POSTSURGICAL HYPOPARATHYROIDISM WITH "NORMAL" PTH

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BACKGROUND AND AIMS

- Hypoparathyroidism is characterized by hypocalcemia and low or inappropriately normal levels of PTH.
- The most common cause of hypoparathyroidism is iatrogenic due to anterior neck surgery.
- In recent years it has been documented that vitamin D insufficiency is widespread.
- The aim of this study was to investigate the cause of hypocalcemia in thyroidectomized patients with PTH within the reference range.

METHODS

- Retrospective review of clinical records of patients who underwent thyroid surgery with hypocalcemia and PTH within reference values.
- PTH was measured by chemiluminescent immunoassay (Immulite® 2000) with reference values between 11 and 65 pg/mL.
- 25-OH-vitamin D was measured by electrochemiluminescence (Cobas® e411) with these reference values: < 10 ng/mL: deficiency; 10-30 ng/mL: insuficiency; 30-100 ng/mL: suficiency; >100 ng/mL: toxicity.

RESULTS

n= 16

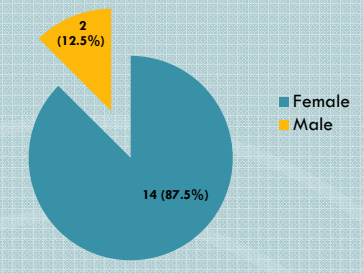

Figure 1. Sex distribution

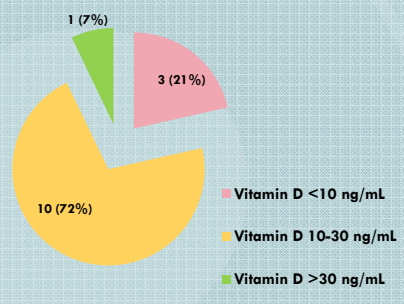

Figure 2. Vitamin D measurement

- ✓ The mean age (±SD) of patients was 42±14 years (19-67 years) at the time of surgery.
- ✓ On postoperative evaluations, all of them had "normal" PTH values with hypocalcemia.
- ✓ The mean time (±SD) of follow-up was 9.0±4.3 years (3-19 years).
- ✓ Eleven patients needed treatment with calcium and/or calcitriol.
- ✓ Hypovitaminosis D was documented in 13 of 14 patients (93%) in which this parameter was assessed
- ✓ In 2 patients vitamin D was not measured.

Table 1. Clinical and laboratory parameters at 1st and subsequent medical visits of the 16 patients.

		First medical visit				Subsequent medical visit				
Sex	Age (years)	Ca2+ (mmol/L) (1.14-1.29)	Ca tot (mg/dL) (8.6-10.5)	PTH (pg/ml) (11-65)	Vit D (ng/mL) (30-100)	Ca2+ (mmol/L) (1.14-1.29)	Ca tot (mg/dL) (8.6-10.5)	PTH (pg/ml) (11-65)	Vit D (ng/mL) (30-100)	Medication
F	19	0.73	5.0	67.4		0.98	7.6			calcium + calcitriol
F	47	1.09	9.1	41.9						No
F	40	1.11	8.1	54.8	9.5	1.07	8.6	51.0	9.8	No
F	24	1.0	7.1	26.5	7.7					calcium + calcitriol
F	64	1.09	7.9	82.3	6.2	1.11	8.2	59.4	16.7	calcium + colecalciferol
F	28	1.06	7.5	47.4	28.7	1.12	8.3	42.0	14.6	Calcium
M	67	1.12	7.8	19.0	28.1					calcium + calcitriol
F	46	1.12	8.4	20.0	21.3					calcium + calcitriol
F	52	1.11	8.0	26.6		1.12	8.7	36.0	26.3	calcium + calcitriol
F	30	1.09	7.6	42.0		1.18	8.8	20.6	29.0	calcium + calcitriol
F	39	1.12	8.9	21.4	13.8					calcium + calcitriol
F	44	1.15	8.5	15.2	22.1		9.3	15.2	26.8	calcium + calcitriol
F	49	1.09	8.0	34.4	17.7	1.13	8.2			calcium + colecalciferol
M	53	1.11	8.3	22.9	10.9	1.15	8.6	24.7	20.0	colecalciferol
F	30	0.84	6.1	26.3		1.18	9.3	20.4	29.2	No
F	38	1.13	8.4	43.2	40.4					No

DISCUSSION AND CONCLUSIONS

- A normal PTH value does not exclude the presence of postsurgical hypoparathyroidism.
- It is known that there is a reciprocal relationship between levels of PTH and 25-OH-vitamin D.
- Lack of vitamin D in patients with impaired parathyroid reserve may explain the hypocalcemia, because there is a parathyroid insufficiency to compensate it.
- These situations could probably benefit from treatment with colecalciferol.
- In these patients, the term "hypoparathyroidism" probably should be replaced by "parathyroid insufficiency".