The RECORD statement – checklist of items, extended from the STROBE statement, that should be reported in observational studies using routinely collected health data.

	Item No.	STROBE items	Location in manuscript where items are reported	RECORD items	Location in manuscript where items are reported
Title and abstract					
	1	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found	Response: Title has been revised (see the new title marked in red)	RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included. RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract. RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract.	RECORD 1.1: Response: This manuscript does not require any defined databases RECORD 1.2: Response: The content of geographic region and timeframe within which the study took place has been revised, in which text marked in red. RECORD 1.3: Response: This manuscript does not require any linkage or defined databases.
Introduction					
Background rationale	2	Explain the scientific background and rationale for the investigation being reported	Response: The whole Introduction has been rewritten for revision, in which text marked in red.		
Objectives	3	State specific objectives, including any prespecified hypotheses	Response: The whole Introduction has been rewritten for revision, in which text marked in red.		
Methods					

Study Design	4	Present key elements of study design early in the paper	Response: Study Design and its corresponding content have been added in the Methods section， in which text marked in red.		
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Response: Setting and its corresponding content have been added in the Methods section,in which text marked in red.		
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 *(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	Response: This study is a retrospective cohort study, with patients divided into R-EBUS with ROSE group and R-EBUS without ROSE group（both two groups of patients underwent bronchoscopy+R-EBUS examination. As for ROSE, because it was a toll-free method from our project foundation (ZKX18047), all patients can choose whether accept it or not voluntarily. Then, according to the inclusion and exclusion criteria, finally all together 170 patients meeting the study requirements out of 220 cases were incorporated into the study cohort. Statistical analysis showed that the baseline characteristics between the two groups were balanced and comparable (Please see them in the	RECORD 6.1: The methods of study population selection (such as codes or algorithms used to identify subjects) should be listed in detail. If this is not possible, an explanation should be provided. RECORD 6.2: Any validation studies of the codes or algorithms used to select the population should be referenced. If validation was conducted for this study and not published elsewhere, detailed methods and results should be provided. RECORD 6.3: If the study involved linkage of databases, consider use of a flow diagram or other graphical display to demonstrate the data linkage process, including the number of individuals with	Response: This project is a retrospective analysis and does not involve any database linking. Regarding the process of inclusion and exclusion for patients, please refer to the attached Flowchart for this revision.

			content with red, Figure1 and **attached Flowchart as a supplement file in this revision**)	linked data at each stage.	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.	Response: The exposure factor in this study was whether ROSE was used. Predictors were diagnostic yields and complications of both two groups. To avoid potential confounders as far as possible, we made the following effect modification： all included patients underwent bronchoscopy+R-EBUS examination were performed by two senior respiratory physicians with the same years of experience in endoscopic operations and all ROSE procedures were performed by a respiratory physician who ever received specialized training.	RECORD 7.1: A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided. If these cannot be reported, an explanation should be provided.	Response: As mentioned above, this study did not use code and algorithms. For explanations on exposures, confounders, and effect modifiers, please refer to the table below "Variables 7" of this RECORD Checklist. The outcomes can be seen in Table2-5 in the manuscript.
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	Response: All variables in this study, such as patients' age, gender, degree of emphysema, PPLs' locations and their relationships with emphysema, R-EBUS' ultrasound image features, can be obtained through measurement and examination. As for the final diagnosis, it is diagnosed		

			through ROSE and HE pathology.		
Bias	9	Describe any efforts to address potential sources of bias	Response: This issue can be seen in the “limitations” of the “Discussion” section.		
Study size	10	Explain how the study size was arrived at	Response: As it is a retrospective, non- intervene study and cases are included according to inclusion and exclusion criteria, the sample size was not calculated in advance.		
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	Response: The grouping in this study was based on different diagnostic methods - whether ROSE was used or not (please see in “Participants 6” of this RECORD Checklist.		

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (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 (e) Describe any sensitivity analyses	Response: (a) We made statistical analysis in order to control for confounding. (b) This study is a comparison of variables between two groups, and was not divided into subgroups. (c) For cases with missing data, we excluded them from this study. (d) for those patients of loss to follow-up, we had to exclude them from this study. (e) the sensitivity, specificity, positive predictive value (PPV), negative predictive value, and the diagnostic accuracy, were showed in Table4 in the manuscript.		
Data access and cleaning methods		..		RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population.	Response: In this study, the two investigators conducted separate checks on the collected case data at different time periods according to inclusion and exclusion criteria.
				RECORD 12.2: Authors should provide information on the data cleaning methods used in the study.	Response: This study had no need of data cleaning methods.

Linkage		..		RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided.	This study had no need of data linkages.
Results					
Participants	13	(a) Report the numbers of individuals at each stage of the study (*e.g.*, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed) (b) Give reasons for non-participation at each stage. (c) Consider use of a flow diagram	Response: This issue may be seen attaching Flowchart as a supplement file in this revision.	RECORD 13.1: Describe in detail the selection of the persons included in the study (*i.e.*, study population selection) including filtering based on data quality, data availability and linkage. The selection of included persons can be described in the text and/or by means of the study flow diagram.	Response: This issue may be seen attaching Flowchart as a supplement file in this revision.
Descriptive data	14	(a) Give characteristics of study participants (*e.g.*, demographic, clinical, social) and information on exposures and potential confounders (b) Indicate the number of participants with missing data for each variable of interest (c) *Cohort study* - summarise follow-up time (*e.g.*, average and total amount)	Response: (a, c) Characteristics of study participants and follow-up time were described in the Talbe1 and the "Participants" of Methods section. (b) Each variable of interest from participants without missing data.		
Outcome data	15	*Cohort study* - Report numbers of outcome events or summary measures over time *Case-control study* - Report numbers in each exposure	Response: Report numbers of outcome events or summary measures over time can be seen in "results" section.		

		category, or summary measures of exposure *Cross-sectional study* - Report numbers of outcome events or summary measures	Response: This study is not a cross-sectional study, and did not perform category, or summary measures of exposure.		
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Response: As this is a preliminary retrospective study, we did not estimate, adjust, or describe the accuracy of confounders, as well as estimate relative and absolute risks.		
Other analyses	17	Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses	Response: This study is a comparison of variables between two groups, and was not divided into subgroups.		
Discussion					
Key results	18	Summarise key results with reference to study objectives	Response: This issue is seen in the first sentence in Discussion section.		
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	Response: This issue is seen in the“limitations”in Discussion section,the eighth paragraph in the Discussion section	RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported.	Response: All variable data required in this study were completed.

Interpretation	20	Give a cautious overall interpretation of results considering objectives,	Response: This issue is seen in the last paragraph in the Discussion section.		
		limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Response: This issue is seen in the “limitations” in the Discussion section, and analysis about the comparison between results from our and other similar studies can be seen in the 1 and 3-7 paragraph of Discussion section.		
Generalisability	21	Discuss the generalisability (external validity) of the study results	Response: This issue is seen in the last paragraph in Discussion section.		
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	Response: This study is our original clinical study, and the sources and nature of funding received have been explained in the “Funding” section.		
Accessibility of protocol, raw data, and programming code		..	Response: This study had no need of accessibility of protocol and programming code. The raw data in our study was recorded by ourselves. As we hope to expand the sample size for further in-depth research, these original data are still useful in the future. Therefore, we beg the journal's permission to temporarily not open the existing data. If there is a large sample of in-depth study published in the future, we can provide it by applying to the hospital's	RECORD 22.1: Authors should provide information on how to access any supplemental information such as the study protocol, raw data, or programming code.	Response: This study plan can be found in the text of the manuscript and the attached Flowchart for this revision. No programming code is required for this study

			archives and science and education department according to your demand.		

*Reference: Benchimol EI, Smeeth L, Guttmann A, Harron K, Moher D, Petersen I, Sørensen HT, von Elm E, Langan SM, the RECORD Working Committee. The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement. *PLoS Medicine* 2015; in press.