STROBE Statement—checklist of items that should be included in reports of observational studies

Completed based on the revised manuscript "Intravenous tirofiban in non-LVO progressive stroke beyond the thrombolysis window". Page numbers refer to the supplied manuscript page version.

	Item No.	Recommendation	Page No.	Relevant text from manuscript
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1	Abstract, Methods: "This retrospective cohort study included 44 patients with progressive ischemic stroke…" The abstract identifies the observational cohort design.
Title and abstract	1	(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1–2	The abstract provides background, objective, methods, principal efficacy and safety findings, and a cautious conclusion: 26 patients received tirofiban plus DAPT and 18 received standard DAPT; outcomes included NIHSS day 7, mRS 0–1 at 90 days, and safety events.
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	2–3	The Introduction explains the clinical problem: patients beyond the thrombolytic window and without LVO have limited acute treatment options. It also provides the mechanistic rationale that progressive stroke may involve thrombus propagation or recurrent microembolization, supporting antiplatelet therapy.
Objectives	3	State specific objectives, including any prespecified hypotheses	3	The objective is stated: "the present study aimed to evaluate the safety and efficacy of intravenous tirofiban in this specific patient population".
Methods				
Study design	4	Present key elements of study design early in the paper	4	Methods, 2.1: "This was a single-center, retrospective, non-randomized controlled study conducted at Weifang Traditional Chinese Medicine Hospital."
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4, 6–7	The setting and dates are reported: the study was conducted at Weifang Traditional Chinese Medicine Hospital; patients were screened between May 2021 and May 2022. Treatment exposure is described in section 2.3, and follow-up outcomes were assessed at day 7 and 90 days.
Participants	6	(a) Cohort study—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up Case-control study—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls Cross-sectional study—Give the eligibility criteria, and the sources and methods of selection of participants	4–7	Eligibility criteria and participant selection are reported in sections 2.1–2.3: eligible AIS patients were beyond the thrombolysis window, had no large vessel/major arterial occlusion, and met predefined progressive stroke criteria; exclusion criteria are listed. The control group was derived from a local registry cohort meeting the same clinical and imaging criteria. Follow-up outcomes included NIHSS at day 7 and mRS at 90 days.
Participants	6	(b) Cohort study—For matched studies, give matching criteria and number of exposed and unexposed Case-control study—For matched studies, give matching criteria and the number of controls per case	7–8	For the matched cohort, propensity score matching used a 1:1 nearest-neighbor algorithm without replacement. Matching variables included age, sex, baseline NIHSS score, and lesion location. After matching, 44 patients were analyzed: 26 in the tirofiban group and 18 in the control group.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4–7	Key variables are defined: progressive stroke was NIHSS deterioration ≥2 points or ≥1 point for limb paresis within 24 h; exposure was tirofiban plus DAPT versus standard DAPT; efficacy outcomes were NIHSS at day 7 and mRS 0–1 at 90 days; safety outcomes included sICH, any ICH, major systemic bleeding, thrombocytopenia, and all-cause mortality. PSM/regression covariates included age, sex, baseline NIHSS, and lesion location.
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4–7	Data sources and measurements are described: arterial occlusion status was assessed by CTA or MRA; neurological status was measured by NIHSS; functional outcome by mRS; sICH required NIHSS worsening ≥4 points plus CT-confirmed intracranial hemorrhage; platelet counts were monitored daily. Both treatment groups met the same clinical and imaging criteria.
Bias	9	Describe any efforts to address potential sources of bias	7–8, 16	Bias was addressed using propensity score matching to reduce selection bias and logistic regression restricted to clinically essential covariates to avoid overfitting. The Discussion also acknowledges residual confounding from the retrospective, non-randomized design.
Study size	10	Explain how the study size was arrived at	4	Study size is explained: "As this was a retrospective exploratory study, no formal sample size calculation was performed. All consecutive patients who met the inclusion criteria during the study period were included."
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	7–9, 11	Quantitative variables were summarized descriptively and reported as mean ± SD or median (IQR), as appropriate in the tables. Between-group comparisons used the Mann–Whitney U test for continuous/ordinal outcomes and Chi-square/Fisher's exact tests for categorical variables.
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	7–8, 12–13	Statistical methods included descriptive statistics, 1:1 propensity score matching, SMD assessment of balance, Mann–Whitney U test, Chi-square/Fisher's exact test, and logistic regression for favorable outcome at 90 days. Results were reported as ORs with 95% CIs; the results section reports adjustment for age, baseline NIHSS score, and sex.
Statistical methods	12	(b) Describe any methods used to examine subgroups and interactions	16	No subgroup or interaction analyses were prespecified. The limitations state that no prespecified subgroup analyses were conducted to evaluate different dosing strategies.
Statistical methods	12	(c) Explain how missing data were addressed	5	Missing/incomplete data were addressed by exclusion: patients with "incomplete clinical or imaging data" were excluded.
Statistical methods	12	(d) Cohort study—If applicable, explain how loss to follow-up was addressed Case-control study—If applicable, explain how matching of cases and controls was addressed Cross-sectional study—If applicable, describe analytical methods taking account of sampling strategy	7, 11–13	The cohort outcome assessment was at 90 days using mRS. Loss to follow-up was not separately described; the matched analysis reports 90-day outcomes for the 44 analyzed patients.
Statistical methods	12	(e) Describe any sensitivity analyses	16	No sensitivity analyses were reported.
Results				
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	8	Participant numbers are reported: 57 patients met initial inclusion criteria; after 1:1 PSM, 44 patients were retained for matched analysis, including 26 in the tirofiban group and 18 in the control group.
Participants	13*	(b) Give reasons for non-participation at each stage	5, 8	Reasons for exclusion/non-participation are described by the exclusion criteria, including hemorrhage, bleeding risk, platelet/coagulation disorders, severe hepatic/renal dysfunction, anticoagulant use, severe comorbidity, pregnancy/breastfeeding, and incomplete clinical or imaging data. The manuscript does not provide a separate count for each exclusion reason.
Participants	13*	(c) Consider use of a flow diagram	8	A formal participant flow diagram is not included. Participant flow is summarized in text: 57 initially eligible and 44 retained after matching.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	8–9	Baseline demographic and clinical characteristics are reported in Table 1, including sex, age, baseline NIHSS, hypertension, diabetes, previous ischemic stroke, cardiovascular disease, alcohol use, smoking, and lesion location, with P values and SMDs.
Descriptive data	14*	(b) Indicate number of participants with missing data for each variable of	5	Participants with incomplete clinical or imaging data were excluded. The number of missing values for each individual variable is not separately reported.

		interest		
Descriptive data	14*	(c) Cohort study—Summarise follow-up time (eg, average and total amount)	7	Follow-up time is defined by the outcome assessments: NIHSS at day 7 and mRS/all-cause mortality at 90 days. Average or total follow-up time is not otherwise summarized.
Outcome data	15*	Cohort study—Report numbers of outcome events or summary measures over time	10–13	Cohort outcome data are reported in Figures 2–3 and Tables 2–3. At 90 days, favorable functional outcome (mRS 0–1) occurred in 21/26 patients (80.77%) in the tirofiban group and 5/18 patients (27.78%) in the control group.
Outcome data	15*	Case-control study—Report numbers in each exposure category, or summary measures of exposure	N/A	Not applicable; this is a retrospective cohort study, not a case-control study.
Outcome data	15*	Cross-sectional study—Report numbers of outcome events or summary measures	N/A	Not applicable; this is a retrospective cohort study, not a cross-sectional study.
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	11–13	Unadjusted between-group results are shown in Table 2, including NIHSS at day 7, ΔNIHSS, mRS at 90 days, and mRS 0–1 at 90 days. Adjusted results are shown in Table 3: tirofiban treatment remained associated with favorable functional outcome (adjusted OR 15.67, 95% CI 2.97–82.61, P < 0.01), adjusted for age, baseline NIHSS score, and sex.
Main results	16	(b) Report category boundaries when continuous variables were categorized	7–9, 11–13	Continuous variables were not categorized for the main regression model. Categorical variables were explicitly defined and reported, including sex, vascular risk factors, lesion location, treatment group, and mRS 0–1 at 90 days.
Main results	16	(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	11–13	Absolute outcome proportions are reported where clinically meaningful, including mRS 0–1 at 90 days: 80.77% in the tirofiban group versus 27.78% in the control group.
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	7–8, 13	Other analyses included propensity score matching and multivariate logistic regression. No subgroup, interaction, or sensitivity analyses were reported.
Discussion				
Key results	18	Summarise key results with reference to study objectives	13	The Discussion summarizes the key findings: compared with standard DAPT, tirofiban was associated with greater neurological improvement at day 7 and a higher rate of favorable functional outcomes at 90 days, without increased intracranial hemorrhage or systemic bleeding.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	16–17	Limitations are discussed: single-center retrospective design, small sample size, non-randomized allocation, possible residual confounding, unmeasured clinical confounders, lack of systematic dynamic blood pressure data, limited imaging variables, individualized dosing, and insufficient power to detect rare safety events.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	13–17	The interpretation is cautious and considers study objectives, limitations, and previous evidence. The manuscript states that tirofiban may be promising in this underrepresented population but that findings should be interpreted cautiously and confirmed by large-scale prospective randomized trials.
Generalisability	21	Discuss the generalisability (external validity) of the study results	16–17	Generalisability is addressed through the limitations: the single-center retrospective design and small sample size may limit generalizability; future large-scale, multicenter prospective randomized trials are recommended.
Other information				
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18	Funding statement: "This research received no external funding." No funder role applies.

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article. Information on the STROBE Initiative is available at www.strobe-statement.org.