Hungry bone syndrome »: after tertiary hypeparathyroïdism treatment.

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Introduction:
Post parathyroïdectomy hypocalcemia is a frequent situation, generally due to a definitive or transient hypoparathyroidism. The « Hungry bone syndrome », is a rare severe hypocalcemia etiology, the Hungry Bone Syndrome (HBS) was first described by Albright and Reifenstein in 1950, in patients with hyperparathyroidism with a severe and prolonged hypocalcemia after parathyroïdectomy assigned to an excessive osseous avidity, occurring in intense bone remodeling situations like fibrous osteitis or renal osteodystrophy;

Case report
We report a case of a 41 years old woman, had been undergoing chronic hemodiaptysis three times a week since 2008. Our patient suffered from musels illness with functionally impotency. Biologically she had a tertiary hyperparathyroidy with a calcium at 102 mg/l and hyperphosphorema at 56 mg/l comparing to a PTH at 1156 pg/ml with PHL up to 1114 UI/l.
Cervical sonography objectiveed a parathyroidian adenoma about 12mm of diameter, confirmed with MIBI scintigraphy. At surgery, hyperplasia was documented and all four parathyroid glands were removed.
At immediate post operative follow-up the patient presented a severe hypocalcemia getting to 1.27 mmol/l, associated to a hypophosphorema and elevation of the alkaline phosphatase by 4000 UI/l, by what we diagnosed a "Hungry bone syndrome".
To control calcemia, we had to administrate a consequent dose of calcium and vitamin D, reaching 8000mg /day of calcium gluconate, and 4 µg /day of calcitriol (see table).
In the 6 first days parenteral treatment supplementation was associated.
None of the calciuria neither the magnesemia could be obtained because of the anuria.
As we can notice in the table, we had to wait 6 month before getting normalization with decreasing of the calcium and vitamin D requirement and ordinary osseous turn over.
At clinic outcomes we noticed a disappearance of the muscles illness and recovery of the motiricy.
Over 8 month, the bone density increased in lumbar by 18 % (from 0,631g/cm²to 0,747 g/cm²), the bone density in increased in left femoral neck density inered by 14 % (from0,768 g/cm² to 0,873 g/cm²)

Discussion:
HBS is a relatively uncomon complication of parathyroïdectomy for severe PHPT associated with preoperative high bone turnover. He term ‘hungry bone syndrome’ (HBS) has been coined to the profound (serum calcium 12.1 mmol/l) and prolonged (longer than 4th day post-operatively) hypocalaemia associated with hypophosphataemia.
He reported amount of calcium supplementation required to treat the severe hypocalcaemia varies between 6 and 12 g/day(2) with concomitant use of adequate doses of active metabolites of vitamin D (calcitriol) oral alfacalcidol (2–4 ug/day).

Conclusion:
The « Hungry bone syndrome », is a rare severe hypocalcemia situation, which is difficult to control; requiring an adequate managing.
The prevention of this disease could rely on a good post operative vitamin D deficit supplementation.

References: