STROBE Statement – checklist of items that should be included in reports of observational studies[1] (© STROBE Initiative)

	Item No	Recommendation	Page No.	Relevant text from manuscript
1Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1	This sudy was a hospital-based retrospective cohort study.
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2-3	Pathological dilatation of the distal rectum may be another anatomical defect in complete rectal prolapse. The results of the clinical study confirmed the clinical effectiveness and safety of the modified Altemeier procedure. Not only that, the modified Altemeier procedure can better improve the anal function and quality of life of patients, which has a high clinical application value.
Introduction				
Background/rationale	2	Explain the scientifi c background and rationale for the investigation being reported	4	In their long-term clinical practice, the authors found that patients with CRP may have a drastic change in diameter at the site of intestinal lumen ligature, an anatomical abnormality that has not yet been reported.
Objectives	3	State specifi c objectives, including any prespecifi ed hypotheses	5	Altemeier surgery in terms of recurrence rate, complication rate, postoperative anal function and quality of life and other clinical indicators, the clinical efficacy of this modified procedure was explored to provide a new reference for the selection of surgical modality for CRP patients.
Methods				
Study design	4	Present key elements of study design early in the paper	11	Among them, the functional anal indexes mainly monitored the maximum prolapse length in squatting position, and compared the changes of Wexner anal incontinence score (0-20 points) and ED-5Q-5L quality of life autonomy score (total score of 100 points) before and after surgery; the surgical indicators mainly included the surgical method, operation time, intraoperative bleeding, occurrence of complications, hospitalization time, time and severity of postoperative recurrence.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5	Retrospective analysis of 60 patients with CRP admitted to our department from August 2019 to August 2022. Patients were randomly assigned to the Altemeier group (traditional group) and the modified Altemeier group (modified group).
Participants	6	(*a*) *Cohort study* – Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	*5*	CRP was diagnosed by rectal examination, fiberoptic colonoscopy, and perianal MRI ;All patients reached the level of Oxford prolapse grade 5 by CRP grading criteria Follow-up visits were conducted by telephone or outpatient follow-up at 6 and 12 months postoperatively, respectively.
		(*b*) *Cohort study* – For matched studies, give matching criteria and number of exposed and unexposed	6-7	Inclusion criteria: (1) All cases were diagnosed in accordance with the American Association of Colorectal Surgeons guidelines for the treatment of rectal prolapse; (2) Perianal MRI was consistent with the imaging manifestations of "rectal prolapse"; (3) All cases had completed preoperative e-colonoscopy, blood biochemistry, cardiopulmonary and other ancillary tests,

				and there were no obvious contraindications to surgery; (4) Patients and their families were informed of the study content and signed an informed consent form; (5) Patients cooperated with the follow-up. Exclusion criteria: (1) Patients with combined proctitis, ulcerative colitis, Crohn's disease, oncological diseases or autoimmune diseases; (2) Patients with combined severe cardiovascular and cerebrovascular diseases; (3) Patients who are pregnant or lactating; (4) Patients with incomplete recording or completion of medical history data; (5) Patients who cannot understand or fully cooperate with the questionnaire; (6) Patients with psychiatric abnormalities or concomitant psychiatric diseases.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifi ers. Give diagnostic criteria, if applicable	6-7	CRP was diagnosed by rectal examination, fiberoptic colonoscopy, and perianal MRI ;All patients reached the level of Oxford prolapse grade 5 by CRP grading criteria.
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	11	The evaluation indexes included in this study included anal functional indexes and indexes related to surgical outcomes. Among them, the functional anal indexes mainly monitored the maximum prolapse length in squatting position, and compared the changes of Wexner anal incontinence score (0-20 points) and ED□5Q□5L quality of life autonomy score (total score of 100 points) before and after surgery; the surgical indicators mainly included the surgical method, operation time, intraoperative bleeding, occurrence of complications, hospitalization time, time and severity of postoperative recurrence. Follow-up records were established after patients were discharged from the hospital. Follow-up visits were conducted by telephone or outpatient follow-up at 6 and 12 months postoperatively, respectively. The follow-up included fecal excretion, the presence or absence of prolapse symptoms, and the length of prolapse, etc.
Bias	9	Describe any efforts to address potential sources of bias		
Study size	10	Explain how the study size was arrived at	5	Retrospective analysis of 60 patients with CRP admitted to our department from August 2019 to August 2022.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5	Patients were randomly assigned to the Altemeier group (traditional group) and the modified Altemeier group (modified group).
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	11	SPSS 22.0 software was used for statistical analysis. Measurement data were described as x± s. Paired data T test was used to compare the means of two samples. Count data were statistically analyzed with chi-square test. P < 0. 05 was considered statistically significant.
		(*b*) Describe any methods used to examine subgroups and interactions		
		(*c*) Explain how missing data were addressed	Without any missing data	
		(*d*) *Cohort study* – If applicable, explain how loss to follow-up was addressed	Without any loss to follow-up	
		(*e*) Describe any sensitivity analyses		

Results				
Participants	13*	(a) Report numbers of individuals at each stage of study – eg numbers potentially eligible, examined for eligibility, confi rmed eligible, included in the study, completing follow-up, and analysed		
		(b) Give reasons for non-participation at each stage		
		(c) Consider use of a fl ow diagram		
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	5	Total of 30 patients were included in the conventional group, of whom 19 were male and 11 were female. The age of the patients ranged from 16-87 years, with a mean of (42.47±20.505) years. The length of rectal prolapse in traditional group was 5-20 cm, with a mean of (8.27±4.034) cm; the duration of the disease was 1-60 years, with a mean of (16.8±18.643) years. In the modified group, there were 30 patients, including 21 males and 9 females; all patients were 17-82 years old, with a mean of (44.60±18.205) years; the length of rectal prolapse was 5-20 cm, with a mean of (10.6±3.607) cm. The duration of the disease was 1-60 years, with a mean of (27.13±18.643) years.
		(b) Indicate number of participants with missing data for each variable of interest		Without any missing data
		(c) *Cohort study* – Summarise follow-up time (eg, average and total amount)	11	Follow-up visits were conducted by telephone or outpatient follow-up at 6 and 12 months postoperatively, respectively.
Outcome data	15*	*Cohort study* – Report numbers of outcome events or summary measures over time		
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confi dence interval). Make clear which confounders were adjusted for and why they were included		
		(*b*) Report category boundaries when continuous variables were categorized	11-15	Comparison of perioperative conditions between the two groups of patients Comparison of the incidence of postoperative complications between the two groups of patients Changes in anal function and quality of life after surgery in two groups Comparison of postoperative recurrence rate between two groups of patients
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period		
Other analyses	17	Report other analyses done – eg analyses of subgroups and interactions, and sensitivity analyses	12	The operation time of the traditional group was lower than that of the modified group, while the intraoperative blood loss was significantly higher than that of the modified group
Discussion				
Key results	18	Summarise key results with reference to study objectives	16	The recurrence rate of the traditional group was 26.67%, of which 13.3% did not show any improvement in prolapse symptoms.
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	19	This study lacked objective indicators such as defecography and anorectal manometry to assess the effects of different procedures on anal function. Future bulk, multicenter, randomized controlled studies are needed to further confirm the long-term efficacy of the modified Altemeier procedure for CRP.

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence		
Generalisability	21	Discuss the generalisability (external validity) of the study results		
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		

* 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.