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

	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	Title: Does not state design. Abstract, Methods: "This retrospective study analyzed clinical data..."
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	1	Abstract: Summarizes background, objectives (recurrence, BMI interaction), methods (retrospective, PSM, n=560), primary outcome (1-year recurrence, HR=0.45), secondary outcomes (pain, PONV, chronic pain, recovery, QoL), and conclusions.
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	1-2	Discusses postoperative recurrence, especially in obese patients; notes that celecoxib and dexamethasone are used for short-term symptom control; identifies gap regarding long-term recurrence and BMI-stratified effects.
Objectives	3	State specific objectives, including any prespecified hypotheses	2	"By exploring its effects separately in obese and non-obese patients, this study aims to provide preliminary evidence... We hypothesized that perioperative use of celecoxib combined with dexamethasone would be associated with a lower one-year recurrence rate..., and that this association might be modified by BMI..."
Methods				
Study design	4	Present key elements of study design early in the paper	2	Study design section: "The data is taken from the records... In order to minimize confounding deviation, 1:1 nearest neighbor PSM was applied..." – retrospective cohort with PSM.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	2	"The data is taken from the records of patients who received inguinal hernia repair in our hospital from January 2021 to December 2024." Follow-up (1 year)

				defined in primary outcome.
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	2	Inclusion/exclusion criteria detailed (age≥18, primary repair, tension-free mesh, complete records). Data from electronic medical records. Follow-up: scheduled outpatient exam at ~1 year, imaging if recurrence suspected.
		(*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	2, 4	"...1:1 nearest neighbor PSM was applied... 560 patients, 280 per group." Matching variables: age, gender, BMI, ASA, hernia type, surgical method, mesh type, operative time. Caliper=0.02.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	2-4	Exposure: perioperative celecoxib+dexamethasone. Primary outcome: 1-year ipsilateral recurrence (clinical bulge + imaging confirmation). Secondary outcomes: VAS pain, PONV, chronic pain (VAS≥4 at 3 months), complications, recovery, QoL (EuraHS). Effect modifier: BMI category (obese ≥25 kg/m² vs non-obese). Confounders: age, sex, comorbidities, surgical approach, etc. (Table 1).
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	3-4	Data extracted from electronic medical records, nursing records. Recurrence diagnosed by two blinded surgeons. Methods identical for both groups.
Bias	9	Describe any efforts to address potential sources of bias	2, 4	PSM used to minimize confounding. Recurrence assessment blinded. Limitations discussed (residual confounding, single-center, etc.).
Study size	10	Explain how the study size was arrived at	2	Sample size calculation: based on reported recurrence rates (obese 6.67%, non-obese 2.35%), α=0.05, β=0.2, estimated 278 per group; added 5-10% for loss to follow-up → 280 per group (total 560).

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Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	2-4	BMI grouping per WHO Asian standard (≥25 kg/m² = obese). Continuous variables: mean±SD and t-test for normal; median(IQR) and Mann-Whitney U for non-normal.
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	4	SPSS 26.0. Logistic regression to generate propensity scores; 1:1 nearest-neighbor matching (caliper 0.02); SMD<0.1 considered balanced. Cox regression for recurrence; logistic regression for chronic pain.
		(*b*) Describe any methods used to examine subgroups and interactions	4	Multivariable model included treatment, BMI category, and their interaction term. Likelihood ratio test for interaction. Stratified analysis by BMI performed.
		(*c*) Explain how missing data were addressed	Not applicable	Manuscript does not mention handling of missing data.
		(*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	4	Sample size calculation accounted for 5-10% potential loss; no further description of how loss was handled in analysis.
		(*e*) Describe any sensitivity analyses	Not applicable	No sensitivity analyses 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	2-3, Fig. 1	Initially 645 patients (295 study, 350 control). After PSM, 560 (280 per group). Figure 1 flow diagram. Completion of follow-up not explicitly stated.
		(b) Give reasons for non-participation at each stage	Fig. 1	Reasons not detailed in text; flow diagram (Figure 1) likely shows exclusions.
		(c) Consider use of a flow diagram	3, Fig. 1	Yes, Figure 1 provides a flow chart.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	4-5, Table 1	Table 1 shows baseline characteristics before and after PSM, including age, sex, BMI, ASA, comorbidities, hernia features, surgical details.

		(b) Indicate number of participants with missing data for each variable of interest	Not applicable	No mention of missing data.
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	Not applicable	Only stated that follow-up was 1 year; no mean/median follow-up time or person-time provided.
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	5-7, Tables 2-9	Primary outcome: Table 2 – 9 recurrences (3.21%) in study group, 19 (6.79%) in controls. Secondary outcomes: pain scores (Table 4), PONV/complications (Table 5), chronic pain (Table 6), recovery (Table 8), QoL (Table 9).
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	Not applicable	This is a cohort study.
		Cross-sectional study—Report numbers of outcome events or summary measures	Not applicable	This is a cohort 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	6-7, Table 3, Table 7	Recurrence: adjusted HR=0.45 (95% CI 0.24-0.84) from multivariable Cox (Table 3). Adjusted for age, BMI, diabetes, surgical approach, hernia type, etc. Chronic pain: adjusted OR=0.42 (95% CI 0.23-0.78) from multivariable logistic regression (Table 7).
		(*b*) Report category boundaries when continuous variables were categorized	2	BMI categories: obese ≥25.0 kg/m², non-obese <25.0 kg/m² (WHO Asian standard).
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable	No translation of HR to absolute risk.

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Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	7	Interaction term (treatment × BMI category) was significant (P=0.032). Stratified analysis by BMI performed: HR=0.32 (obese) vs 0.68 (non-obese). No sensitivity analyses.
Discussion				
Key results	18	Summarise key results with reference to study objectives	7-8	Three core findings: (1) combination therapy associated with lower 1-year recurrence; (2) protective effect stronger in obese patients; (3) improved pain, recovery, QoL without increased complications.
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	9	Six limitations discussed: residual confounding, non-uniform dexamethasone dosing (BMI-adjusted), single-center, short follow-up (1 year), low number of recurrence events (n=28, risk of overfitting), inability to separate individual drug effects.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10	Conclusion: perioperative celecoxib and dexamethasone associated with reduced recurrence, especially in obese patients. Calls for prospective validation.
Generalisability	21	Discuss the generalisability (external validity) of the study results	9	Limitations: Single-center, homogeneous population; generalisability to diverse populations and centers needs verification.
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	10	Supported by First Batch of Municipal Science and Technology Plan Special Projects of Nanchong City (Grant No. 25YYJCYJ0040). Role of funders not stated.

*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 (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.