITED DATA

Suggested Management of Asymptomatic Normocalcemic PHPT

- Calcium and PTH annually
- DXA every 1-2 years

Progression to hypercalcemic PHPT → Follow guidelines from the 4th International Workshop on Asymptomatic PHPT

Progression of disease
- Worsening BMD or fracture
- Kidney stone or nephrocalcinosis

→ Consider surgery

JCEM 99: 3561-69, 2014

NOT EVIDENCE BASED!

Surgical Guidelines for Asymptomatic PHPT

	1990 NIH Consensus Conference	2002 NIH Workshop	2008 Int'l Workshop	2013 Int'l Workshop	
Serum Calcium	1-1.6 mg/dl elevation	1.0 mg/dl elevation	1.0 mg/dl elevation	1.0 mg/dl elevation	
RENAL	•24 h urine calcium >400 mg • Creat Cl Reduced by 30%	•24 h urine calcium >400 mg • Creat Cl Reduced by 30%	•No 24 h urine •Creatinine clearance: <60 cc/min	•24 h urine for kidney stone risk •U Ca >400 mg/dl •Creatinine clearance: <60 cc/min •Stone on Renal Imaging	NEW NEW
BONE	Z-score < -2.0 in forearm	T-score < -2.5 at any site§	T-score < -2.5 Fragility Fx	• T-score < -2.5 • Fragility Fx • Vertebral Fx	NEW
Age	<50	<50	<50	<50	

Normocalcemic PHPT

- NATURAL HISTORY without surgery
  - No single time course for evolution to hypercalcemia
    - Some patients become hypercalcemia over time
      - Early form of hypercalcemic PHPT
    - Not all patients represent earliest form of hypercalcemic PHPT
  - Some may never become hypercalcemic
- NATURAL HISTORY with surgery
  - Data limited on improvement in BMD after PTX
- **Several cases will be discussed with the audience**
- ***MORE DATA ARE NEEDED!!***