

**Appendico-cutaneous Fistula: An Unusual Presentation**

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**ABSTRACT**

Acute appendicitis may have atypical presentation. Formation of fistulae between appendix and adjacent viscera or skin is a rare complication of untreated acute appendicitis. But appendico-cutaneous fistula in the postoperative period after unrelated surgery is even more infrequent. Here we report a case of a young patient presenting as an appendico-cutaneous fistula with foul smelling purulent discharge from drain site after right ureterolithotomy. Retained foreign body like gauze is one of the possible reasons for persistent discharge post operatively. CT fistulogram may be helpful in diagnosis. An exploratory laparotomy is the gold standard and simultaneously it allows treatment. Appendicectomy with excision of fistulous tract cures this condition.

**Key words:** Appendicitis, Appendix & fistula

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**INTRODUCTION**

Appendicitis is considered as one of the elements of general surgical disease processes yet its presentation often confounds most surgeons<sup>1</sup> Acute appendicitis may have atypical presentation. Appendicular inflammation can present as a discharging fistula on abdominal wall although its rare. Many pathological conditions of appendix may present as

appendico-cutaneous fistulae<sup>2</sup>. Here we report a case of a young female patient presenting with an appendico-cutaneous fistula manifesting in the post-operative period as foul smelling purulent discharge from the drain site after right ureterolithotomy

**CASE HISTORY**

A 27 year old female had undergone extraperitoneal drainage of appendicular

abscess about 12 years back. Patient did not undergo interval appendectomy and remained asymptomatic over a period of next almost 10 year. During the last 1-2 years, patient had a few episodes of intermittent colicky pain in right lumbar region radiating to right groin. The patient had burning micturition but no history of fever or hematuria.

Patient was investigated and X-ray KUB ,ultrasound abdomen & intravenous urography was done. The patient was found to have a right ureteric calculus and for which she underwent ureterolithotomy 10 months ago. A date shaped calculus of size 1cm was removed from right mid ureter, distal patency was confirmed per-operatively.

In the post-operative period the patient developed mild fever, nausea, pain in right iliac fossa near the operative site and burning micturition which was suspected due to urinary tract infection. The post-operative urine culture was sterile. The periureteric drain was removed on 4<sup>th</sup> post-operative day as the output was less than 30cc. The patient discharged on 6<sup>th</sup> post op day in satisfactory condition.

However the patient reported to the outpatient department on 10th post-op day

with complaint of foul smelling purulent discharge from the drain site. A USG abdomen was done which revealed minimal collection in the right iliac fossa, pus culture sensitivity revealed E.Coli sensitive to ciprofloxacin & patient was put on tablet ciprofloxacin 500 mg twice daily for 14 days. However this sinus /fistula tract used to heal temporarily to again start discharging over the next few days.

The cause of persistence of this sinus/fistula tract was suspected to be a foreign body most probably a forgotten/retained gauze piece. Contrast enhanced CT scan of abdomen revealed an inflammatory pathology extending up to medial aspect of psoas major muscle. No obvious gossypoma (retained foreign object such as cotton gauze or sponge) was revealed. Local excision of the sinus tract was done & tissue was sent for histopathological examination which revealed histological features consistent with a chronic sinus tract. The sinus tract did not heal after its formal excision and granulation tissue with mild discharge persisted. Contrast enhanced CT scan performed three months later revealed the same findings as on the earlier CT scan.

Subsequently, exploratory laparotomy was performed after two months of earlier excision of the sinus tract. After entering the abdominal cavity, methylene blue dye was injected through a feeding tube passed in the sinus tract. The dye was found to have stained the tissue in the lateral wall of the abdominal cavity & upon mobilizing & reflecting the caecum & ascending colon medially the staining was found to be extending up to medial aspect of the psoas major muscle.

When the dissection was carried out medially to the medial aspect of this stained tissue/tract, a tubular structure of about 7mm in diameter was found embedded in the retroperitoneal tissue. When further traced out the structure turned out to be appendix which had perforated near its base. A faecolith of size 4x4 mm was found lying near the perforated part of appendix up to which the methylene blue dye was also found to have reached.

Appendicectomy was performed & the entire stained tract was excised up to external opening in the right flank. Laparotomy and the site of excised fistulous tract opening were closed primarily. Post-operative recovery was uneventful and patient was discharged on the fifth post-

operative day. Histopathological examination of excised specimen revealed evidence of acute appendicitis & features consistent with chronic fistulous tract.

### DISCUSSION

Formation of a fistulous communication between the appendix and adjacent viscera or skin is a rare complication of untreated acute appendicitis. Appendico-vesical, appendico-intestinal, appendico-uterine and appendico-cutaneous are the various types of rare appendicular fistulae reported.<sup>3</sup> Although appendico-vesical and appendico-intestinal fistulas are rare, appendico-cutaneous fistula is even more infrequent.<sup>4</sup>

Appendico-cutaneous fistula manifesting in the post-operative period for some unrelated surgery has not been found to be reported till date. Such a clinical presentation offers a diagnostic challenge as cause of fistula. According to Kjellman<sup>5</sup>, the main mechanism of formation of the fistula is spontaneous perforation of inflamed appendix in the adjacent bowel or the skin and persistence of fistula is due to presence of faecolith or carcinoid or tuberculosis.<sup>6</sup>

In our case appendicolith was recovered. We think our patient might have suffered an attack of acute appendicitis on

2<sup>nd</sup>/3<sup>rd</sup> post-operative day when she had undergone right sided ureterolithotomy. The classical symptoms and signs of acute appendicitis might have been altered/masked by post-operative antibiotics and analgesics. The discharge from the perforated appendix might have found an easy outlet through the removed drain site resulting in persistence of discharge due to epithelialization of the tract over the time.

As the fistula showed signs of healing in between with minimal mucinous discharge, it explained absence of its communication with bowel. Appendico-cutaneous fistula can be diagnosed with ultrasound of abdomen to assess the extent of abscess & water soluble contrast can delineate the tract. CT fistulogram is a valuable aid in this regard.<sup>7</sup> At times these fistulae may be difficult to diagnose even with advanced radiological techniques. An exploratory laparotomy is the gold standard for diagnosing and also simultaneous treatment.<sup>2</sup> Appendicectomy with excision of fistulous tract is the recommended treatment.<sup>8</sup>

### **CONCLUSION**

Appendico-cutaneous fistula is a rare complication of untreated acute appendicitis. Its presentation in the post-operative period

manifesting as a foul smelling purulent discharge from drain site after unrelated surgery is even more infrequent. Retained foreign body like gauze is a possible cause for the discharge. CT fistulogram may be helpful but at times, these fistulae may be difficult to diagnose even with advanced radiological techniques. An exploratory laparotomy may be then required. It helps to diagnose and simultaneously treat the condition Appendicectomy with excision of the fistulous tract leads to cure.

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