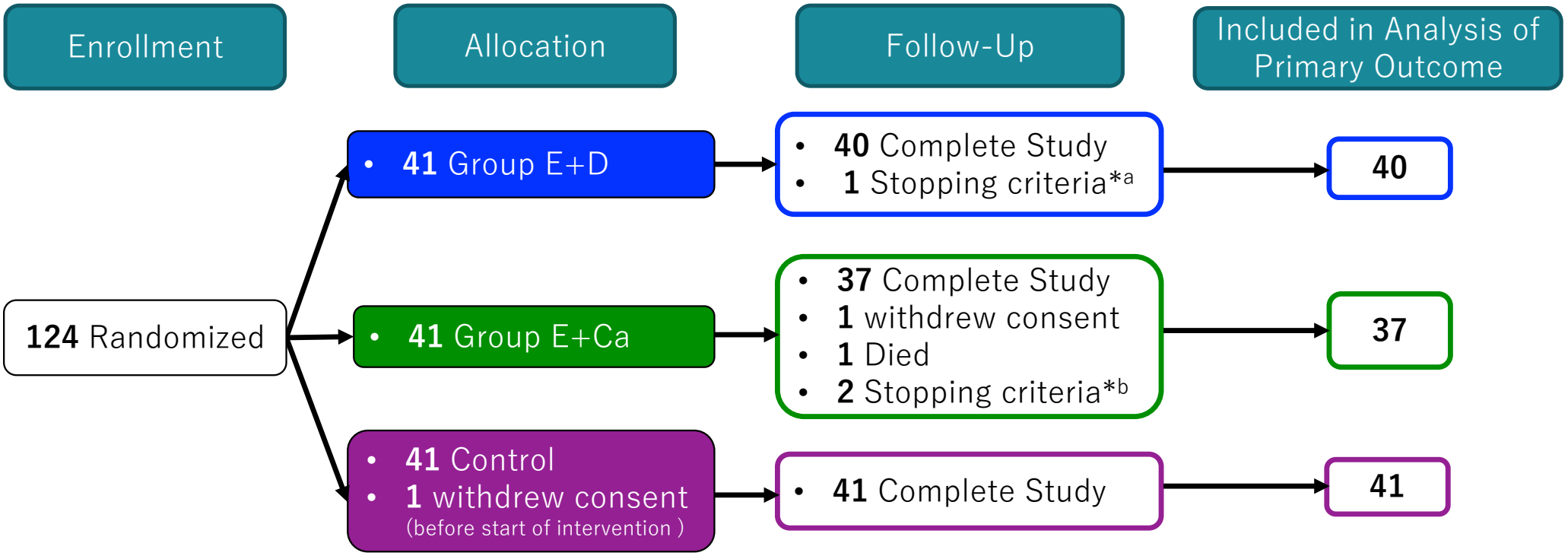


*Hospitalization (a; heart failure, b; cancer)

Figure S1. The flow diagram of this study.

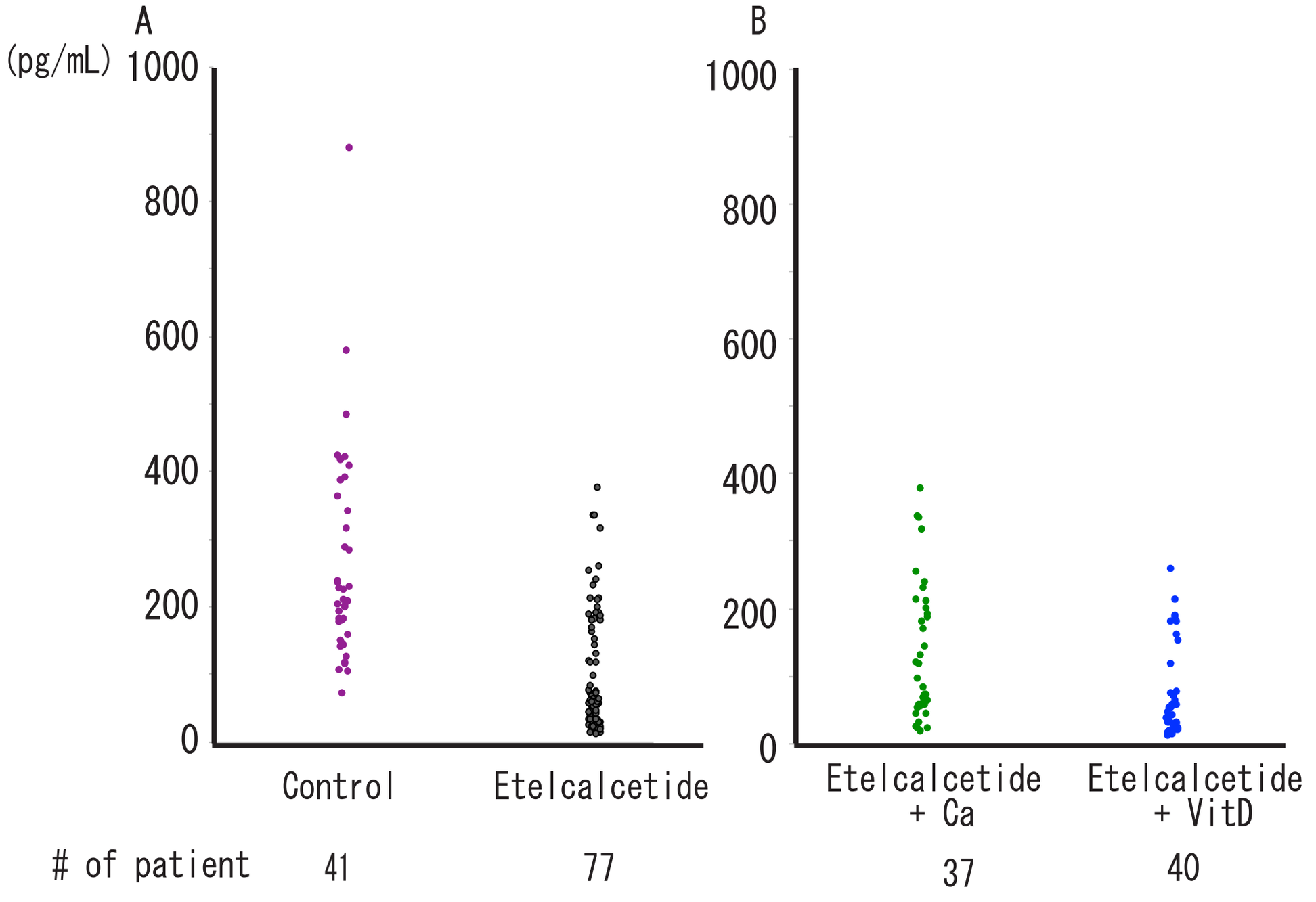


Figure S2. A distribution of iPTH at the end of the intervention

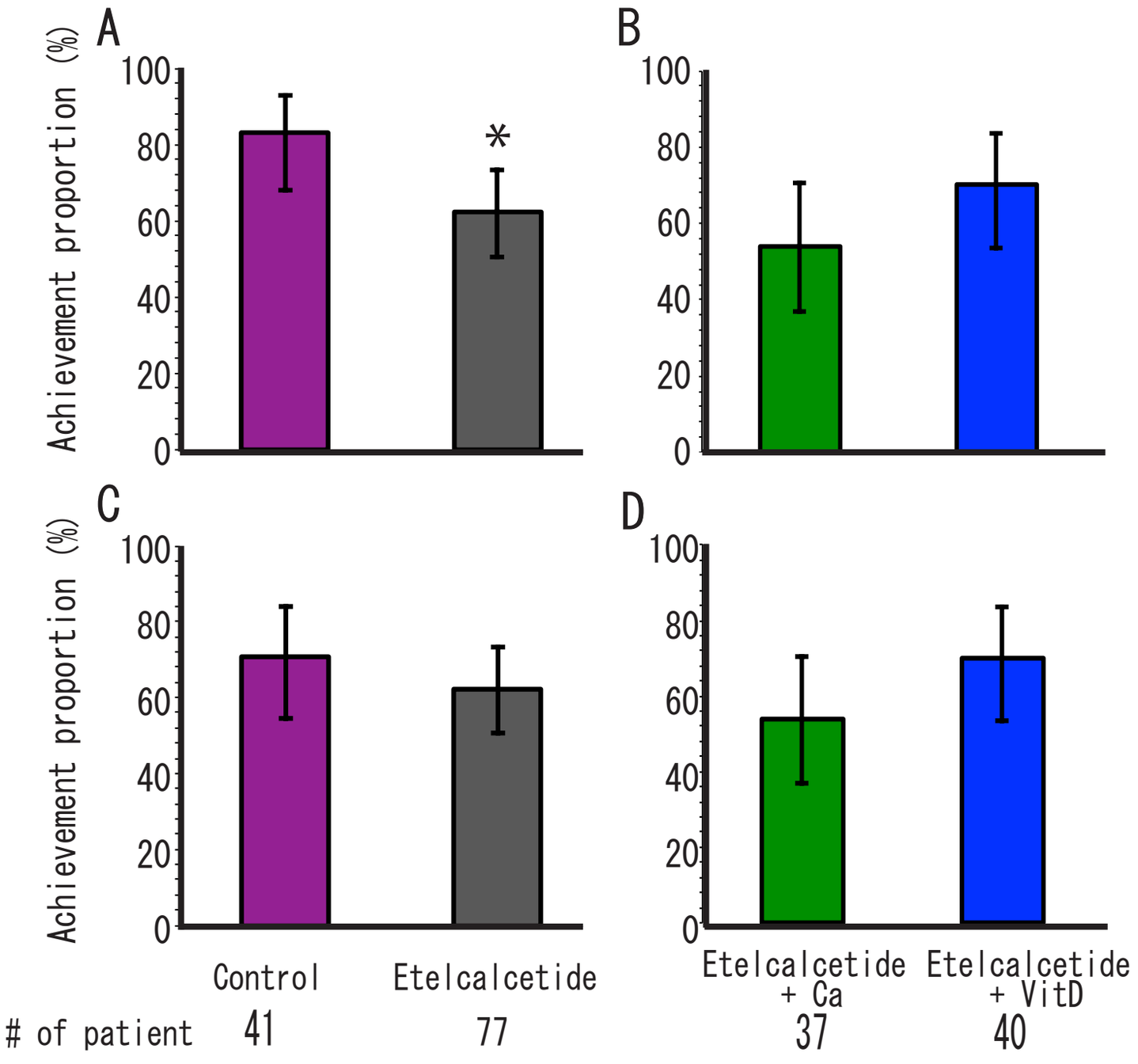


Figure S3. The achievement (95% CI) of targeted corrected calcium (A and B) and phosphate (C and D) levels in line with the Japanese Society for Dialysis Therapy (JSDT) at the end of the intervention. Odds ratios of achievement proportion for the targeted corrected calcium levels were 0.31 (95% CI; 0.12~0.81, etelcalcetide vs control) and 0.54 (95% CI; 0.20~1.5, E +D vs E + Ca) . Odds ratios for phosphate levels were 0.69 (95% CI; 0.30~1.57, etelcalcetide vs control) and 0.46 (95% CI; 0.17~1.24, E +D vs E + Ca). * $P < 0.05$

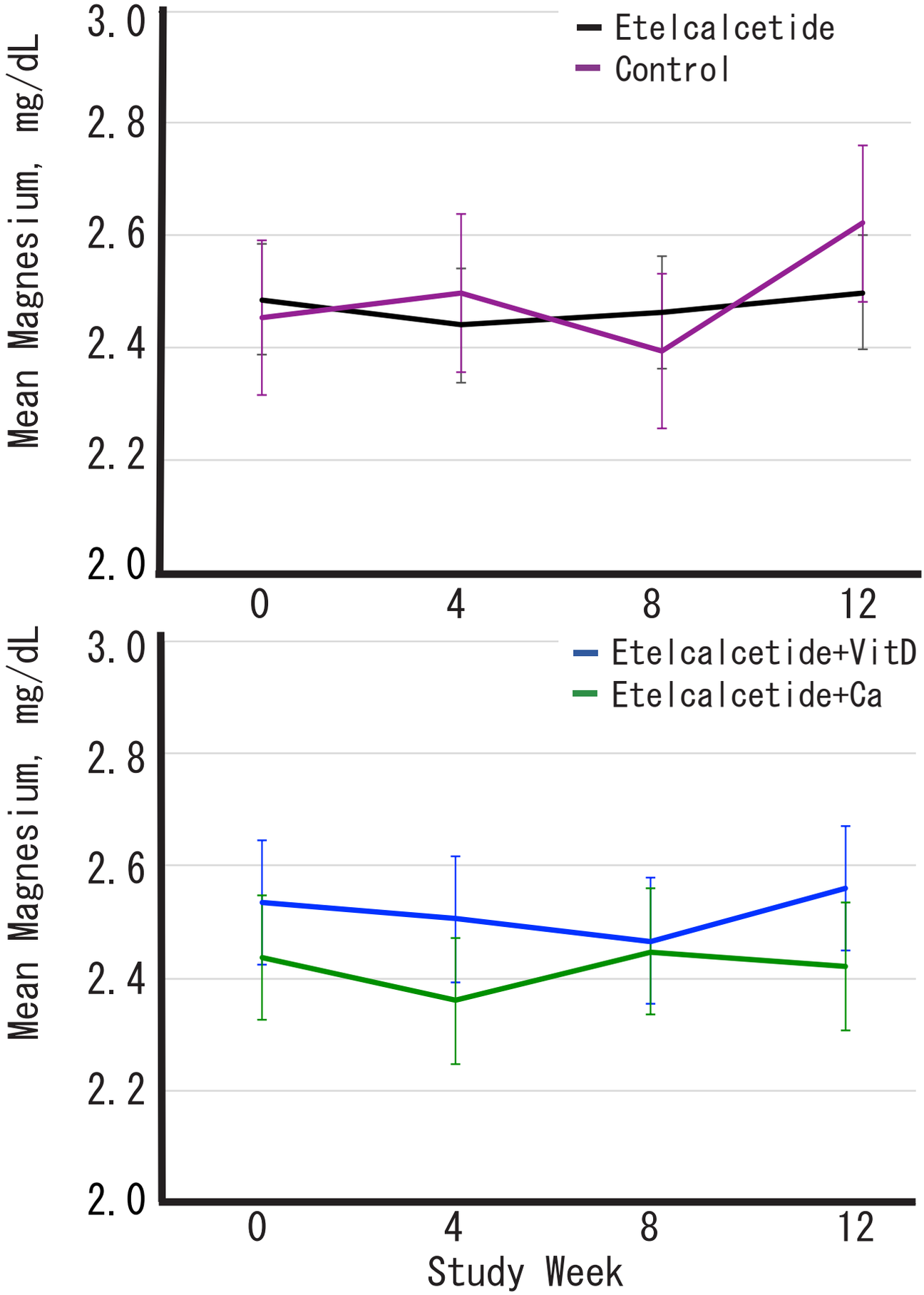


Figure S4. Change from baseline over time in magnesium.

The adjusted mean and the 95% CI calculated by a linear mixed model with each treatment group, time point, and interaction of the treatment group and time point as the fixed effects.Next, wecompared changes of each index among treatment groups at each time point using the Tukey-Kramer method to correct for multiplicity.＊ P ＜ 0.05

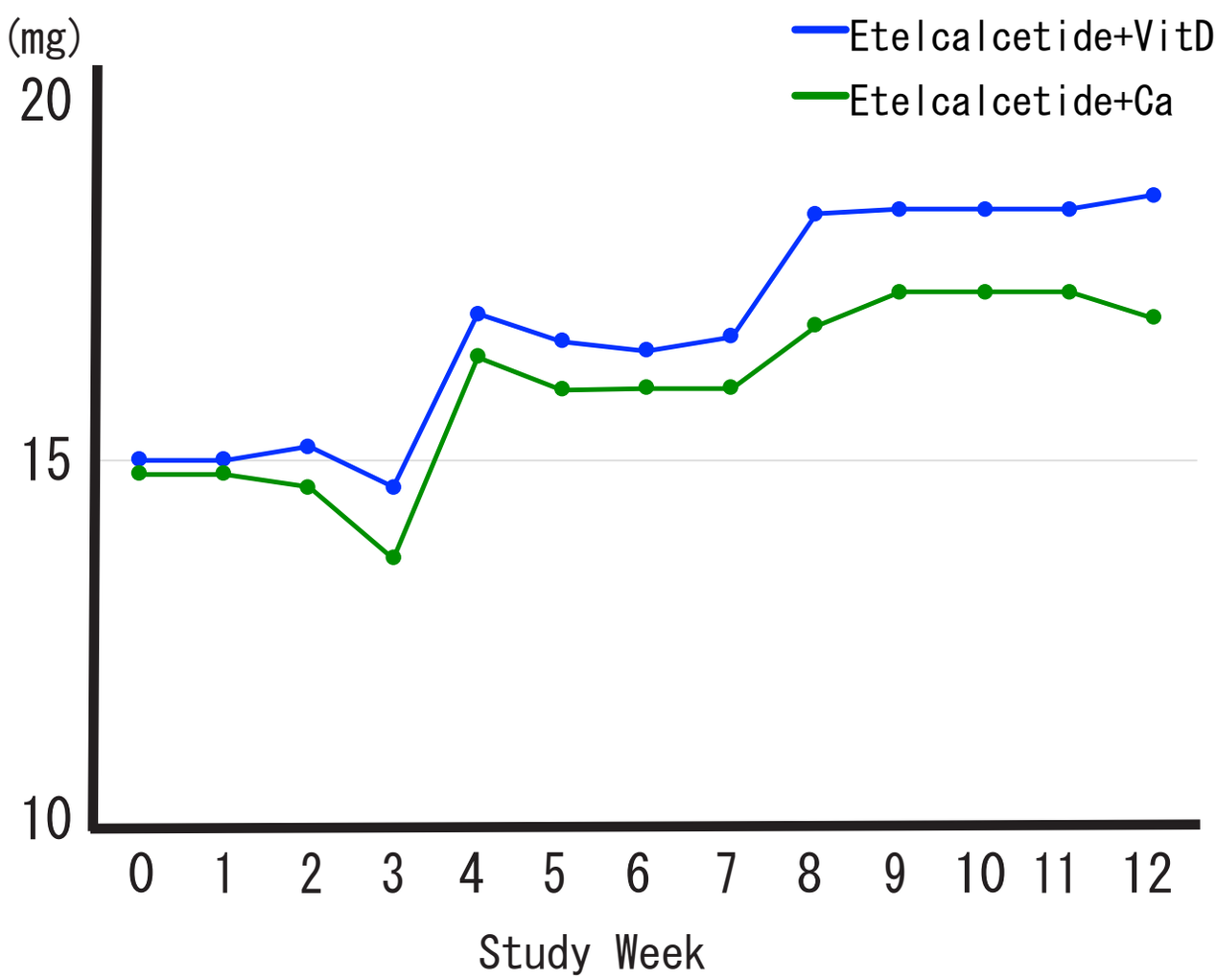
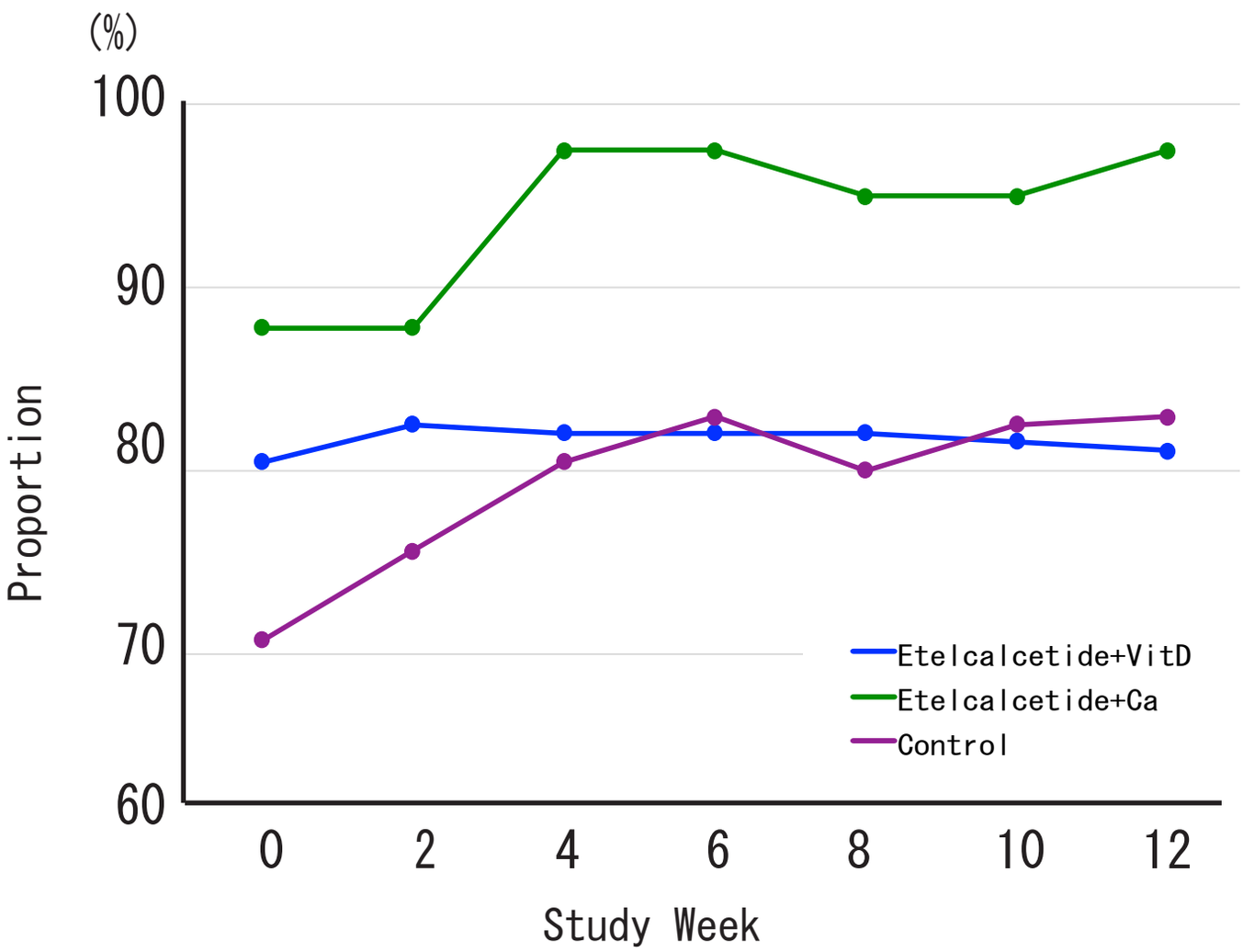


Figure S5. Weekly dose of etelcalcetide over time



Fifure S6. Use of calcitoriol,alfacalcidol or active vitamin D analogs over time

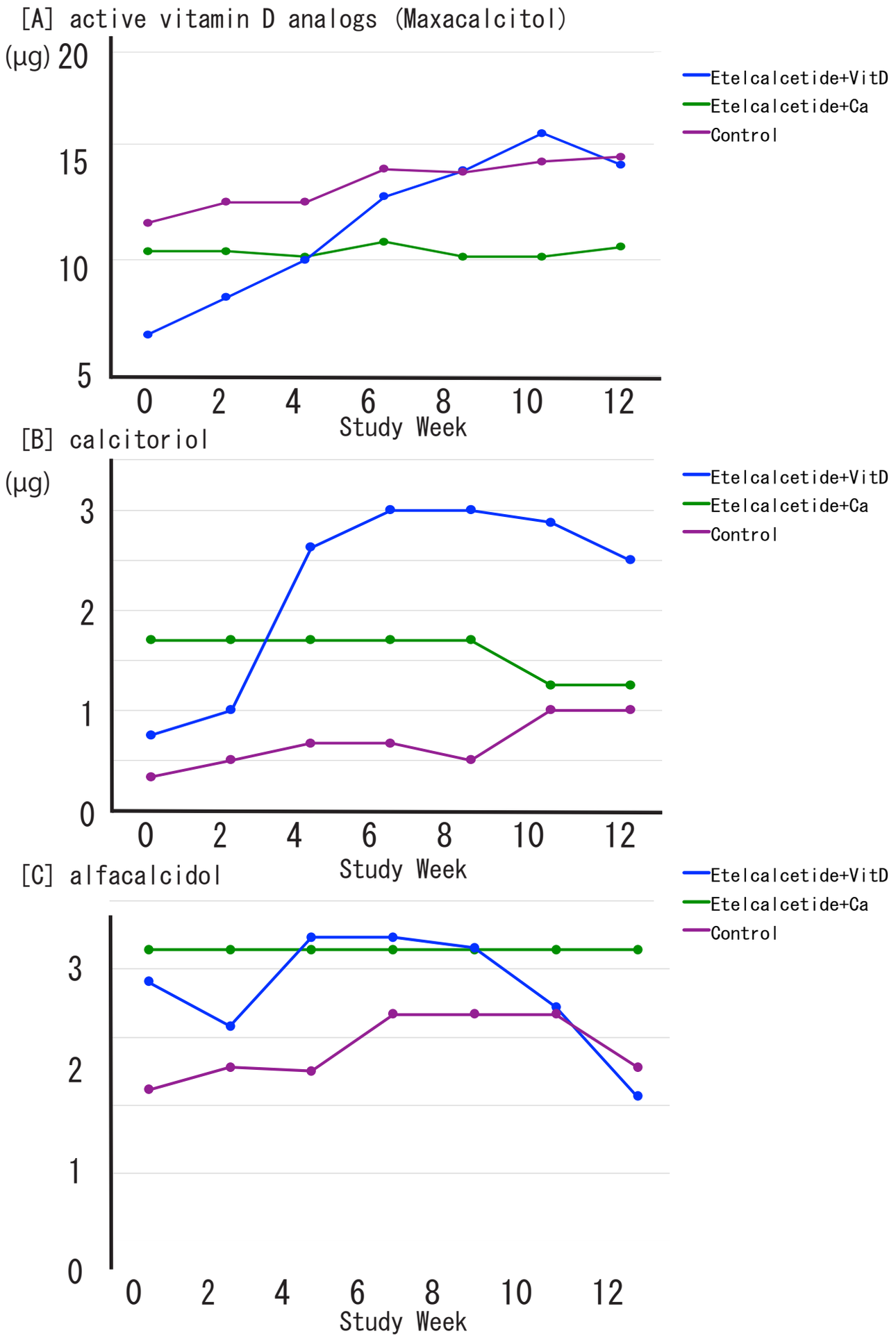


Figure S7. Weekly dose of calcitoriol, alfacalcidol or active vitamin D analogs over time

The patients in Etercalcetide +VitD group and control group were including five patients and one patient who changed alfacalcidol to Maxacalcitol, respectively.

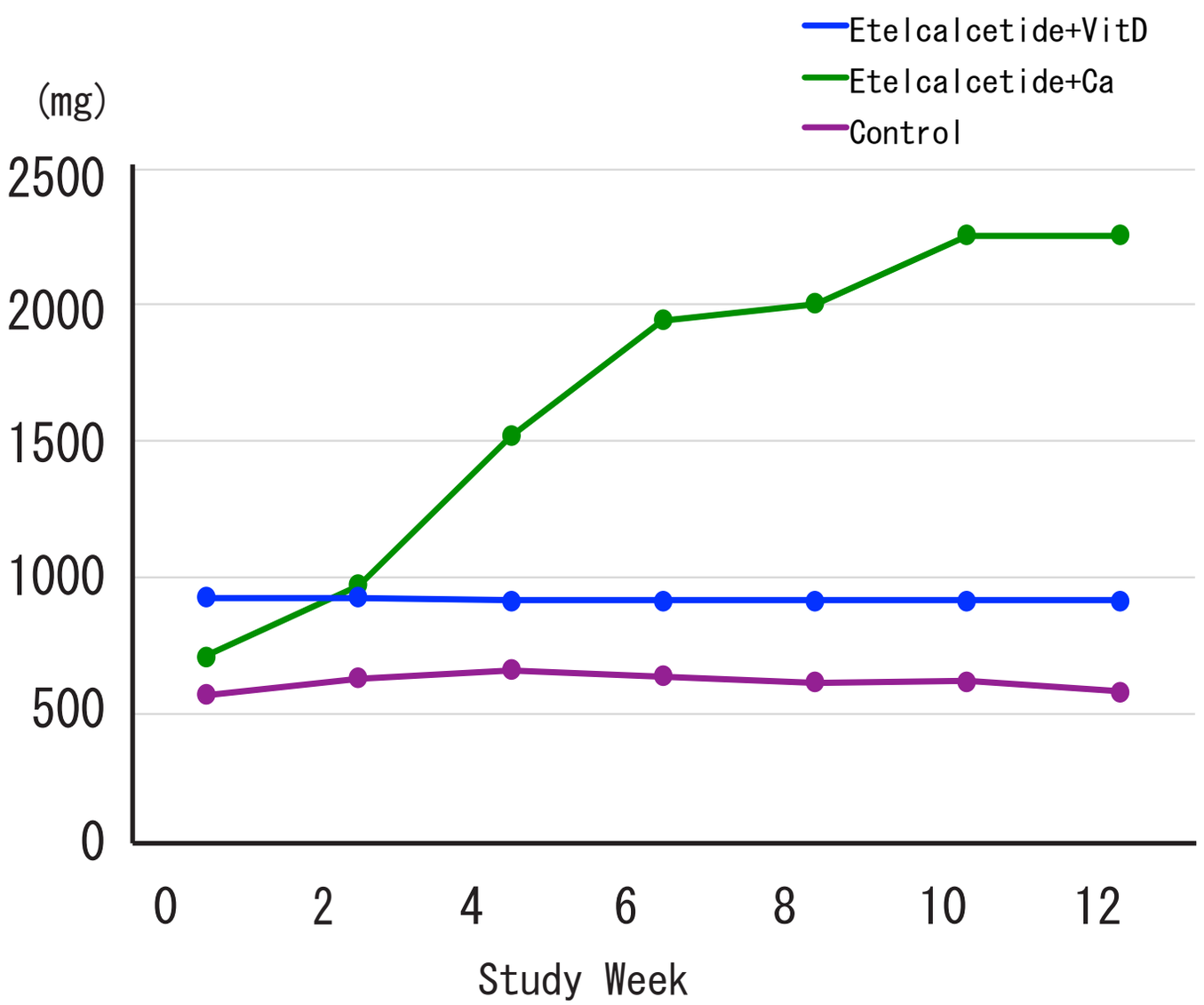


Figure S8. Weekly dose of calcium preparation (oral calcium carbonate)over time

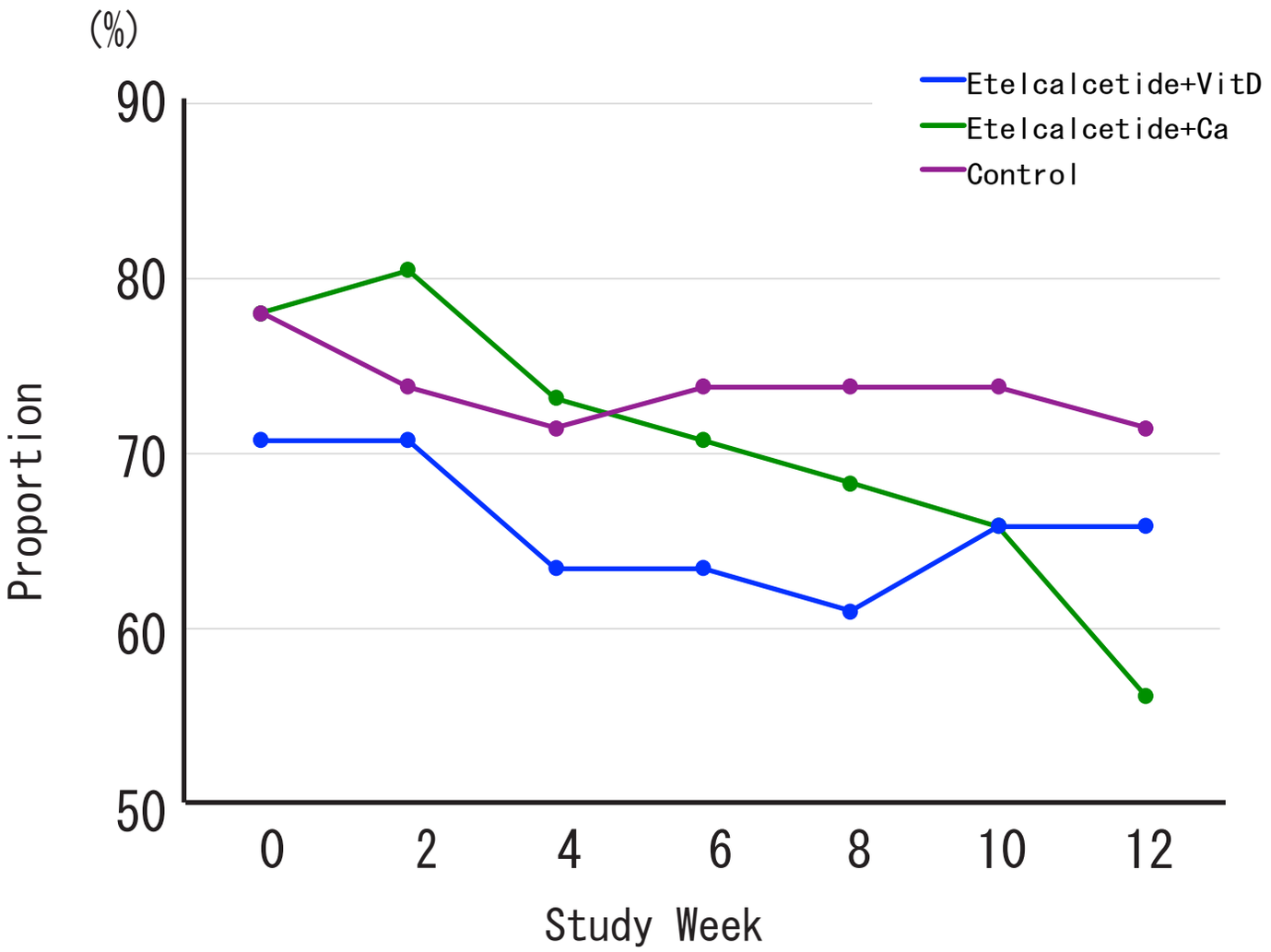


Figure S9. Use of calcium-noncontaining phosphate binders over time

Table S1. Risk of etelcalcetide-associated hypocalcemia at the end of the intervention

	Odds ratio	95% CI	P value
Age, 1year	1.007	0.96~1.05	0.759
Men, *vs* Women	1.240	0.34~4.53	0.745
Baseline iPTH	1.008	1.00~1.01	*0.006
Baseline albumin-corrected calcium	0.536	0.15~1.86	0.325
Dialysis vintage, 1year	1.009	0.90~1.14	0.879
Previous cinacalcet Use, *vs* no-use	0.807	0.14~4.79	0.814
E + Ca, *vs* E + VitD	4.100	1.24~13.5	*0.020

iPTH: intact parathyroid hormone, CI: confidence interval, E + Ca: etelcalcetide + oral calcium preparation, E + VitD: etelcalcetide + active vitamin D. Odds ratios were calculated by logistic regression analysis,

*P < 0.05

CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	1
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	3-4
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	5-6
	2b	Specific objectives or hypotheses	6
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	7
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	N/A
Participants	4a	Eligibility criteria for participants	7
	4b	Settings and locations where the data were collected	Protocol paper
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	7
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	8
	6b	Any changes to trial outcomes after the trial commenced, with reasons	N/A
Sample size	7a	How sample size was determined	Protocol paper
	7b	When applicable, explanation of any interim analyses and stopping guidelines	Protocol paper
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	Protocol paper
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	Protocol paper
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	Protocol paper
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	Protocol paper
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those	Not blinded

		assessing outcomes) and how	
	11b	If relevant, description of the similarity of interventions	N/A
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	8-9
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	N/A
Results			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	Supplement 1
	13b	For each group, losses and exclusions after randomisation, together with reasons	Supplement 1
Recruitment	14a	Dates defining the periods of recruitment and follow-up	10
	14b	Why the trial ended or was stopped	N/A
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	Table1 (21-22)
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	Table2 (23-24)
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	10
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	N/A
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	14
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	17
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	15
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	17-18
Other information			
Registration	23	Registration number and name of trial registry	4, 19
Protocol	24	Where the full trial protocol can be accessed, if available	Protocol paper available(Ref 15)
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	19

*We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions, and pragmatic trials. Additional extensions are forthcoming: for those and for up to date references relevant to this checklist, see www.consort-statement.org.