

Particulate versus collagen-stabilized deproteinized bovine bone mineral for labial bone preservation in modified periodontally accelerated osteogenic orthodontics: a retrospective CBCT study

Clinical Oral Investigations

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Table S1 Associations between alveolar bone dimensional changes and proclination change

Measure	Main effect of $\Delta\alpha$, β (mm/°)	<i>P</i>	$\Delta\alpha \times$ graft material interaction, β (mm/°)	<i>P</i>
Net dimensional change at 6 months (T0 → T2)				
LaVBL	-0.073	0.034	0.055	0.243
LaCHBT	-0.010	0.164	0.011	0.235
LaMHBT	-0.014	0.144	0.028	0.029
LaAHBT	0.057	<0.001	-0.040	0.037
CHBT	-0.008	0.339	0.005	0.670
MHBT	-0.019	0.102	0.038	0.012
AHBT	0.02	0.229	-0.02	0.364
Postoperative dimensional loss (T1 → T2)				
LaVBL	0.003	0.896	-0.038	0.218
LaCHBT	0.005	0.453	0.009	0.336
LaMHBT	0.007	0.571	-0.016	0.335
LaAHBT	-0.035	0.070	0.044	0.083
CHBT	0.008	0.421	0.013	0.311
MHBT	0.007	0.603	-0.018	0.298
AHBT	-0.001	0.947	0.026	0.273

Linear mixed-effects models were fitted with patient as a random intercept, with DBBM as the reference group for the graft-material variable. The main-effect coefficient represents the change in the bone parameter (mm) per 1° increase in

$\Delta\alpha$, and the interaction coefficient indicates whether this association differs between graft materials. T0 denotes the preoperative assessment, T1 the immediate postoperative assessment, and T2 the 6-month postoperative assessment. Change scores were oriented so that positive values indicate net bone gain in the T0 → T2 section and postoperative dimensional loss in the T1 → T2 section. LaVBL change scores were calculated as T0 – T2 and T2 – T1, respectively; horizontal bone-thickness changes were calculated as T2 – T0 and T1 – T2, respectively. $\Delta\alpha$ change in proclination, *DBBM* deproteinized bovine bone mineral, *DBBM-C* collagen-stabilized deproteinized bovine bone mineral, *LaVBL* labial vertical bone level, *LaCHBT* labial cervical horizontal bone thickness, *LaMHBT* labial middle horizontal bone thickness, *LaAHBT* labial apical horizontal bone thickness, *CHBT* cervical horizontal bone thickness, *MHBT* middle horizontal bone thickness, *AHBT* apical horizontal bone thickness

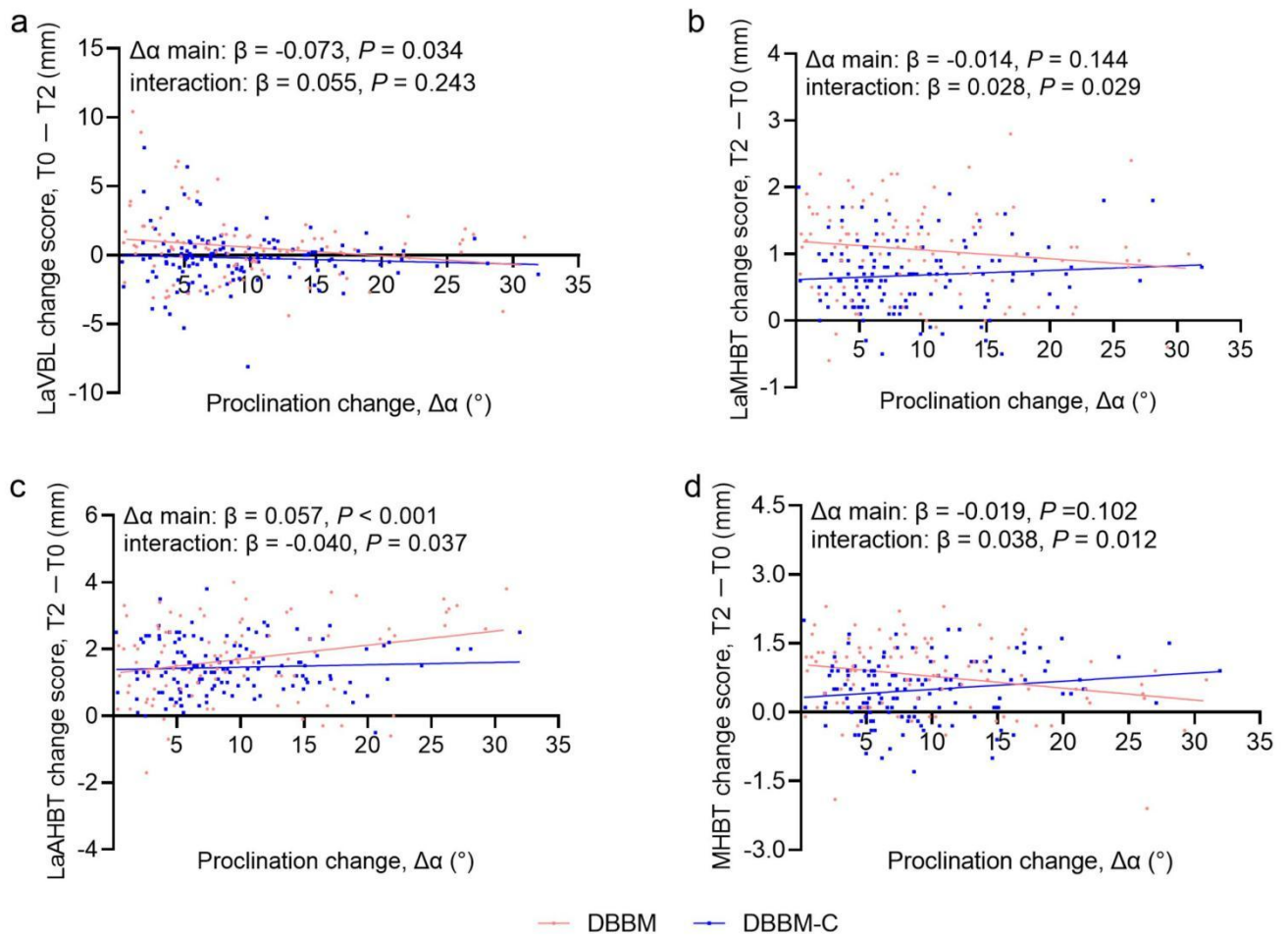


Fig. S1 Associations of proclination change ($\Delta\alpha$) with alveolar bone dimensional changes. **a–d** Associations of $\Delta\alpha$ with the LaVBL change score (T0 – T2), LaMHBT change score (T2 – T0), LaAHBT change score (T2 – T0) and MHBT

change score ($T2 - T0$), respectively. Each point represents a tooth-level observation and the lines represent material-specific fits from mixed-effects models. β represents the change in the corresponding bone parameter per 1° increase in $\Delta\alpha$; the interaction term tests whether the association differs between graft materials. $\Delta\alpha$ change in proclination, *DBBM* deproteinized bovine bone mineral, *DBBM-C* collagen-stabilized deproteinized bovine bone mineral, *LaVBL* labial vertical bone level, *LaMHBT* labial middle horizontal bone thickness, *LaAHBT* labial apical horizontal bone thickness, *MHBT* total middle horizontal bone thickness