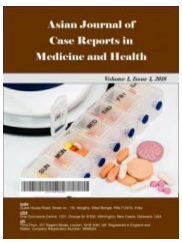

Asian Journal of Case Reports in Medicine and Health

2(1): 1-6, 2019; Article no.AJCRMH.47645

Appendiceal Endometriosis: A Case Report

Emmanuel Innocent[1*], Ochigbo Adam[1], Yakubu Daniel[2] and Wina Felix Markus[3]

[1]Department of Histopathology, Jos University Teaching Hospital, P.M.B. 2076, Jos, Nigeria.
[2]Department of Histopathology, Kaduna State University, Kaduna, Nigeria.
[3]Department of Surgery, Jos University Teaching Hospital, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. Author EI designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author OA managed the analyses of the study. Authors YD and WFM managed the literature searches. All authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Dr. Avinash Borkar, Assistant Professor, Department of Community Medicine, Late Shri Lakhiram Agrawal Memorial Medical College, Chhattisgarh, India.
Reviewers:
(1) Prasan Kumar Hota, KNR University of Health Sciences, India.
(2) Juliano Augusto Brum Scheffer, Brazil.
(3) Dr. K. Ramesh Kumar, India.
Complete Peer review History: http://www.sdiarticle3.com/review-history/47645

Case Report

Received 11 November 2018
Accepted 23 February 2019
Published 12 March 2019

ABSTRACT

Introduction: Endometriosis is established as the presence of ectopic endometrial tissue, outside the lining of the uterine cavity. Endometriosis of the appendix is uncommon especially in our environment. A definitive diagnosis is customarily established following histo-pathological examination of the appendix. Complications include rupture and haemorrhage.

The Case: A fifty-three years old female was admitted at the Jos University Teaching Hospital emergency unit, complaining of right lower abdominal pain of three days duration and abdominal distension of one week duration. The pain was associated with nausea, vomiting and fever (38.9°C). Abdominal examination showed generalised distension with guarding and tenderness especially at the lower abdomen with positive rebound tenderness. An exploratory laparotomy was done which showed copious pus in the peritoneal cavity. Appendectomy was done, and the peritoneal cavity was copiously lavaged.

Pathomorphology: Grossly, the appendix measured 6.5 by 1.7 by 1 cm with a lack lustre appearance and unremarkable serosa. Microscopically the muscularis propria show multiple islands of typical endometrial glands surrounded by a cellular endometrial stroma.

**Corresponding author: E-mail: kinapele58@yahoo.com;*

Conclusion: In conclusion, endometriosis of the appendix can imitate acute appendicitis and it should always be considered in the differential diagnosis of women complaining of nonspecific lower abdominal pain.

Keywords: Endometriosis; appendix; appendicitis; Jos.

1. INTRODUCTION

Endometriosis is established as the presence of ectopic endometrial tissue, outside the lining of the uterine cavity [1]. The anatomical location of endometriosis is varied from organs in the pelvis to any major organ. It could mimic a neoplasm. In general, endometriosis occurs in women of reproductive age and is associated with infertility. It might also occur after tubal ligation (post salpingectomy endometriosis) [2].

Endometriosis is an estrogen dependent disorder. It therefore usually affects women in the reproductive age group, a period where the ovary is physiologically active [3]. It is uncommon in women in their fifth decade of life and beyond [3]. In post-menopausal women, endometriosis is due to local production of estrogen in the endometriotic deposit, or due to hormone replacement therapy [4].

Endometriosis of the appendix is uncommon especially in our environment and usually present with acute or chronic abdominal pain, with associated symptoms of fever and vomiting, typically synchronising with the end of the menstrual cycle. A definitive diagnosis is customarily established following histo-pathological examination of the appendix [5]. Complications include rupture and haemorrhage.

2. THE CASE

A fifty-three years old female was admitted at Jos University Teaching Hospital emergency unit, complaining of right lower abdominal pain of three days duration and abdominal distension of one week duration. The pain was associated with nausea and vomiting and low grade fever. No history of vaginal discharge, dyspareunia or dysuria. Her menstrual cycles were described as irregular. The patient had a history of chronic liver disease which developed secondarily to hepatitis C infection confirmed by serology. She is also currently being managed for type 2 diabetes mellitus with repeated history of poor glycaemic control. She is also a known hypertensive on therapy. There was no history of infertility.

On examination, the patient temperature was 38.9°C; pulse was 68 beat per minute; and her blood pressure was 158/100 mmHg. Abdominal examination showed generalised distension with guarding and tenderness especially at the lower abdomen with positive rebound tenderness. An abdomino-Pelvic ultrasound showed bilateral renal parenchymal disease, hepatomegaly and ascites. The uterus and ovaries were normal. Pregnancy test was negative. Vaginal swab was negative for bacterial growth. The patient received two units of blood transfusion on account of a low pack cell volume. An assessment of abdominal abscess secondary to primary bacterial peritonitis to rule out acute appendicitis was made.

An exploratory laparotomy was done which showed copious pus in the peritoneal cavity (about 400mls which was evacuated). Fibrous adhesions were seen matting the bowel. The proximal end of the appendix appeared normal. An obstructing nodule was seen at the distal 3rd of the appendix with distal distension. Appendectomy was done, and the peritoneal cavity was copiously lavaged. Patient was managed post op for the procedure and other co morbid conditions (stated above) and was discharged 8days after surgery. Follow up in clinic was uneventful.

3. PATHOMORPHOLOGY

Grossly, the appendix measured 6.5 by 1.7 by 1 cm with a lack lustre appearance and unremarkable serosa. Cut open showed a lumen obliterated by faecal matter.

Histological examination (Figs. 1 and 2) of the appendix shows an ulcerated columnar epithelium overlying a lamina propria expanded by few lymphoid follicles and mucosal glands. Within the muscularis propria are seen multiple islands of typical endometrial glands surrounded by a cellular endometrial stroma with foci of stromal haemorrhage. A diagnosis of endometriosis of the appendix was made.

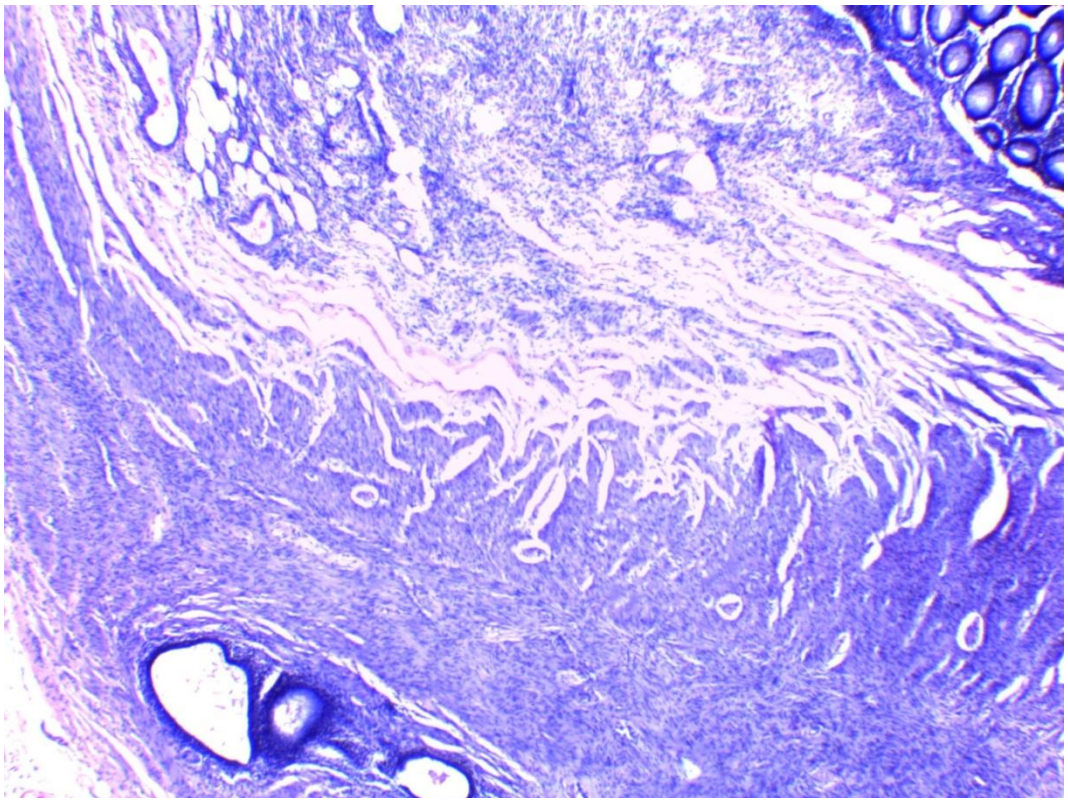

Fig. 1A. H&E x4

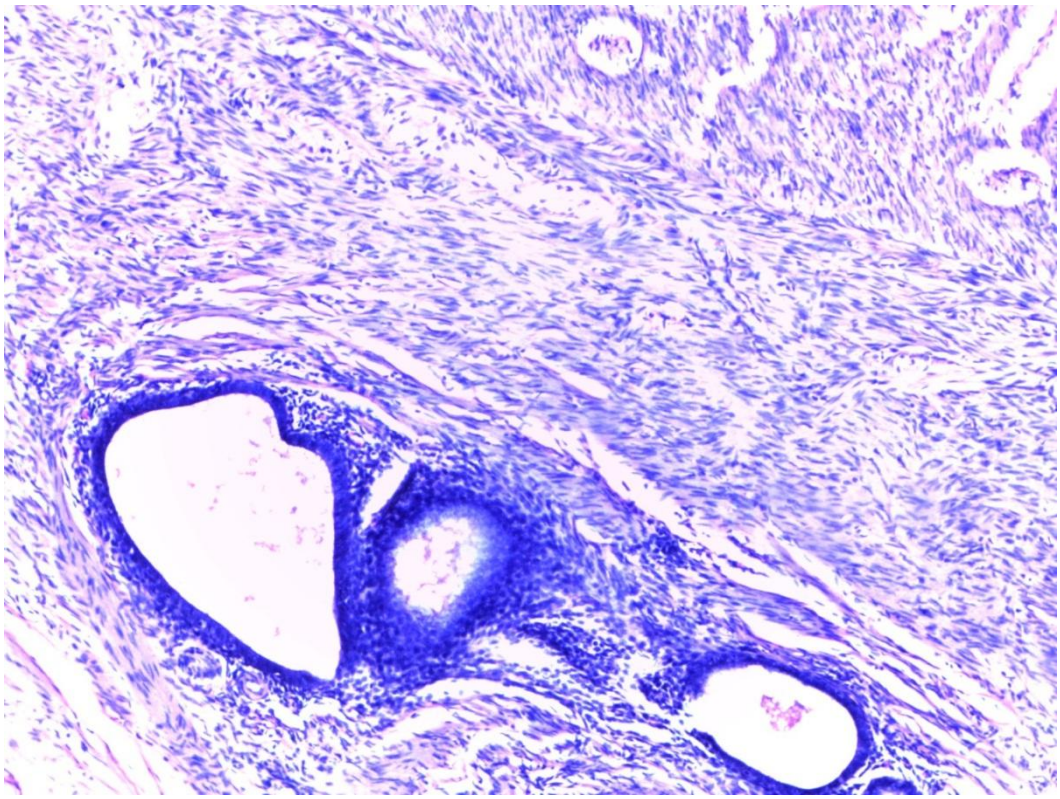

Fig. 1B. H&E x40

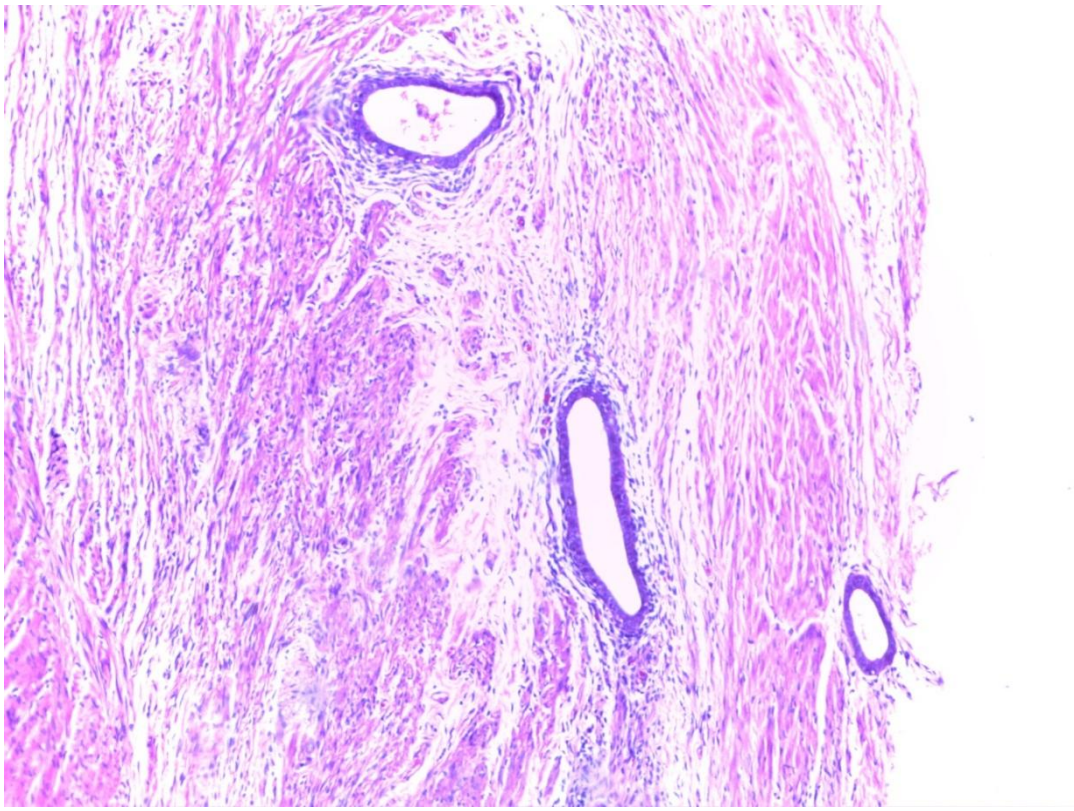

Fig. 2A. H&E x10

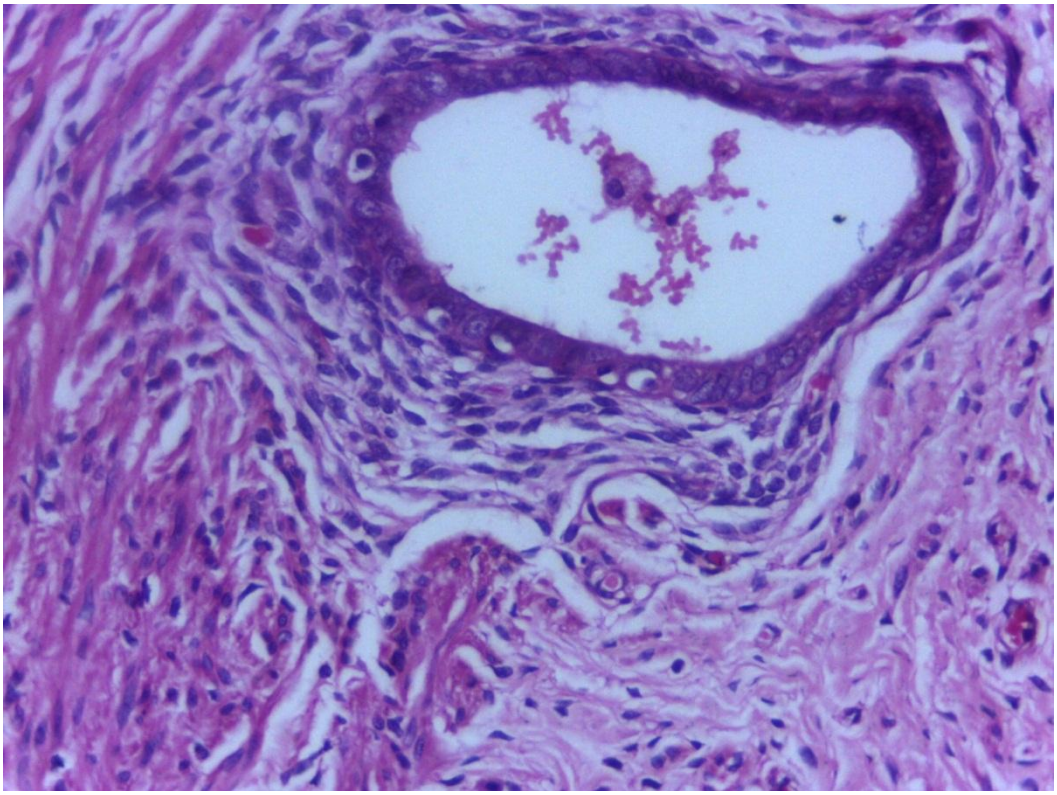

Fig. 2B. H&E x40

4. DISCUSSION

Dysmenorrhea, chronic pelvic pain, dysuria and infertility are some of the symptoms that can occur in endometriosis especially, if located within the pelvis. Symptomatic presentation at the hospital is usually dependent on the organ systems in which the endometriotic tissue is found. For example, some women with intestinal endometriosis remain asymptomatic; some of them come to medical attention because of abdominal pain, bowel obstruction, or an abdominal mass [6].

Endometriosis commonly occurs within the reproductive life of women. We earlier reported that 84,4% of cases in our centre were seen below 50years of age [3]. In that study, we found a mean age of 38.0 ±8.8years which was similar to 36.3±7.5 years reported by Lee et al [7]. This case is occurring in an age group in which endometriosis is rare.

Also, endometriosis located within the appendix is rare. Endometrial deposits or masses in the appendix may present as appendicitis, mucocele of appendix, or appendicular mass that may look like a neoplasm [8]. Many patients with appendiceal endometriosis experience chronic pelvic pain with substantial decrease in the quality of life. Symptom resolution is usually noticed following appendectomy [9].

A study done by Gustofson RL et al., done to report the prevalence of appendiceal disease in one hundred thirty-three women with chronic pelvic pain undergoing laparoscopy for possible endometriosis, found a prevalence of appendiceal endometriosis in patients with endometriosis of 2.8% [10]. This gives credence to the rarity of this entity. Given this rarity and the nonspecific symptoms, our patent was being managed with no suspicions of endometriosis with a working diagnosis as mentioned above. Gross examination of the appendix did not give any clue of endometriosis. Thus the diagnosis for our index patient was made on histology.

In a study done by Harper AJ et al., 106 patients with routine appendectomy during laparoscopic treatment of ovarian endometriosis, showed gross abnormality only in 3.3%, while microscopic examination showed endometriosis in 13.2% [11]. This underscore the importance of histologic analysis in suspicious cases.

Histological details of endometriosis were elegant in the index case with a spot diagnosis of endometriosis. A significant increase in the number of mast cells in the muscularis popria histologically (which is also known as catamenial appendicitis) can heighten suspicion of appendiceal endometriosis if the standard pathological evaluation by H&E of endometriosis is unclear [12].

The fibrous adhesions seen within the bowel of this patient is a tell-tale sign of a smouldering inflammation. However, this patient may benefit from a thorough investigation to look for more endometrotic sites. The major aims of therapy or treatment include relief of symptoms, resolution of existing endometriotic deposits, and prevention of new foci of ectopic endometrial tissue [13].

5. CONCLUSION

Endometriosis of the appendix can imitate appendicitis and it should always be considered in the differential diagnosis of women complaining of nonspecific lower abdominal pain.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Khoo JJ, Ismail MS, Tiu CC. Endometriosis of the appendix presenting as acute appendicitis. Singapore Med J. 2004;45: 435–436.
2. Gattuso P, Reddy R, David M, et al. Differential diagnosis in surgical pathology. Female Reproductive System. Saunders. 2002; 12:652-3.
3. Innocent E, Ochigbo A, Akpa PO, Yakubu D, Nyam YE. Endometriosis: A

Clinicopathological Study. IJRRGY. 2018; 1(1):1-7.
4. Rizner TL. Estrogen metabolism and action in endometriosis. Mol Cell Endocrinol; 2009.
5. Nasser SA, Ashraf FH, Sandyia J, Khalid S, and Fikri MA. Endometriosis of the Appendix. Afr Health Sci. 2008;8(3):196–198.
6. Yantiss RK, Clement PB, Young RH. Endometriosis of the intestinal tract: A study of 44 cases of a disease that may cause diverse challenges in clinical and pathological evaluation. Am J Surg Pathol. 2001;25:445–454.
7. Lee HJ, Park YM, Jee BC, Kim YB, Suh CS. Various anatomic locations of surgically proven endometriosis: A single center experience. Obstet Gynecol Sci. 2015;58(1):53-8.
8. Driman DK, Melega DE, Vilos GA, Plewes EA. Mucocele of the appendix secondary to endometriosis. Report of two cases, one with localized pseudomyxoma peritonei. Am J Clin Pathol. 2000;113:860–864.
9. Barrier BF, Frazier SR, Brennaman LM, Taylor JC, Ramshaw BJ. Catamenial appendicitis. Obstet Gynecol. 2008;111: 558–561.
10. Gustofson RL, Kim N, Liu S, Stratton P. Endometriosis and the appendix: A case series and comprehensive review of the literature. Fertil Steril. 2006;86:298–303.
11. Harper AJ, Soules MR. Appendectomy as a consideration in operations for endometriosis. Int J Gynaecol Obstet. 2002;79:53–54.
12. Barrier BF, Frazier SR, Brennaman LM, Taylor JC, Ramshaw BJ. Catamenial appendicitis. Obstet Gynecol. 2008;111: 558–561.
13. Bulletti C, Coccia ME, Battistoni S, Borini A. Endometriosis and infertility. J Assist Reprod Genet. 2010;27:441–447.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle3.com/review-history/47645