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

Manuscript: "Does Exposure Timing Matter? Glycemic Indices and External Ventricular Drain–Associated Infection" (retrospective cohort study). Locations refer to the section of the manuscript; page numbers to be inserted before submission.

	Item	Recommendation	Reported in
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	Abstract, Methods ("single-center retrospective cohort study"). Page 3-4
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	Abstract. Page 3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Introduction, paragraphs 1–3. Page 4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	Introduction, paragraphs 2–3 (aim: whether dysglycemia is associated with EVD-associated infection using analyses that preserve exposure–outcome timing). Page 5
Methods			
Study design	4	Present key elements of study design early in the paper	Methods — Study design and setting (retrospective single-center cohort). Page 6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Methods — Study design and setting (single tertiary center; January 2018–July 2023). Page 6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	Methods — Participants; Outcomes (followed to discharge or death); Figure 1. Page 6
		(b) For matched studies, give matching criteria and number of exposed and unexposed	Not applicable (unmatched cohort).
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Methods — Outcomes (2015 CDC/NHSN criteria); Exposure definitions and the exposure-window framework; Baseline and post-insertion variables. Page 6-7
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	Methods — Exposure definitions (blood glucose from the electronic medical record; CSF glucose not used). Page 7-8
Bias	9	Describe any efforts to address potential sources of bias	Methods — Exposure-window framework (fixed 72-hour window to limit reverse causation); Baseline vs post-insertion variables (ascertainment bias); competing-risk analysis for pre-infection death. Page 7
Study size	10	Explain how the study size was arrived at	Methods — Participants (final sentence): no formal sample size calculation; all consecutive eligible patients were included. Page 6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Methods — Statistical analysis (continuous glycemic indices standardized to 1 SD; hypoglycemia dichotomized at <70 and <54 mg/dL; hyperglycemia burden at >180 mg/dL). Page 9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	Methods — Statistical analysis. Page 9
		(b) Describe any methods used to examine subgroups and interactions	Methods — Statistical analysis: the whole-admission vs 72-hour exposure windows were compared with a hypoglycemia-by-window interaction term in a logistic GEE model (ratio of odds ratios). Page 9
		(c) Explain how missing data were addressed	Methods — Statistical analysis: complete-case analysis; body mass index missing in 23, HbA1c and SHR available in 40. Page 9
		(d) If applicable, explain how loss to follow-up was addressed	Methods — Participants (transfer before outcome assessment excluded); Outcomes (followed to discharge or death); pre-infection death handled as a competing event. Page 7
		(e) Describe any sensitivity analyses	Methods — Statistical analysis (equivalence-margin sensitivity; time-dependent Cox additionally adjusted for admission GCS; adjustment for intravenous insulin in the mortality analysis). Page 10
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study	Results — Cohort characteristics; Figure 1 (262 records → 210 insertions → 107 analysed). Page 11
		(b) Give reasons for non-participation at each stage	Figure 1 (exclusion reasons with numbers).
		(c) Consider use of a flow diagram	Figure 1.
Descriptive data	14*	(a) Give characteristics of study participants and information on exposures and	Table 1. Page 11

		potential confounders	
		(b) Indicate number of participants with missing data for each variable of interest	Table 1 footnotes (BMI missing in 23; HbA1c and SHR in 40; Hunt–Hess and Fisher grades in the 55 SAH patients). Page 9
		(c) Summarise follow-up time	Results — Hypoglycemia and exposure window (pre-diagnosis observation: median 11 vs 7 days); Table 1 (EVD duration, length of stay).
Outcome data	15*	Report numbers of outcome events or summary measures over time	Results — Cohort characteristics (21 infections, 19.6%); Cumulative incidence of infection; Table 7. Page 11
Main results	16	(a) Give unadjusted and, if applicable, confounder-adjusted estimates and their precision. Make clear which confounders were adjusted for and why	Tables 2–6; Results — Hyperglycemic indices; Hypoglycemia and exposure window; Time-to-event analysis (adjusted for diabetes and hemorrhage subtype; sensitivity adjustment for GCS); Hypoglycemia and mortality (adjusted for GCS and age). Page 11
		(b) Report category boundaries when continuous variables were categorized	Methods — Exposure definitions (hypoglycemia <70 and <54 mg/dL; hyperglycemia burden >180 mg/dL). Page 8
		(c) If relevant, consider translating estimates of relative risk into absolute risk	Table 7 / Figure 3 (absolute cumulative incidence by day 7, 10, 14, 21). Page14
Other analyses	17	Report other analyses done—eg subgroups, interactions, sensitivity analyses	Results — Time-to-event analysis (severity-adjusted sensitivity, HR 2.28); Hypoglycemia and mortality (insulin-adjusted sensitivity); Supplementary Tables 1–2. Page 13
Discussion			
Key results	18	Summarise key results with reference to study objectives	Discussion, opening paragraph. Page14
Limitations	19	Discuss limitations, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Discussion — Limitations (21 events limit power; retrospective single-center design; non-standardized glucose sampling; immortal-time bias; coarse characterization of baseline glycemic status). Page 17
Interpretation	20	Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, and other evidence	Discussion; Limitations (no association detected rather than none exists); Conclusion. Page 16
Generalisability	21	Discuss the generalisability (external validity) of the study results	Discussion — Limitations (single-center design; findings apply to acute stress hyperglycemia in a largely non-diabetic cohort). Page 14
Other information			
Funding	22	Give the source of funding and the role of the funders	None. This study received no specific funding.

**Give information separately for exposed and unexposed groups.*