Did you know?

There is a quicker way to determine if hypercalcemia is associated with cancer

PTH$_{1-84}$ CALCEMIA PANEL

Clinical Lab Report *example*

Parathyroid Hormone (PTH$_{1-84}$)

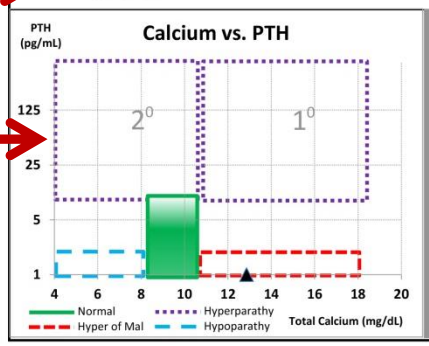
Vitamin D (VitD)

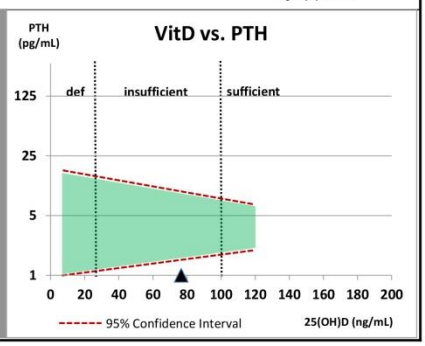
Calcium (total calcium)

Identify cause of hypo/hypercalcemia

PTH 1-84 FELINE CALCEMIA PANEL REPORT DATE: 20-Aug-2014

TEST NAME	RESULT	UNITS	FLAG	REFERENCE INTERVAL
PTH 1-84 1-84 parathyroid hormone	<0.5	pg/mL		Normal: 1 - 14 Normal w/ Suff VitD: 2 - 8 High **(H)**: ≥ 14.1
VitD 25 hydroxy-vitamin D	76.6	ng/mL	Insuff	Deficient **(Def)**: ≤ 24.9 Insufficient **(Insuff)**: 25.0 - 99.9 Sufficient: 100 - 120
Calcium total calcium	12.9	mg/dL	H	Low **(L)**: ≤ 8.1 Normal: 8.2 - 10.5 High **(H)**: ≥ 10.6





Interpretive Comment

PTH 1-84 FELINE CALCEMIA PANEL is a diagnostic tool to assist in the workup of hyper and hypo calcemia and includes PTH 1-84 which measures the complete PTH peptide sequence and is unaffected by PTH fragments; a particular problem in renal disease. To maintain calcium homeostasis, PTH and VitD work in concert to increase or decrease calcium absorption and/or resorption. PTH and VitD are inversely related; as VitD increases, PTH decreases.

Calcium vs. PTH

Normal: Population based reference interval. The darker shaded area represents where the majority of healthy cats should plot.
Hypercalcemia of Malignancy: This area reflects PTH-independent hypercalcemia for which malignant neoplasia is often suspect. Other conditions includes certain granulomatous diseases, hyperthyroidism, vitamin D intoxication and Addison's disease.
Primary (1) Hyperparathyroidism: This area reflects PTH-dependent hypercalcemia and due to an over-production of PTH - typically caused by a benign or malignant parathyroid tumor and in some instances 25(OH)D deficiency.
Secondary (2) Hyperparathyroidism: This area reflects PTH-independent normo/hypocalcemia. Conditions causing secondary hyperparathyroidism includes 25(OH)D deficiency and kidney disease.
Hypoparathyroidism: This area reflects PTH-dependent hypocalcemia and caused by insufficient amounts of PTH. Causes include damage to the parathyroid gland (trauma, chemo drugs, infection) and in certain autoimmune disorders.

VitD vs. PTH

There is a normal inverse relationship between 25(OH)D and PTH; the shaded area represents the 95% confidence interval. The normal range of PTH tightens as VitD sufficiency is attained. The two graphs are useful in diagnostic workup. **Call VDI for consultation**.

Interpretive comments are general in nature and in absence of detailed knowledge of patient status or treatment. For more information on specific cases, please contact VDI. | Tech: RR

**Reference intervals shown are for felines only. Canine references may be different.*

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Hyper/hypocalcemia diagnostic assessment

Clinical Background

Calcemia Panel

As the only test on the market to offer the latest generation PTH assay, the PTH1-84 calcemia panel is able to help quickly sort out disorders that cause increased or decreased levels of calcium in the blood.

Test Information:

Sample Type: Serum >1mL

Interferences: Gross lipemia
Gross hemolysis

Stability: 4°C: 4 hours
-20°C: 1 month

Reference Ranges:

	Canine	Feline
***PTH$_{1-84}$** (*pg/ML*):		
Normal	4 - 38	1 – 14
with suff VitD	4 - 15	2 - 8
High	≥38.1	≥14.1
VitD (*ng/mL*):		
Deficient	≤24.9	≤24.9
Insufficient	25.0 - 99.9	25.0 - 99.9
Sufficient	100 - 120	100 - 120
Ca (*mg/dL*):		
Low	≤8.5	≤8.1
Normal	8.5 – 12.0	8.2 – 10.5
High	≥12.1	≥10.6

**PTH 1-84 is the latest generation of PTH assays that measures the complete 1-84 sequence and therefore eliminates all cross-reactivity to PTH fragments. This assay is now available from VDI for both cats and dogs. PTH 1-84 is offered exclusively by VDI and is used in the Calcemia Panel, a 3-test panel that provides fast classification of canine or feline hypo/hypercalcemia, or as a standalone test.*

Hyper/hypocalcemia

is caused by many diseases, each parathyroid hormone (PTH) dependent or independent. PTH measurement therefore becomes vital in the diagnostic workup.

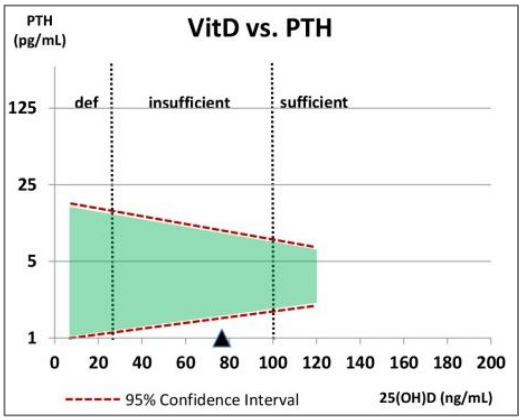
Hypocalcemia		Hypercalcemia	
PTH Dependent	**PTH Independent**	**PTH Dependent**	**PTH Independent**
• Parathyroid gland damage (trauma, chemo drugs, infection) • Various autoimmune disorders	• 25(OH) deficiency • Kidney disease	• Benign or malignant parathyroid tumor	• Malignant neoplasia • Granulomatous diseases • Hyperthyroidism • Vitamin D intoxication • Addison's disease

PTH$_{1-84}$ CANINE CALCEMIA PANEL

PTH$_{1-84}$ FELINE CALCEMIA PANEL

Calcemia Panel

is a 3-test panel, that provides fast classification of canine or feline hyper/hypocalcemia. This panel measures and interprets interrelationships between three biomarkers: **Vitamin D**, **Calcium** and the VDI exclusive **PTH$_{1-84}$** , the latest generation PTH assay that measures the complete 1-84 sequence eliminating all cross-reactivity to PTH fragments.

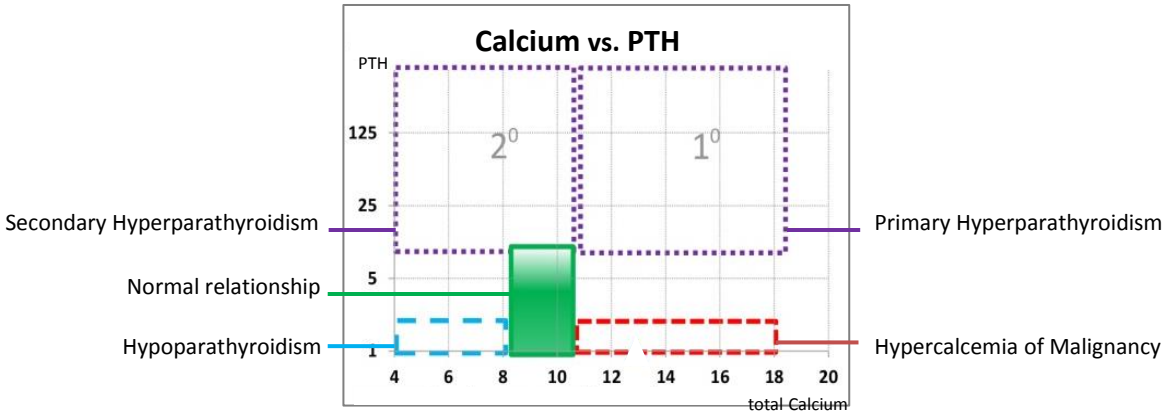


Vitamin D vs. PTH

Quickly assess if hyper/hypoparathyroidism is due to vitamin D insufficiency

Calcium vs. PTH

Rapid root-cause classification of hyper/hypocalcemia



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