Dear Prof. Jin-Lei Wang ,

Thank you for your email enclosing the comments. We have carefully reviewed the comments and have revised the manuscript accordingly.

Reviewer #1:
Scientific Quality: Grade C (Good)
Language Quality: Grade B (Minor language polishing)
Conclusion: Major revision
Specific Comments to Authors: General Impression: The authors conducted a study to characterize the clinical features and surgical and pathological findings of patients with Fallopian tube endometriosis. This type of endometriosis is often disregarded. Therefore, the aim of the paper is novel. However, the small sample size and the confusing structure of the results are the major disadvantages of this paper. In addition, the authors missed important information in the methods section and the introduction is very brief. I think this manuscript could be worth publishing after having it revised by the authors.

Comments:
1) In the background section of the abstract, the core tip and the main text, the definition of tubal endometriosis is imprecise since endometriosis could be present in any layer of the Fallopian tube. Therefore, I suggest writing "within any part of the Fallopian tube".

Response: I revised the definition of tubal endometriosis in the background section of the abstract and highlight it.

"Tubal endometriosis (TEM) is a category of pelvic endometriosis (EM) that is characterized by ectopic endometrial glands and/or stroma within any part of the fallopian tube."

2) In the results section of the abstract, please mention the number of patients who had hydrosalpinx. In addition. It would be valuable to know the percentage of patients who conceived naturally and gave birth to healthy babies.

Response: I revised and mentioned the number of patients who had hydrosalpinx and the percentage of patients who conceived naturally and gave birth to healthy babies in the results section of the abstract.

"**RESULTS:** Among 1982 surgical patients, 30 met the study criteria. Among those, 6 patients had a history of infertility, 12 patients had a history of artificial abortion, 13 patients had a history of cesarean section, 1 patient had a history of tubal ligation, 4 patients had an intrauterine device (IUD), and 22 patients had hydrosalpinx. Sixteen patients (53.33%) conceived naturally and gave birth to healthy babies."

3) In the results section of the abstract, please clarify the meaning of: “some patients had a history of multiple factors”. I prefer deleting this sentence because it was not mentioned in the main text.

Response:I deleted this sentence in the results section of the abstract.

4) In the conclusion section of the abstract and the core tip, it is unclear on which basis you concluded that tubal endometriosis is related to the mentioned factors. In addition. Those procedures are common and carried out broadly, unlike tubal endometriosis. which excluded that those could be predisposing factors.

Response: In our manuscript that 2patients had simple TEM; the rest had one or more lesions, including 26 patients with pelvic EM in other areas (13 cases of OEM cysts; the other 13 cases were of OEM and pelvic EM). The EM lesions of the unilateral fallopian tube and unilateral ovary were ipsilateral. One patient had left TEM combined with a left rudimentary uterine horn and a left OEM cyst. The rate of TEM combined with EM (especially OEM) was higher than that of other gynecological diseases (P =0.0001), which indicates that TEM is related to OEM. The etiology of TEM have not been determined so far, but it may be associated with OEM. This view is pioneering to some extent, but a large number of clinical studies are needed to verify it.

5) The introduction of the main text is very brief, please give a better background about the types of fallopian tube endometriosis and the pathogenesis of endometriosis. Please use this paper as a reference: https://www.doi.org/10.3390/jcm9061905

Response: I revised the introduction of the main text and used this paper as a reference: https://www.doi.org/10.3390/jcm9061905

6) In the diagnostic criteria of TEM section, please clarify whether you used immunohistochemistry (mainly ER for the glands and CD10 for the stroma) to diagnose endometriosis. In addition, please state whether or not you gave special consideration to potential lesions in the medial portion of the Fallopian tube since tubal endometriosis at this part could be confused with endometrial epithelization of the Fallopian tube. Please read carefully this paper: https://www.doi.org/10.3390/jcm9061905

Response: I used immunohistochemistry to diagnose endometriosis. Regarding the anatomical distribution of TEM, lesions of the proximal tube have been shown to mainly affect the mucosa, whilst lesions of the distal tube tend to affect the serosa/subserosa. Some authors have proposed that only lesions beyond the isthmus should be considered as tubal endometriosis, whilst those proximal to the isthmus could be defined as endometrial colonisation Thus, the limited evidence suggests

lesions may be more prevalent beyond the isthmus and ampulla.I will give consideration to potential lesions in the medial portion of the Fallopian tube since tubal endometriosis at this part could be confused with endometrial epithelization of the Fallopian tube,and further research will be carried out in the future.

7) In the statistical analysis section, please mention what statistical tests you used to determine the data distribution.

Response: I revised and mentioned what statistical tests used to determine the data distribution and highlight it.

"**Statistical analysis**

Normally distributed data are expressed as the means ± SDs, while nonnormally distributed data are expressed as medians (ranges). Analysis of variance was used to compare the rates of TEM combined with EM (especially OEM) and those of other gynecological diseases. $P<0.05$ was considered to be statistically significant. All data were processed using SAS 9.0 statistical software (SAS Institute, Inc.)."

8) In the clinical manifestations section, please mention what were the symptoms (if any) of the two patients who had only tubal endometriosis.

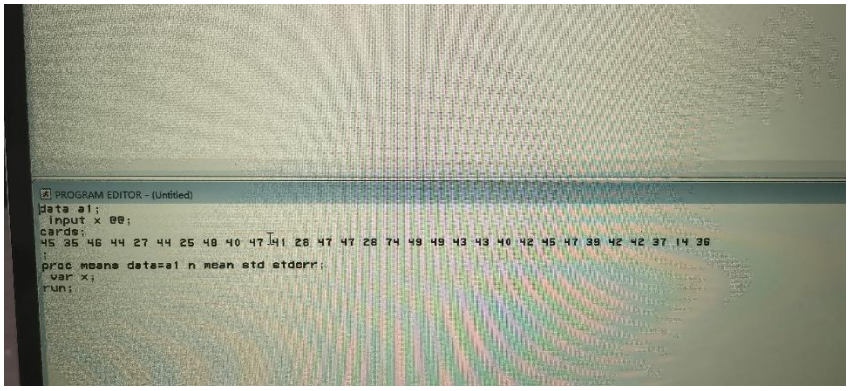
Response: I revised and mentioned in **Histopathological results** that only 2 patients had simple TEM, who had no symptom and were diagnosed with adnexal cysts by ultrasound.

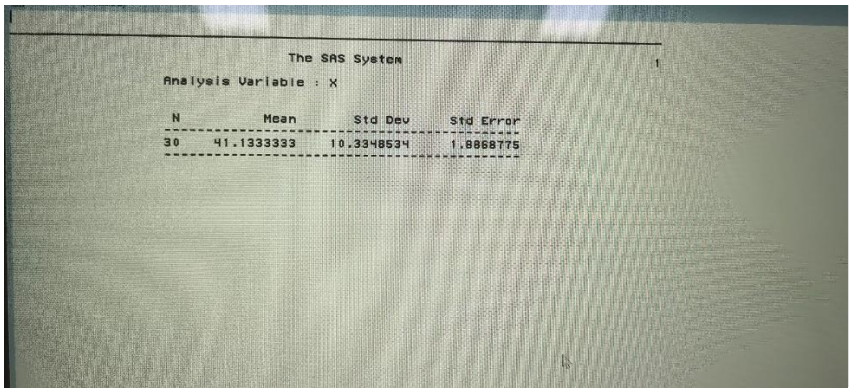
9) In the clinical manifestations section, please explain what is a tubal cystectomy. I am not familiar with this procedure.

Response: What I mean is that the tubal cyst was excised along the mesosalpinx

10) In the clinical manifestations section, according to the text, the mean age of the patients was calculated based on the data of 29 patients only while you had 30 patients. Please clarify this point.

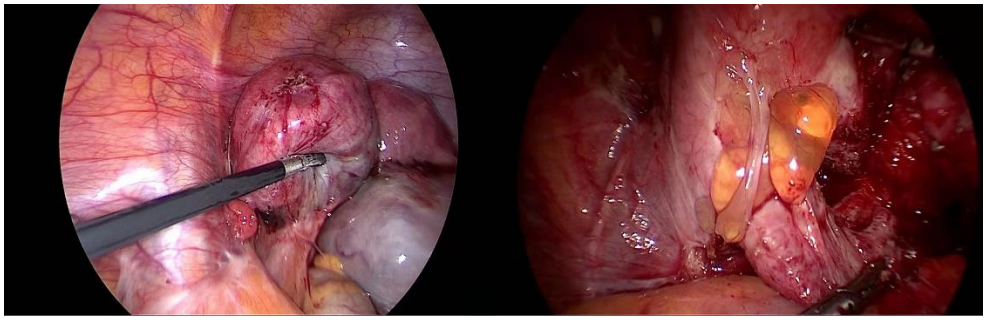
Response: I'm sorry, I wrote it wrongly and I had 30 patients.I revised and highlight it in the clinical manifestations section. I attached statistics and procedures to verify the truth of the data.





11) In the laparoscopic surgery section, please explain the meaning of "twisted enlargement". I am not familiar with this pathology. Are you referring to tubal torsion?

Response: The meaning of "twisted enlargement"is hydrosapinx,tubal torsion and thickening of the fallopian tube.



12) I would suggest summarizing the main findings of the results in tables with frequencies and percentages.

Response:I had summarized the main findings of the results in table 1.

Table1：Demographics and clinical pathological data for tubal endometriosis patients

Sample num	Age	G/P	Infertility	Intrauterine surgery	CA125 (U/ml)	Pathologic diagnosis			RAF scores of
						Fallopian tube and/or ovary	Uterine Anomaly	Deep infiltrating	

ber								endometriosis(DIE)	ASRM
1	45	1/1	No	Yes	53.2	Absence right fallopian tube and right ovary	Uterus normal	No	52
2	35	1/0	Yes	Yes	80.2	Absence left fallopian tube and left ovary	Uterus normal	Yes	82
3	46	2/1	No	Yes	10.2	Absence left fallopian tube	Uterine myoma	No	36
4	44	1/1	No	No	131.7	Absence left fallopian tube and left ovary	Uterus normal	No	82
5	27	0/0	No	No	52.1	Absence left fallopian tube and left ovary	Uterus normal	Yes	74
6	44	2/1	No	Yes	233.5	Absence left fallopian tube and left ovary	Uterine myoma	Yes	94
7	25	1/0	No	Yes	78.6	Absence left fallopian tube and left ovary	Uterus normal	No	92
8	48	1/1	No	Yes	49.9	Absence left fallopian tube and left ovary	Uterine myoma	No	92
9	40	3/2	No	Yes	49.3	Absence left fallopian tube and left ovary	Uterine sarcoma	Yes	48
10	47	1/1	No	No	21.3	Absence left fallopian tube and left ovary	Uterus normal	No	19
11	41	3/0	Yes	Yes	205.1	Absence bilateral fallopian tube and bilateral ovary	Uterus normal	Yes(Rectal endometriosis)	150
12	28	0/0	No	No	102.6	Absence left fallopian tube and bilateral ovary	Uterus normal	Yes(Ureteral endometriosis)	82
13	47	2/1	No	Yes	95.7	Absence bilateral fallopian tube and bilateral ovary	Uterine myoma	Yes	150
14	47	0/0	Yes	No	29.3	Absence left fallopian tube and left ovary	Uterine adenomyosis	No	92
15	28	0/0	No	No	168.5	Absence left fallopian tube and left ovary	Uterus normal	Yes(Ureteral endometriosis)	144
16	74	2/2	No	Yes	10.1	Absence left fallopian tube and left ovary	Uterus normal	No	64
17	49	1/0	Yes	Yes	498.7	Absence bilateral fallopian tube and bilateral ovary	Uterine adenomyosis	Yes	144
18	49	3/1	No	Yes	45.2	Absence right fallopian tube and right ovary	Uterus normal	No	52
19	43	1/1	No	Yes	31.9	Absence right fallopian	Uterine	No	80

						tube and right ovary	myoma		
20	43	1/1	No	Yes	18.2	Absence left fallopian tube and left ovary	Uterine adenomyosis	No	116
21	40	1/1	No	Yes	28.8	Absence left fallopian tube and left ovary	Uterine myoma	Yes	92
22	42	1/1	No	No	105	Absence left fallopian tube and left ovary	Uterus normal	Yes	76
23	45	0/0	Yes	No	8.7	Absence right fallopian tube and left ovary	Uterus normal	Yes	76
24	47	1/1	No	Yes	60.3	Absence left fallopian tube and left ovary	Uterus normal	No	56
25	39	1/1	No	Yes	8.6	Absence bilateral fallopian tube and bilateral ovary	Uterus normal	No	114
26	42	4/1	No	Yes	175.8	Absence left fallopian tube and left ovary	Septate Uterus	No	92
27	42	1/1	No	Yes	64.6	Absence right fallopian tube and right ovary	Uterus normal	No	36
28	37	0/0	Yes	No	159.7	Absence right fallopian tube	Uterus normal	No	24
29	14	0/0	No	No	118.5	Absence left fallopian tube and left ovary	Left uterus unicomis and Right rudimentary uterus horn	Yes	82
30	36	2/1	No	Yes	17.5	Absence right fallopian tube and right ovary	Uterine adenomyosis	No	62

Reviewer #2:
Scientific Quality: Grade C (Good)
Language Quality: Grade A (Priority publishing)
Conclusion: Major revision
Specific Comments to Authors: Thank you for the opportunity to review interesting manuscript. The authors reviewed 30 patients were diagnosed with pathologically confirmed TEM at Ruijin Hospital from January 2013 to December 2021. It provided a clinical basis for the diagnosis and treatment of TEM. However, here are the contents that need to be revised and improved:

1.Please describe the statistical methods used in this manuscript.
Response: I revised and mentioned the statistical methods used in this manuscript. and highlight it.
"**Statistical analysis**
Normally distributed data are expressed as the means ± SDs, while nonnormally distributed data are expressed as medians (ranges). Analysis of variance was used to

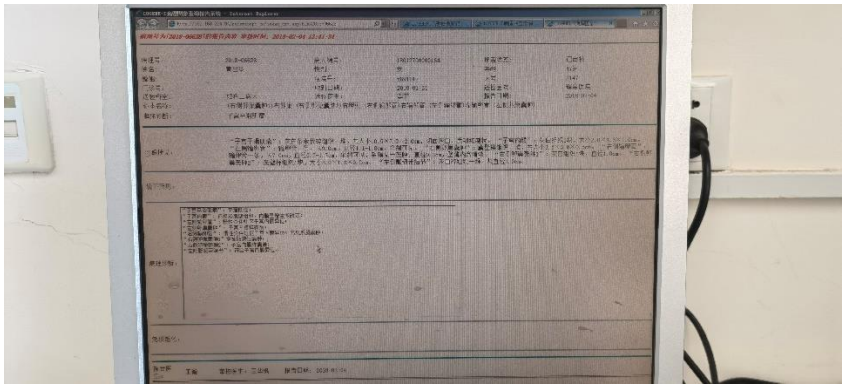
compare the rates of TEM combined with EM (especially OEM) and those of other gynecological diseases. P<0.05 was considered to be statistically significant. All data were processed using SAS 9.0 statistical software (SAS Institute, Inc.)."

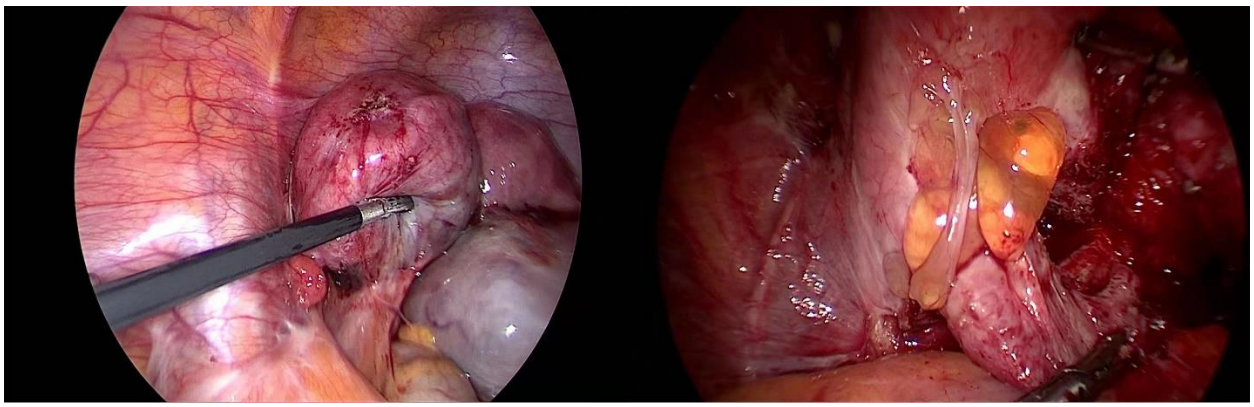
2.A table with the information for multiple patients is suggested.
Response:I had summarized the information for multiple patients in table1.

Table1：Demographics and clinical pathological data for tubal endometriosis patients

3.The word "Figsure" is wrong. Please prove that the source of the tissue in the HE-stained figure is the fallopian tube. And the figure 3 should be scaled.

Response: The word "Figsure" is wrong and I revised in this manuscript.
I enclosed the pathology report to prove that the source of the tissue in the HE-stained figure is the fallopian tube and I scaled the figure 3.





4.Please summarize the significance of this retrospective study in the discussion.
Response: I summarized the significance of this retrospective study in the discussion and and highlight it.

" The results of this study also indicate that TEM and OEM may have a certain correlation. The etiology of TEM has not been determined thus far, but it may be associated with OEM. This is an original perspective to some extent, but a large number of clinical studies are needed to verify it.

R Xue et al. found that there were 168 cases (55.08%) of left TEM, 93 cases (30.49%) of right TEM, and 44 cases (14.43%) of bilateral TEM among 305 TEM patients. They believed that TEM is an asymmetrical disease and that the left side is more susceptible. However, in our study, a left-sided susceptibility to TEM was not found due to the limited sample size. These perspectives are new. A large number of scientific studies and clinical studies are still needed for verification."

The fields of infertility and EM management would benefit from further studies that evaluate the role of fallopian tubes and the anatomical location of EM lesions in patients with infertility and pelvic pain.

The pathogenesis and mechanism of TEM have not been determined, but the correlation between TEM and OEM remains to be studied. The treatment of EM may help to increase the natural pregnancy rates, but further studies are needed for confirmation. The study of TEM will provide new ideas for the treatment of female infertility and other diseases and thus has very important clinical significance.."

We hope the revised version is now suitable for for review and look forward to hearing from you in due course.

Sincerely yours,

Hai-ning Jiao/Hua Liu on behalf of the authors.

Dear Prof. Lian-Sheng Ma ,

Thank you for your email enclosing the comments. We have carefully reviewed the comments and have revised the manuscript accordingly.

Reviewer #1: Scientific Quality: Grade B (Very good) Language Quality: Grade A (Priority publishing) Conclusion: Minor revision Specific Comments to Authors: Dear Authors, Thank you for taking the time to revise your manuscript and addressing my comments. I confirm that most of my questions were appropriately answered. However, three comments were not corrected in the same text but sufficiently addressed in the answer to reviewers files. Please ensure to correct the following in the main text:

Comments: 1) Regarding the conclusions section of the abstract, it still states the following "The related factors of TEM may include tubal sterilization, IUD insertion, and other uterine cavity operation". These are edited in the main text but not in the abstract. Please revise this part carefully and delete irrelevant content.
Response: I deleted irrelevant content and revised the conclusions section of the abstract carefully and highlight it.

"CONCLUSION

The final diagnosis of TEM depends on pathological examination since there are no specific clinical characteristics. The rate of TEM combined with EM (especially OEM) was higher than that of other gynecological diseases, which indicates that TEM is related to OEM."

2) Please include the answer to (comment 6) in the diagnostic criteria of the TEM section of the main text.
Response: I revised and included the answer to (comment 6) in the diagnostic criteria of the TEM section of the main text.

"Diagnostic criteria of TEM

TEM was defined as the presence of ectopic endometrial glands and/or stroma in the fallopian tube, and 30 patients met this criterion.

In our study, we used immunohistochemistry to diagnose endometriosis. Regarding the anatomical distribution of TEM, lesions of the proximal tube have been shown to mainly affect the mucosa, whilst lesions of the distal tube tend to affect the serosa/subserosa. Some authors have proposed that only lesions beyond the isthmus

should be considered as tubal endometriosis, whilst those proximal to the isthmus could be defined as endometrial colonisation Thus, the limited evidence suggests lesions may be more prevalent beyond the isthmus and ampulla(1).We will give consideration to potential lesions in the medial portion of the fallopian tube since tubal endometriosis at this part could be confused with endometrial epithelization of the fallopian tube,and further research will be carried out in the future."

3) Please include the figure used to answer (comment 11) of the previous round along with its explanation in the main manuscript.
Response: I revised and included the figure used to answer (comment 11) of the previous round along with its explanation in the main manuscript.

I found a part of content (Clinical manifestations and Laparoscopic surgery)missing in the auto-edited document ,so I added them in the main manuscript

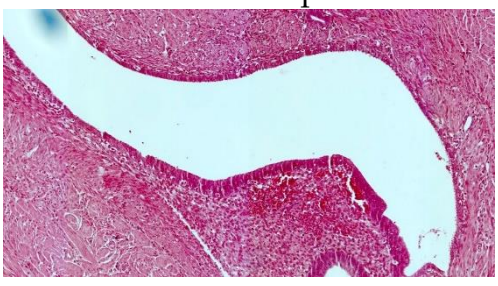
Reviewer #2: Scientific Quality: Grade C (Good) Language Quality: Grade A (Priority publishing) Conclusion: Minor revision Specific

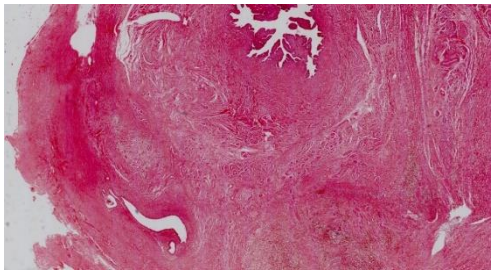
Comments to Authors: Please provide the HE-stained figure under low power to prove that the tissue came from the fallopian tube. The current figure can not reprent the whole field of it. And plaese provide the figure of IHC.

Response: I provided the HE-stained figure under low power to prove that the tissue came from the fallopian tube and the figure of IHC.

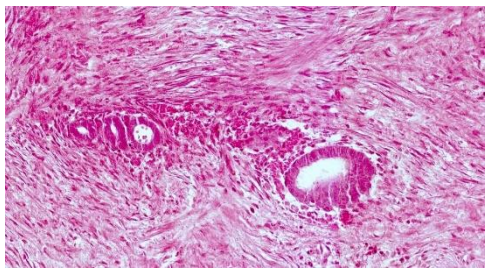
Histopathological results of the tubal endometriosis patient after Laparoscopic surgery (histopathological sections were stained with HE)

50 x microscope



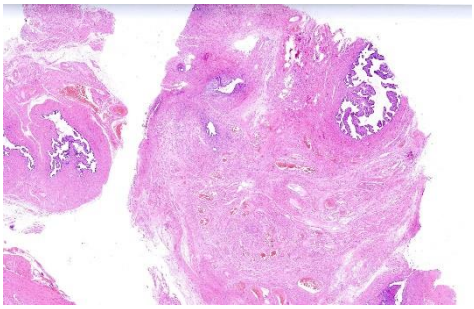


100 x microscope

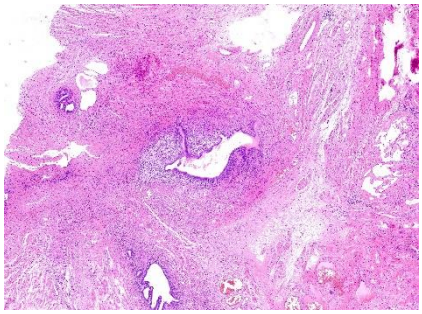


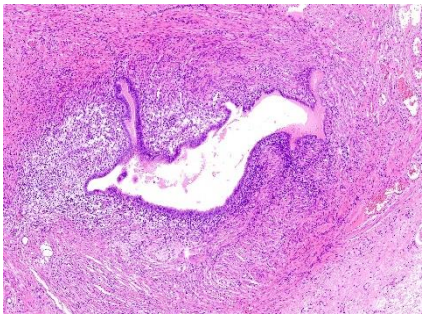
Histopathological results of the same tubal endometriosis patient after Laparoscopic surgery (histopathological sections were stained with HE in other section)

10x microscope



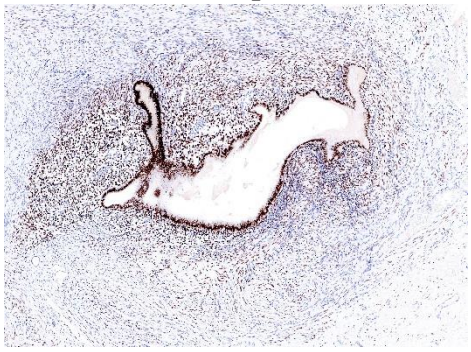
40x microscope



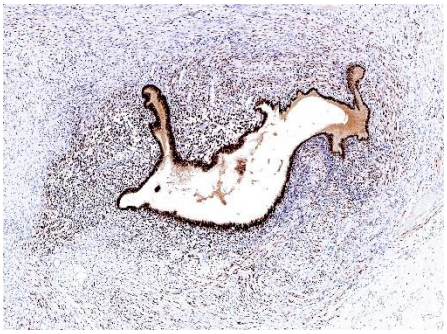


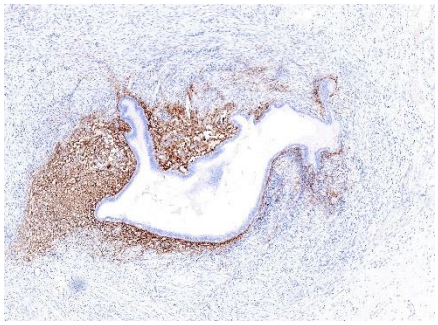
Histopathological results of the tubal endometriosis patient after Laparoscopic surgery （the figure of IHC）

100x microscope-ER



100x microscope-PR





We hope the revised version is now suitable for for review and look forward to hearing from you in due course.

Sincerely yours,

Hai-ning Jiao/Hua Liu on behalf of the authors.