

Table 1. Clinical trials on vitamin D intervention in Type 1 diabetes mellitus

S.No	Year	Country	Participants (Number of participants)	Age	Vitamin D form and dose intervention	Study duration	Out come	Reference
Positive out comes								
1	2012	Brazil	New onset T1DM with fasting serum C-peptide >0.6 ng/ml (n=38)		Oral cholecalciferol 2000 IU/day	Mar 2006 to Oct 2010	Protective immunogenic effect and slow decline of residual β -cell function. Chemokine ligand -2 and regulatory T-cell percentage higher than placebo	Gabbay et al ⁵⁵
2	2010	Saudi Arabia	T1DM with 25 OHD levels <50 nmol/L (n=80)		4000 IU of Vitamin D ₃ and calcium intake 1200 mg/day	12 weeks	Patients achieved lower HbA1C levels if they had higher serum 25 OHD levels at 12 weeks	Aljabri KS et al ⁵⁶
3	2009	China	LADA patients (n=35)		Randomly assigned Insulin alone (n=18) and insulin plus 1-alpha OH vitamin D ₃ (0.25 μ g/day) (n=17)	1 year	Plasma C-peptide levels fasting and 2 hours post 75 gm glucose load measured over 6 months. Insulin plus 1-alpha OH vitamin D ₃ preserves pancreatic β -cell function in LADA	Li X et al ⁵²
Negative out comes								
4	2010	Rome, Italy IMDIAB XIII trial	Recent onset T1DM with basal C-peptide >0.25 nmol/l (n=34)	11-3; median 18	Randomized double-blind 0.25 μ g/day of calcitriol or placebo	2 years	Calcitriol ineffective in protecting β -cell function	Bizzarri C et al ⁵⁷ IMDIAB XIII trial group
5	2010	Germany	Recently diagnosed T1DM (n=25)	18-39	Calcitriol 0.25 μ g/day (n=25). Additional 40 patients randomly received calcitriol 0.25 μ g/day or placebo	First group- 9 months; second group treatment for 9 months and followed for 18 months	No difference in AUC C-peptide, peak C-peptide and fasting C-peptide between treatment and placebo group	Walter M et al ⁵⁸
6	2006	Rome, Italy	Recent onset T1DM (n=70)	13.6 + 7.6	Randomized to calcitriol (0.25 μ g on alternate days) or nicotinamide (25 mg/kg daily)	1 year	No significant differences between calcitriol and nicotinamide groups in respect of baseline/ stimulated C-peptide or HbA1c 1 year after diagnosis. But the insulin dose at 3 and 6 months was significantly reduced in the calcitriol group	Pitocco D et al ⁵⁹ IMDIAB XI trial group