***Supplementary Table S1*. Roxadustat Dose Adjustment rule**

Change in Hb over past 4 weeks (g/L)	Hb Level at Dose-Adjustment Review Visit (g/L)			
	<105	105 to <120	≥120 to <130	≥130g/L
<-10	↑	↑	No change	Hold dosing, check Hb every 2 weeks, then resume dosing when Hb <120 g/L, at a dose that is reduced by one dose step
-10 to 10	↑	No change	↓	
>10	No change	↓	↓	

Adapted from Chen et al. *N Engl J Med. 2019 Sep 12;381(11):1011-1022.*

Abbreviations: Hb=hemoglobin; ↑ = increases; ↓ = decreases

The maximum dose was 2.5 mg/Kg.

Dose adjustment for Hb responses: Dose increases (↑) and reductions (↓) were preset according to dose steps as 20, 40, 50, 70, 100, 120, 150, 200, and 250 mg in standard-dose group and 20, 40, 50, 70, 90, 110, 130, 150, 170, 190, 210, 230, 250mg in low-dose group.

One dose reduction for excessive erythropoiesis was recommended every time.

***Supplementary Table S2*. Data collection schedule during baseline evaluation and follow-up in the study**

Data Elements	Baseline	Week 2	Week 4	Week 8	Week 12
Demographics	✓				
Laboratory data					
Complete blood counts and reticulocyte counts	✓	✓	✓	✓	✓
Biochemical indexes	✓				✓
Dialysis adequacy	✓				
Medications use and dosage	✓	✓	✓	✓	✓
Clinical symptoms and adverse events	✓	✓	✓	✓	✓
Adherence to roxadustat protocol	✓	✓	✓	✓	✓

***Supplementary Table S3*. Comparison of Baseline characteristics between the two roxadustat initial-dose groups (appendix)**

	Category/statistic	**Total (n=100)**	**Standard-dose group[*] (n=50)**	**Low-dose group (n=50)**	***P***
Weight (Kg)					0.56
	≥45 & ≤50	14 (14.0%)	9 (18.0%)	5 (10.0%)	
	>50 & ≤70	42 (42%)	22 (44.0%)	20 (40.0%)	
	>70 & ≤90	39 (39.0%)	17 (34.0%)	22 (44.0%)	
	>90	5 (5.0%)	2 (4.0%)	3 (6.0%)	
Calcium (mmol/L)		2.3 ± 0.2	2.3 ± 0.2	2.3 ± 0.2	0.37
Phosphate (mmol/L)		1.7 ± 0.4	1.7 ± 0.3	1.8 ± 0.4	0.24
Potassium (mmol/L)		4.3 ± 0.6	4.3 ± 0.5	4.2 ± 0.6	0.54
Sodium (mmol/L)		139.1 ± 2.3	138.7 ± 2.4	139.4 ± 2.1	0.13
Bicarbonate (mmol/L)		27.0 ± 2.5	27.2 ± 2.3	26.9 ± 2.6	0.56
iPTH (pg/ml)		290.1 ± 197.6	278.6 ± 177.4	301.5 ± 217.2	
	Median (IQR)	252.6 (169.1, 368.9)	261.9 (159.5, 366.8)	248.5 (175.0, 380.8)	0.67[*]
Total Kt/V		1.9 ± 0.3	1.9 ± 0.3	1.9 ± 0.3	
	Median (IQR)	1.9 (1.7, 2.1)	1.9 (1.7, 2.2)	1.9 (1.6, 2.1)	0.58
Peritoneal Kt/V		1.5 ± 0.5	1.6 ± 0.5	1.5 ± 0.5	
	Median (IQR)	1.5 (1.2, 1.9)	1.6 (1.3, 2.0)	1.5 (1.1, 1.9)	0.46
Renal Kt/V		0.4 ± 0.5	0.4 ± 0.5	0.4 ± 0.4	
	Median (IQR)	0.3 (0, 0.7)	0.1 (0, 0.6)	0.3 (0, 0.8)	0.38[*]
Total Ccr (L/week/1.73m^2)		48.1 ± 9.6	47.7 ± 8.5	48.5 ± 10.7	

	Median (IQR)	47.7 (42.9, 53.2)	47.1 (43.3, 52.9)	47.9 (42.5, 53.4)	0.68
Peritoneal Ccr (L/week/1.73m^2)		39.6 ± 13.4	39.4 ± 14.8	39.7 ± 12.1	
	Median (IQR)	39.7(33.2, 47.5)	40.1 (33.3, 46.7)	38.8 (32.4, 48.2)	0.92
Renal Ccr (L/week/1.73m^2)		8.6 ± 11.5	8.4 ±12.3	8.8 ±10.9	
	Median (IQR)	5.5(0, 13.2)	3.0 (0, 12.1)	5.9 (0, 14.6)	0.43*

Abbreviations: iPTH, intact parathyroid hormone; Kt/V, urea clearance; CCr, creatinine clearance.

*Standard-dose, 100mg and 120mg thrice-weekly respectively for patients <60 and ≥60Kg; low-dose, initial dose was 50mg, 70mg, 90mg and 110mg thrice-weekly for patients weighing ≥45Kg and ≤50Kg, >50Kg and ≤70Kg, >70Kg and ≤90Kg, >90Kg and ≤110Kg respectively.

Supplementary Table S4. **Advent events during the study period.**

	Age/ sex	Group※	Adverse events	Severity	Relation to roxadustat	Roxadustat administration
Patient.1	50+/F	Standard-dose	Acid regurgitation	mild	definitely-related	Maintenance
Patient.2	50+/M	Standard-dose	Acid regurgitation	mild	definitely-related	Maintenance
Patient.3	30+/F	Standard-dose	Pruritus, fatigue	moderate	most-likely-related	Discontinuation
Patient.4	50+/F	Standard-dose	Acid regurgitation	mild	most-likely-related	Maintenance
Patient.5	50+/F	Standard-dose	Nausea, vomiting	moderate	most-likely-related	Discontinuation
Patient.6	50+/F	Standard-dose	Fatigue	mild	most-likely-related	Temporary discontinuation
Patient.7	50+/F	Standard-dose	Hypotention	mild	possibly-related	Discontinuation
Patient.8	30+/F	Standard-dose	Nausea, vomiting	mild	possibly-related	Maintenance
Patient.9	50+/M	Standard-dose	Anorexia	mild	possibly-related	Maintenance
Patient.10	30+/F	Standard-dose	Palpitation	mild	unlikely-related	Maintenance
Patient.11	50+/F	Standard-dose	Nausea, vomiting, stomachache	mild	unlikely-related	Temporary discontinuation
Patient.12	70+/M	Standard-dose	Chest tightness	mild	unlikely-related	Discontinuation
Patient.13	50+/M	Standard-dose	Fatigue	mild	unlikely-related	Maintenance
Patient.4	50+/F	Standard-dose	Sudden hearing loss	moderate	unlikely-related	Discontinuation
Patient.9	50+/M	Standard-dose	Pruritus	moderate	unlikely-related	Maintenance
Patient.14	50+/M	Standard-dose	Nausea, vomiting	mild	unrelated	Maintenance
Patient.15	30+/M	Low-dose	Insomnia	moderate	definitely-related	Discontinuation
Patient.16	50+/F	Low-dose	Sudden hearing loss	moderate	most-likely-related	Maintenance
Patient.17	50+/M	Low-dose	Headache	moderate	most-likely-related	Discontinuation
Patient.18	50+/M	Low-dose	Vomiting	mild	most-likely-related	Discontinuation
Patient.19	50+/M	Low-dose	Acid regurgitation, vomiting	mild	possibly-related	Maintenance
Patient.20	50+/F	Low-dose	Acid regurgitation	mild	possibly-related	Maintenance

Patient.21	30+/M	Low-dose	Fatigue	mild	possibly-related	Maintenance
Patient.22	50+/M	Low-dose	Nausea, anorexia, dizziness, palpitation	moderate	possibly-related	Discontinuation
Patient.23	50+/M	Low-dose	Elevation of blood pressure, dizziness, fatigue	mild	unlikely-related	Maintenance
Patient.24	30+/M	Low-dose	Pruritus	moderate	unlikely-related	Maintenance
Patient.23	50+/M	Low-dose	Nausea	mild	unlikely-related	Maintenance

Abbreviation: F, female. M, male.

※standard-dose, 100mg and 120mg thrice-weekly respectively for patients <60 and ≥60kg; low-dose, initial dose was 50mg, 70mg, 90mg and 110mg thrice-weekly for patients weighing ≥45Kg and ≤50Kg, >50Kg and ≤70Kg, >70Kg and ≤90Kg, >90Kg and ≤110Kg respectively.

30+, >30 and ≤50 years old; 50+, >50 and ≤70 years old; 70+, >70 years old.

Supplement Table S5. Proportion of patients with Hb at different levels in the two roxadustat dose groups (patients conversion from ESA treatment)

Timepoint	Hb (g/dL)	Standard-dose group, n (%)	Low-dose group, n (%)	*P*[#]
Baseline				
	<100	7 (14.6)	7 (14.6)	1.00
	≥100&≤120	41 (85.4)	41 (85.4)	1.00
	>120	0 (0)	0 (0)	—
Week 2				
	<100	4 (8.3)	9 (18.8)	0.14
	≥100&≤120	38 (79.2)	35 (72.9)	0.47
	>120	6 (12.5)	4 (8.3)	0.50
	>130	2(4.2)	1(2.0)	0.56
Week 4				
	<100	4 (8.3)	8 (16.7)	0.22
	≥100&≤120	28 (58.3)	28 (58.3)	1.00
	>120	16 (33.3)	12 (25.0)	0.37
	>130	3(6.3)	3(6.3)	1.00
Week 8				
	<100	2 (4.2)	10 (20.8)	0.01
	≥100&≤120	33 (68.8)	22 (45.8)	0.02
	>120	13 (27.1)	16 (33.3)	0.51
	>130	4(8.3)	6(12.5)	0.50
Week 12				
	<100	3 (6.3)	10 (20.8)	0.04
	≥100&≤120	31 (64.6)	25 (52.1)	0.21
	>120	14 (29.2)	13 (27.1)	0.82
	>130	1(2.0)	4(8.3)	0.17

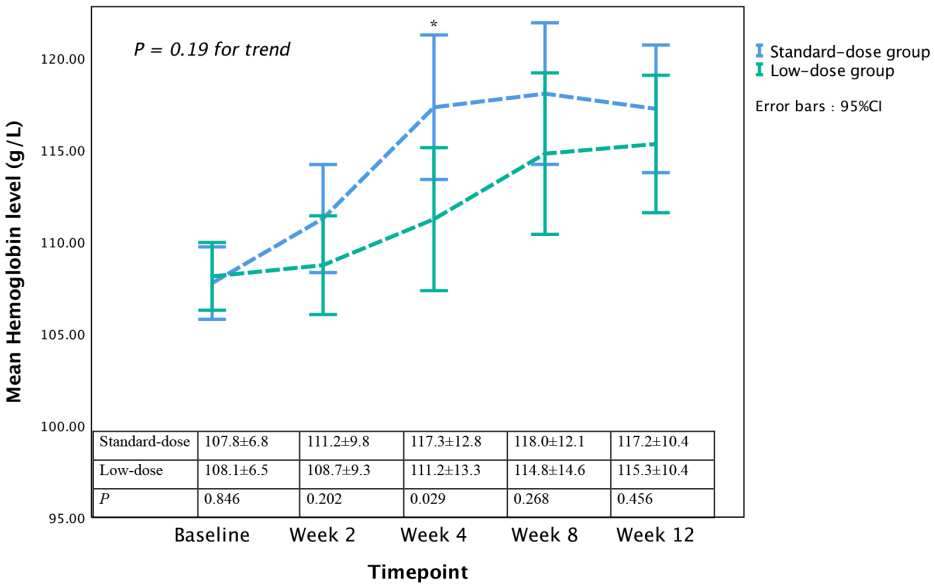
At each timepoint, comparison between groups were performed at each category of Hb level range by 2×2 crosstabs.

Supplement Table S6. Proportion of patients with Hb at different levels in the two roxadustat dose groups (per-protocol population)

Timepoint	Hb (g/dL)	Standard-dose group, n (%)	Low-dose group, n (%)	$P^{\#}$
Baseline				
	<100	7 (14.0)	7 (14.0)	1.00
	≥100&≤120	43 (86)	43 (86)	1.00
	>120	0 (0)	0 (0)	—
Week 2				
	<100	3 (6.7)	9 (18.8)	0.12
	≥100&≤120	34 (75.6)	35 (72.9)	0.77
	>120	8 (17.8)	4 (8.3)	0.22
	>130	2(4.4)	1(2.1)	0.61
Week 4				
	<100	3 (7.0)	8 (17.0)	0.20
	≥100&≤120	22 (51.2)	28 (59.6)	0.42
	>120	18 (41.9)	11 (23.4)	0.06
	>130	7(16.3)	3(6.4)	0.18
Week 8				
	<100	1 (2.5)	8 (17.8)	0.03
	≥100&≤120	25 (62.5)	21 (46.7)	0.14
	>120	14 (28.0)	16 (35.6)	0.96
	>130	6 (15.0)	6 (13.3)	0.83
Week 12				
	<100	2 (5.4)	7 (16.3)	0.17
	≥100&≤120	20 (54.1)	23 (53.5)	0.96
	>120	15 (40.5)	13 (30.2)	0.34
	>130	3 (8.1)	4 (9.3)	1.00

At each timepoint, comparison between groups were performed at each category of Hb level range by 2×2 crosstabs.

Supplementary Figure. Comparison of hemoglobin responses between the standard-dose group and the low-dose group (per-protocol population)



Standard-dose	107.8±6.8	111.2±9.8	117.3±12.8	118.0±12.1	117.2±10.4
Low-dose	108.1±6.5	108.7±9.3	111.2±13.3	114.8±14.6	115.3±10.4
P	0.846	0.202	0.029	0.268	0.456

*P<0.05 between the standard-dose group and the low-dose group

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	P1
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	P3
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	P5
	2b	Specific objectives or hypotheses	P6
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	P6
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	NA
Participants	4a	Eligibility criteria for participants	P6
	4b	Settings and locations where the data were collected	P6
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	P7
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	P9
	6b	Any changes to trial outcomes after the trial commenced, with reasons	NA
Sample size	7a	How sample size was determined	P11
	7b	When applicable, explanation of any interim analyses and stopping guidelines	NA
Randomisation:			
Sequence	8a	Method used to generate the random allocation sequence	P7

generation	8b	Type of randomisation; details of any restriction (such as blocking and block size)	P7
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	P7
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	P7
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how	P7
	11b	If relevant, description of the similarity of interventions	NA
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	P10
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	P10
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	P 11, FIGURE 1
	13b	For each group, losses and exclusions after randomisation, together with reasons	P11, FIGURE 1
Recruitment	14a	Dates defining the periods of recruitment and follow-up	P11
	14b	Why the trial ended or was stopped	NA
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	TABLE 1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	P12 , FIGURE 1
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)	P13
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	P13
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	P12-14
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	P11
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	P16-17

Generalisability	21	Generalisability (external validity, applicability) of the trial findings	P16
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	P14-16
Other information			
Registration	23	Registration number and name of trial registry	P3, P6
Protocol	24	Where the full trial protocol can be accessed, if available	P3, P6
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	P18

*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.