Case Report

STUMP APPENDICITIS, A CASE REPORT

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ABSTRACT:
Background and Objective: Stump appendicitis, is a rare and late complication of appendectomy which is caused by obstruction and inflammation of the remaining portion of the appendix and is possible after either open or laparoscopic surgery.

Materials and Methods: A 31 year-old man with right lower quadrant abdominal pain, nausea and vomiting, a case of Stump Appendicitis 5 years after open appendectomy.

Results: Its symptoms are similar to symptoms of normal appendicitis (including abdominal pain with right lower quadrant priority, nausea and anorexia) so the history of previous appendectomy causes a delay in diagnosis. Diagnosis with the help of ultrasonography and CT scan is confirmed. That after carrying out the necessary investigations was undergone full appendectomy. Appendicitis and acute suppurative appendicitis were reported by pathology.

Conclusion: Appendectomy is one of the most common surgeries performed by general surgeons and stump appendicitis is one of long-term and rare (underreported) complications that its diagnosis, because of the similarity of symptoms with acute appendicitis (abdominal pain, anorexia, nausea) and surgery history in person, is usually delayed. Diagnosis with the help of ultrasonography and CT scan can be confirmed.

Keywords: stump appendicitis, appendicitis, general surgery, abdominal surgery, nausea, anorexia, abdominal pain.

[I] INTRODUCTION

Appendectomy is one of the most common surgical procedures performed by general surgeons, for example, in the United States of America, two hundred and fifty thousand appendectomies are done annually due to acute appendicitis. Its Short-term complications include wound infection, deep infection and stump disruption [2].

Long-term complications including hernia, small bowel obstruction and stump appendicitis are usually diagnosed late [3]. Stump appendicitis is a rare condition that is concerned with blockage and inflammation of the residual appendix after appendectomy. Although some have suggested that this effect is only related to laparoscopic appendectomy, but the idea has not been proven [2]. In this report a case of stump appendicitis in a 31-year-old man, 5 years after open appendectomy is described. (Which rejects the theory above?)

[II] CASEREPORT:

A male 31-year-old patient having generalized abdominal pain with right lower quadrant priority, the day before visiting us its severity was gradually increasing, was admitted to our center.
Pain accompanied with nausea and once with non-blood vomiting. Pain improved by bending forward, and had radiation to the lower back, but unrelated to PO and without fever and urinary symptoms. In patient’s history, he was undergone open appendectomy 5 years ago.

Three months ago the patient with abdominal pain in the area hypogastria and right lower quadrant tenderness, unrelated to the positions and PO and no other symptoms was hospitalized. (Ultrasonography has been reported normal, but in the patient’s CT-Scan in the medial cecum an image of an end loop containing appendiculitis; with the possibility of stump appendicitis has been reported). He was treated with antibiotics and was discharged with good general condition and medication orders.

The patient had right lower quadrant tenderness according to the examination. He had no other noticeable effects. Pulse rate of 75 per minute, blood pressure of 120/80 mmHg and body temperature was 36.5 °C.

Testing performed for the patient, the number of red blood cells (RBC): 5,551,000 Cell / µL, hemoglobin (Hb): 16.5g / dL, white blood cell count (WBC): 12500 Cell / µL with 89% neutrophils and 11% lymphocytes, platelets: 150000 pl / µL, creatinine: 1.04 mg / dL, aspartate aminotransferase (AST): 85 IU / L, alanine aminotransferase (ALT): 126 IU / L, lactate dehydrogenase (LDH): 513 IU / L, total bilirubin: 0.7 mg / dL, direct bilirubin: 0.2 mg / dL, PTT: 40 ’, PT: 14.1’, INR: 1.3, blood sugar (BS): 110mg / dL, white blood cells urine: 1-2, the number of red blood cells in urine: 0-1, epithelial cells in urine: 1-2, casts: negative, urine bacteria was rare.

By ultrasonography, inflammation in the lining of the ileum and cecum was reported. A short tubular structure with a length of 23mm, an end loop containing appendiculitis with a maximum anterior-posterior diameter of 12mm, adjacent to a medial cecum, and in the upper part of the noticed loop, a small collection with a size of 12 * 25mm has been seen. The fat around, is highly echogenic and also it poses stump appendicitis.

The suspicion to stump appendicitis, CT-Scan of the abdomen and pelvis with oral and IV contrast showed mild inflammation around the cecum and increasing thickness with no clear collection. Patient was treated with Metronidazole 500mg IV, TDS and Ceftriaxone 1g IV, BD when admitted, and then he was undergone open appendectomy surgery. Appendicitis and acute suppurative appendicitis were reported by pathology. The patient was discharged without any complications, with good general condition and medication orders.

[III] DISCUSSION

Appendectomy is one of the most common surgeries performed by general surgeons. [1] Short-term complications associated with it include wound infections, deep infections, including abdominal collection and long-term complications include hemorrhage, hernia, intestinal obstruction and stump appendicitis (which is often diagnosed late.) [3]

Stump appendicitis is an appendix tissue inflammation and renewed residual obstruction after appendectomy. The presenting symptoms of stump appendicitis are basically indistinguishable from those of primary appendicitis. They include pain that starts periumbilically and wanders to the right lower quadrant and is associated with anorexia, nausea, and vomiting [4].

The first stump appendicitis was described by “Rose” in 1945 [5]. In a literature review based on Medline, 61 cases of the disease have been reported. Age range is from 8 to 72 years, 64.5% of them are men. The interval between appendectomy and stump appendicitis onset is the ranging from 9 weeks to 50 years [2].

One of the affecting factors on stump appendicitis is the length of residual appendix after an appendectomy [9], which was varied from 0.5 to 6.5 cm [2]. Identification of appendix base is a common problem. Absence of appendicocecal connection visualization appears to be more due to widespread inflammation of the appendix, which can not necessarily be drawn to the cecum.
Also full or partial retrocecal appendix (This means that the base of the appendix or a part of the appendix’s stem, which the tip of it is back, is retrocecal and is easily visible in the peritoneal space) can also provide this field. So that part of the appendix in the retrocecal area which is hidden is misidentification as appendicitis and it erroneously remains behind it with a cross-section of the stump. The other factor is appendectomy surgery that according to a survey conducted, laparoscopic appendectomy’s overall ability to leave enough inflamed appendix, is equal with open appendectomy traditional methods [6].

Due to lack of three-dimensional view and the lack of tactile feedback, at least theoretically, there is this potential to increase the incidence of stump appendicitis in laparoscopic appendectomy. However, in a recent comparative review of 36 cases of stump appendicitis by Liang et al only 34% of the cases were undergone laparoscopic surgery and 66% of the patients were undergone open appendectomy [1].

Besides the possibility of stump appendicitis, the double appendix is another possible cause of recent appendectomy for appendicitis after. This is a very rare developmental abnormality that may be seen at 0.0004% of appendectomy patients [4]. 3 types of it are described by Cave and Wallbridge. Type A incomplete duplication, which both of appendices have the same base; type B, complete duplication that the first appendix is occurring in its usual place in connection with the taenia coli and the second appendix is located at a different location along the colon; type C, Full duplication cecum that each part has its own appendix [10] [11].

Despite the results of the imaging, many of the principles used for the diagnosis of acute appendicitis are also effective to diagnose stump appendicitis. For diagnosis, the residual appendix must be identified in patients with a history of appendectomy. Radiologic pictures, ultrasound and CT-Scan can have a role in diagnosis [7].

In men, the elderly and when there is suspicion of periappendicular abscess; CT-Scan is a diagnostic method choice for diagnosing stump appendicitis [8]. Complete appendectomy is stump appendicitis treatment, either open or laparoscopic. Although it is possible that wider resection in case of wider inflammation, peritonitis or perforation may be necessary. Delays in diagnosis increase the wideness of the resection by prolonging the progress time leading to perforation. [2] The general recommendation to avoid Stump appendicitis after appendectomy surgery is to completely remove acute inflamed appendix either with open surgery or laparoscopy, with proper identification and envision of the appendix base or the appendicocecal connection [12] [13]. Also achieving a critical vision similar to the laparoscopic cholecystectomy with complete and accurate identification and visualization of appendix and its base may be useful in preventing this complication. [2]

[IV] CONCLUSION

Appendectomy is one of the most common surgeries performed by general surgeons and stump appendicitis is one of long-term and rare (underreported) complications that its diagnosis, because of the similarity of symptoms with acute appendicitis (abdominal pain, anorexia, nausea) and surgery history in person, is usually delayed. Diagnosis with the help of ultrasonography and CT scan can be confirmed.

Also achieving a critical vision similar to the laparoscopic cholecystectomy with complete and accurate identification of appendicitis and its base may be useful in preventing this complication. Laparoscopic and open surgical treatments have no priority over each other; However, in case of a delay in diagnosis and perforation, a wider resection is usually needed. With early diagnosis and appropriate treatment a good prognosis is anticipated for the patients.

REFERENCES


