

Case Report

Fibrous Obliteration in a Middle-Aged Woman: A Case Report

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Abstract

Background: Fibrous obliteration or appendiceal neuroma is a rare type of appendiceal tumor that causes appendiceal obstruction and then presents as appendicitis. This neural tumor has no specific presentation and, after appendectomy, is diagnosed by the pathologist accidentally. Fibrous obliteration is described as a proliferative lesion. The pathogenesis of this lesion is unknown, but it is mentioned that the etiology of this problem is secondary to recurrent inflammation processes. These processes cause neuroendocrine cell hyperplasia in the submucosa and lamina propria of the wall of the appendix. The repetitive occurrence of these sub-clinical inflammatory processes causes fibrosis.

Cases Report: We presented a 55-year-old woman who was referred to our clinic with persistent pain in the right lower quadrant for five days in this report. The pain mimicked appendicitis presentation, and it suddenly started from the periumbilical area and then shifted to the right lower quadrant of the abdomen. Her laboratory study showed a 9600/microliter white blood cell count with 70% neutrophils. An increase in the appendix loop with 9 millimeters diameter was reported in the ultrasound. There was also severe fat haziness around the tissues and visceral inflammation of the terminal ileum in the sonogram. She underwent an appendectomy after the diagnosis of appendicitis, and the pathologist diagnosed fibrous obliteration or appendiceal neuroma.

Conclusion: It is concluded that fibrous obliteration or appendiceal neuroma mimics acute appendicitis, and in patients with this presentation, appendectomy is the best choice for treatment. The main diagnostic method is pathologic assessment, and it is important for the differentiation of this tumor from other malignant tumors of the appendix because fibrous obliteration is a benign tumor.

Keywords: Appendix, Appendicitis, Neuroma

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Introduction

Fibrous obliteration of the appendix or appendiceal neuroma is a rare appendiceal tumor that obstructs the appendiceal lumen¹. Spindle cell proliferation is the cause of appendiceal neuroma¹. An appendiceal neuroma is mainly diagnosed accidentally in pathology specimens of the resected appendix after appendectomy. An appendiceal neuroma is more common in older patients who are referred to with clinical manifestations of appendicitis². This tumor mimics appendicitis signs and symptoms and has no specific feature. Therefore, appendectomy is the main treatment^{1,3}. In this report, we presented a 55-year-old woman who was referred to our clinic with persistent pain in the right lower quadrant for five days. Acute appendicitis was diagnosed for her. An appendectomy was done for her, and appendiceal neuroma was reported pathologically.

Case Report

A 55-year-old woman was referred to our clinic with abdominal pain in the right lower quadrant five days ago. The pain was persistent during this period. The pain suddenly started in the periumbilical area, and then it shifted to the right lower quadrant (RLQ). She also had nausea and loss of appetite. There was no history of fever. Past medical history, habitual history, and drug history were negative.

There was tenderness in RLQ and rebound tenderness in the abdominal physical examination. Other physical examinations were normal. A laboratory study showed a white blood cell count = 9600 per microliter with 70% neutrophils. Qualitative ESR and CRP were weakly positive.

Abdominal ultrasonography was requested for her, and an increase in appendix loop was observed (9 millimeters) with severe fat haziness around tissues and visceral inflammation of the terminal ileum. These features were compatible with acute appendicitis. There was no evidence of the occurrence of abscess.

The patient underwent appendectomy, and the resected appendix was sent for pathological assessment. The pathology report was fibrous obliteration of the appendix superimposed by acute

inflammation. Macroscopic and microscopic appearances are seen in Figures 1 and 2.



Figure 1. Macroscopic appearances of appendix.

The patient was discharged in good condition and without any complaints.

Discussion

Appendiceal neuroma, or fibrous obliteration of the appendix, is a neurogenic hyperplasia described by Masson more than 50 years ago^{4,5}. Although it is more

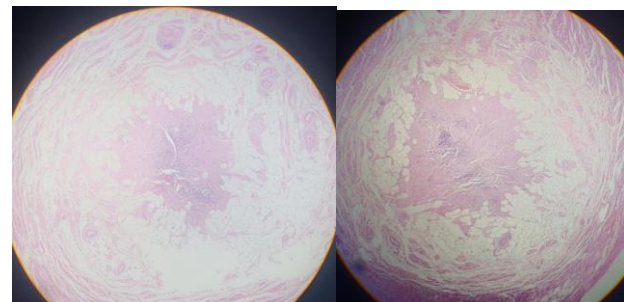


Figure 2. Microscopic appearances of appendix.

common in older patients, it sometimes is seen in young patients⁶. Fibrous obliteration is an incidental finding after appendectomy for another reason, such as acute appendicitis presentation². It is mentioned that it occurs due to frequent inflammatory processes that make neuroendocrine cells proliferate, but the main pathogenesis is unclear^{2,7}. As it was presented, our patient was a middle-aged woman who had manifestations of acute appendicitis and was incidentally diagnosed as appendiceal fibrous obliteration. Patient history, clinical manifestations, physical examination, and laboratory data can aid in excluding the differential diagnosis. Nonetheless, a

histopathology study is the main diagnostic method for diagnosing appendiceal fibrous obliteration¹.

Appendiceal stromal tumors have some differential diagnoses, including gastrointestinal stromal tumors, leiomyoma, and neurogenic lesions⁸. The proliferation of S100-positive nerve tissue is the histopathological finding of fibrous obliteration⁶. The choice treatment is appendectomy^{1,7}.

Pathology findings are the accumulation of fibrous tissue and inflammatory cells in the appendiceal lumen. Also, neuroendocrine and nerve cell proliferation with fibrosis, eosinophilic, and fat infiltrations may be seen in the pathologic specimen. These rare diagnostic features can affect the management and prognosis of patients^{9,10}. The appendix's prognosis of neural tumors is favorable¹¹. We represented a rare case, and physicians should be aware of this type of disorder, known as fibrous obliteration of the appendix. We should assess the patient for other neurological or gastrointestinal disorders because this disease is a neurogenic disorder in the gastrointestinal tract, and it can be associated with other disorders, which was the limitation of the current report.

Conclusion

It is concluded that fibrous obliteration or appendiceal neuroma mimics acute appendicitis, and in patients with this presentation, appendectomy is the best choice for treatment. The main diagnostic method is pathologic assessment, and it is important for the differentiation of this tumor from other malignant

tumors of the appendix because fibrous obliteration is a benign tumor.

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References

1. Jagtap SV, Boral S, Jagtap SS, Ajagekar PD. Appendiceal neuroma: an uncommon entity. *International Surgery Journal*. 2019;6(7):2631-3.
2. Choi S-J, Jang Y-J, Lee D. Two cases of fibrous obliteration of the appendix, mimicking acute appendicitis. *Journal of the Korean Society of Radiology*. 2014;70(6):430-4.
3. Agha RA, Franchi T, Sohrabi C. The SCARE 2020 guideline: updating consensus surgical CAse REport (SCARE) guidelines. *International Journal of Surgery*. 2020;84:226-30.
4. Scoazec J-Y. Appendicular pathology. Mucous neuroma. Paper presented at: *Annales de pathologie*. 2010.
5. Al-Janabi MH, Hasan S, Issa R. Appendiceal neuroma presented as acute appendicitis: A rare case report from Syria. *International Journal of Surgery Case Reports*. 2022;98:107532.
6. Greenson JK. *Diagnostic Pathology: Gastrointestinal E-Book*: Elsevier Health Sciences; 2019.
7. Molina GA, Torres MA, Montenegro MS, et al. Neuroma of the appendix, a rare cause of appendicitis and an important reason for close follow-up. *Journal of Surgical Case Reports*. 2020;2020(3):rjaa023.
8. Tay HS, Mills AE. True neuroma of the appendix: a case report and literature review. *Pathology*. 2012;44:S98.
9. Dincel O, Göksu M, Türk BA, Pehlivanoğlu B, İşler S. Incidental findings in routine histopathological examination of appendectomy specimens; retrospective analysis of 1970 patients. *Indian Journal of Surgery*. 2018;80:48-53.
10. Gupta K, Solanki A, Vasishta R. Appendiceal neuroma: report of an elusive neuroma. *Tropical Gastroenterology*. 2012;32(4):332-3.
11. Turaga KK, Pappas SG, Gamblin TC. Importance of histologic subtype in the staging of appendiceal tumors. *Annals of surgical oncology*. 2012;19:1379-85.