Serum parathyroid hormone and 25-hydroxyvitamin D concentrations before and after biliopancreatic diversion

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Biliopancreatic diversion with duodenal switch (BPD-DS) may lead to the malabsorption of several key nutrients for bone health. The resulting vitamin D deficiency and calcium malabsorption, if not appropriately corrected, will cause secondary hyperparathyroidism and promote bone loss. Our primary aim was to evaluate the prevalence of vitamin D deficiency and secondary hyperparathyroidism before and after BPD-DS. We performed a retrospective analysis of patients who had undergone BPD-DS surgery at IUCPQ between 2003 and 2010. The prevalence of vitamin D deficiency (<50 nmol/L), and hyperparathyroidism at different time-points during follow-up were calculated. 1438 patients who had undergone a BPD-DS procedure and had at least one blood test analyzed at IUCPQ (baseline mean age, 42.6 years; 69.8% women; 35.9% with vitamin D deficiency; 28.4% with hyperparathyroidism) were included. The prevalence of vitamin D deficiency decreased up to 6 months' post-op (from 35.9% down to 6.3%) then rose progressively after 1 year to plateau at 13% after 36 months. On the contrary, the prevalence of hyperparathyroidism rose after 3 months (from 28.4% to 47.3%), decreased slightly between 6 and 12 months, and then progressively increased up to 5 years (to 68.7%). In this single center, retrospective study in patients post BPD-DS, we found a low prevalence of vitamin D deficiency. However, the prevalence of secondary hyperparathyroidism was high, increasing steadily after 1 year postop. We hypothesize that compliance to supplements and/or the use of low-dose calcium carbonate in a population where calcium citrate is usually recommended may explain these results.