

supplementary material

Item	Recommendation	Reported	Location
1a	Indicate the study design in the title or abstract	Yes	Abstract (“This retrospective cohort study...”)
1b	Informative and balanced summary	Yes	Abstract
2	Background and rationale	Yes	Introduction
3	Objectives and hypotheses	Yes	Introduction
4	Key elements of study design presented early	Yes	Methods (“This study was designed and reported in accordance with STROBE...”)
5	Setting, locations, dates	Yes	Methods (“January 2021–December 2024...”)
6a	Eligibility criteria, selection of participants	Yes	Patients section
6b	Matching criteria (if applicable)	N/A	—
7	Clearly define outcomes, exposures, confounders	Yes	Outcome measurement + Observation indicators
8	Data sources and measurement methods	Yes	Methods (DXA; radiological parameters assessed by blinded spine surgeons)
9	Efforts to address potential sources of bias	Yes	Methods (“minimize selection bias... measurement bias reduced...”)
10	Study size explanation	Yes	Methods (“sample size determined based on all eligible cases...”)
11	Handling of quantitative	Yes	Observation indicators (collapse severity, disease duration)

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	variables		categories, etc.)
12a	All statistical methods	Yes	Statistical analysis
12b	Subgroups and interactions	N/A	—
12c	Missing data handling	Yes	Methods
12d	Address loss to follow-up	N/A	Retrospective study
12e	Sensitivity analysis	Not applicable	—
13a	Numbers at each stage of the study	Yes	Patients (“308 patients involving 349 vertebral bodies...”)
13b	Reasons for non-participation	N/A	—
13c	Consider flow diagram	N/A	—
14a	Characteristics of participants	Yes	Table 1
14b	Missing data for each variable	Yes	Methods
14c	Follow-up time	N/A	—
15	Report numbers of outcome events	Yes	Results (69 leakage vs 239 normal)
16a	Unadjusted and adjusted estimates	Yes	Logistic regression results + Table 2
16b	Category boundaries explained	Yes	Observation indicators (collapse: mild/moderate/severe)
16c	Translating estimates to absolute risk	N/A	—
17	Other analyses (subgroups,	N/A	—

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	sensitivity)		
Item	Recommendation	Reported?	Location
18	Key results with reference to objectives	Yes	Discussion
19	Limitations	Yes	Discussion (single-center, retrospective bias)
20	Interpretation	Yes	Discussion
21	Generalisability	Yes	Discussion (“may not represent all regions or institutions...”)
22	Funding sources and role of funders	Yes	Funding section