

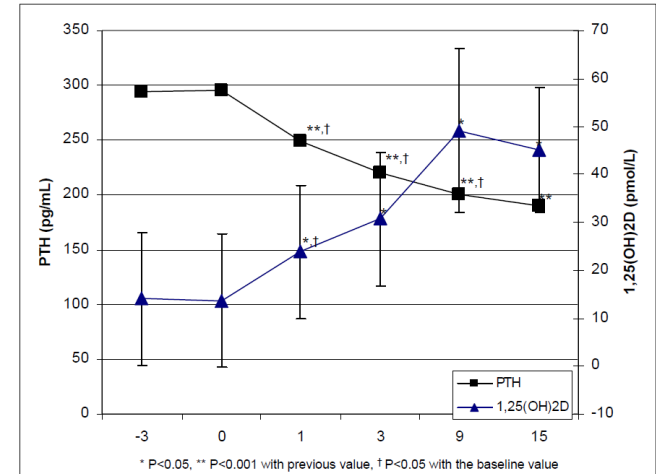
Title	Monthly cholecalciferol administration in haemodialysis patients: a simple and effective strategy for vitamin D supplementation																					
Authors	Jean G, Souberbielle JC, Chazot C (France)																					
Journal	<i>Nephrol Dial Transplant (2009) 24: 3799 – 3805</i>																					
Introduction	<p>Vitamin D, i.e. 25 (OH) D, is the substrate for the synthesis of biologically active 1,25 (OH)₂ D, which is not only involved in mineral metabolism but has a number of pleiotropic functions. Even a direct effect of 25(OH)D on parathyroid glands has been demonstrated in an animal model.</p> <p>However, 25 (OH)D deficiency is frequently observed in chronic kidney disease and dialysis patients. In spite of growing evidence of the efficacy of vitamin D supplementation, it is not yet recommended at present in dialysis patients in the KDOQI guidelines. The study intends to assess the long-term efficiency and safety of a monthly oral dose of vitamin D in HD patients.</p>																					
Material and Methods	<p>In France 107 prevalent HD patients with 25(OH) D levels <75 nmol/l were treated with a monthly oral dose of cholecalciferol (100 000 IU) in a 15-month prospective study. The target 25(OH) D level in serum was 75-250 nmol/l.</p>																					
Results and Conclusions	<p>After 15 months 91% of the patients had 25(OH) D levels > 75 nmol/l and no patient exceeded the upper limit. The serum levels of 1,25 (OH)₂ D increased progressively to a plateau after 9 months and serum PTH levels decreased significantly from a mean of 295-249 pg/ml to about 200 pg/ml (figure). Bone alkaline phosphatase decreased slightly after 3 months (p<0.05) and remained stable thereafter. There was no increased risk for low-turnover bone disease and even a favourable effect for high-turnover bone disease. No hypercalcaemia or hyperphosphataemia could be observed in this patient group.</p> <p>The present study supports the use of oral 25(OH)D supplementation as a safe, effective, simple and inexpensive means to correct vitamin D deficiency in dialysis patients.</p>																					
<p>Copyright: Medical Affairs & Medical Information FMC Deutschland GmbH</p>	 <table border="1"> <caption>Approximate data from the graph</caption> <thead> <tr> <th>Time (months)</th> <th>PTH (pg/mL)</th> <th>1,25(OH)₂D (pmol/L)</th> </tr> </thead> <tbody> <tr> <td>-3</td> <td>~295</td> <td>~10</td> </tr> <tr> <td>0</td> <td>~295</td> <td>~10</td> </tr> <tr> <td>1</td> <td>~250**</td> <td>~25*</td> </tr> <tr> <td>3</td> <td>~220**</td> <td>~35**</td> </tr> <tr> <td>9</td> <td>~200**</td> <td>~45*</td> </tr> <tr> <td>15</td> <td>~190**</td> <td>~45*</td> </tr> </tbody> </table> <p>* P<0.05, ** P<0.001 with previous value, † P<0.05 with the baseline value</p>	Time (months)	PTH (pg/mL)	1,25(OH) ₂ D (pmol/L)	-3	~295	~10	0	~295	~10	1	~250**	~25*	3	~220**	~35**	9	~200**	~45*	15	~190**	~45*
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Chart adapted from the original

Comment

In the present uncontrolled study only patients without severe disturbances in mineral metabolism were selected and the long dialysis sessions applied in this centre may have positively influenced the mineral metabolism, particularly for phosphate.