Spontaneous appendico-cutaneous fistula, after drainage of a right loin abscess — A case report

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Abstract A young male patient presented with right lower abdominal pain and fever. He had tenderness in the right lumbar region, with no palpable lump. Subsequently he developed a tender fluctuant lump in the right loin. Abdominal ultrasonography showed heterogeneous collection in the right lumbar region near the posterior abdominal wall. Making a diagnosis of right-sided perinephric abscess, drainage was done. The patient was discharged. Eight months after his discharge, he developed fever and painful swelling in the previous operation site followed by spontaneous discharge of pus. Sinogram showed the contrast passed through the sinus tract into the large bowel and into the terminal ileum. Laparotomy, fistula tract was found communicating with the appendix. Appendicectomy and curettage of the fistula tract was followed by complete cure.

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Introduction

Fistula formation between the appendix and the adjacent organs is a rare condition; cutaneous fistulas occur even more seldom and very few cases have been reported so far in the literature. Many pathological conditions of the appendix can present as an appendico-cutaneous fistula. Cutaneous fistula may develop after drainage of appendix abscess or after appendicectomy or it may develop spontaneously as a complication of acute perforating appendicitis or as a hazard of incomplete appendicectomy. An exploratory laparotomy is the gold standard for confirmation of this rare condition and simultaneously, it allows treatment by appendicectomy and excision of the fistula tract. We are describing a case presented initially with an abscess in the right loin, but subsequently developed appendicocutaneous fistula after drainage of the abscess.

Case report

A male patient of 24 years got admitted in surgical ward with the complaints of right lower abdominal pain and
fever for 7 days. On examination, he was tachycardic and temperature 102°F. On examination, there was tenderness in the right lumbar region and all other findings were normal. Investigations were normal apart from raised WBC count ($12.8 \times 10^9/L$), with polymorph 79%, ESR 40 mm in 1st hour; treatment had been started with antibiotic and analgesic. Five days after his admission, a tender fluctuant lump appeared in the right loin measuring $10 \times 8$ cm. Local temperature was raised over the mass. Abdominal ultrasonography showed mixed echogenic mass lesion of 9.6 cm size in right lower abdomen, origin could not be determined. All abdominal organs were normal. X-ray of lumbo-sacral spine shows normal spine. Repeat ultrasonography after 5 days showed heterogenous collection in the right lumbar region near the posterior abdominal wall that was suspicious of psoas abscess. Aspiration revealed frank pus. A diagnosis of right-sided perinephric abscess was made. The abscess was drained through a loin incision over the point of maximum bulging and revealed thick pus. Culture and sensitivity of the pus showed growth of *Escherichia coli*. He was then treated with appropriate antibiotic and regular dressing. Six days after the operation, the patient was discharged and was advised to attend the surgery outpatient for F/U. Suddenly eight months after the operation he developed fever and painful swelling in the previous operation site followed by spontaneous discharge of pus and after 20 days, he got admitted in surgical ward again. On examination, a discharging sinus was found in the right loin, in the scar of previous operation. Abdomen was soft, with no muscle guard or rigidity and no mass could be felt in the abdomen. All other systemic examinations were normal. Investigations done at that time revealed total count of WBC 9900/cmm, polymorph 64%, ESR 5 mm in the 1st hour. Hb% level, blood urea, urine examination, chest X-ray and X-ray of both hip joints were normal.

Intravenous urography showed normally excreting kidneys with normal ureters and bladder (Fig. 1). Sinogram showed the contrast passed through the sinus tract into the large bowel and into the terminal ileum (Fig. 2). Then a diagnosis of enterocutaneous fistula was made. Laparotomy was done through right lower paramedian incision. The middle part of the appendix was found entering into the internal opening of the fistula tract in the right iliac fossa. After mobilizing the caecum and appendix, the fistula tract was found communicating with the middle part of the retrocaecal appendix. The whole small and large bowel was normal. Appendicectomy was done and the fistula tract was curetted. Abdomen was closed with a drain in the pelvic cavity. The fistula tract healed completely after 7 days.

**Discussion**

Acute appendicitis is usually a benign disease, but it can have a worse prognosis if it is complicated by postoperative fistula. Acute appendicitis and its subsequent complications continue to pose a challenge to the General Surgeons. Apart from generalized peritonitis and abscess formation,
fistulas communication between appendix and adjacent viscera or skin is one of the rare complications of acute appendicitis. Fistulas communication reported are appendico-vesical, appendico-intestinal or appendico-cutaneous. Many pathological conditions of the appendix can present as an appendico-cutaneous fistula. Cutaneous fistula may develop after drainage of appendix abscess or after appendicectomy or it may develop spontaneously as a complication of acute perforating appendicitis. Although rare, it may be a hazard of incomplete appendicectomy. Appendico-vesical fistula may develop as a complication of unrecognized appendicitis. More surprisingly, appendico-cutaneous fistula may develop after abdominal drainage of an abscess in absence of obvious appendicitis or an appendix abscess. The condition was exactly the same in our patient.

It may present as a case of simple fistula or it may present with worse situation like necrotizing fasciitis in the right loin. It may be difficult to diagnose even with the assistance of advanced diagnostic (radiological) techniques. Fistulography is highly reliable and can be considered to be a great assistance in management of these fistulas. In our patient, fistulogram showed the fistulas tract communicating with the caecum.

Medical treatment remains the best initial treatment modality but surgery must be considered in case of external fistulas and of purulent or faecal fistulas. An exploratory laparotomy is the gold standard for confirmation of this rare condition and at the same time, it allows treatment of the fistula by appendicectomy and excision of the fistula tract. Appendicectomy and curettage of the fistula tract was curative in our case but a right colectomy or ileo-transverse colonic bypass may be needed to cure the condition.

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Ethical approval: Written consent was taken from the patient regarding publication of this case.

References