



## **CASE REPORT : ENTEROCUTANIC FISTLE**

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### **ABSTRACT**

Fistula is an abnormal connection between a channel with another channel (internal fistula), or a channel with the outside through the skin (externa fistula). A male, 48 years old, came to the RSUCM Hospital with complaints of discharge from the wound after a hernia operation on the left hip since 1 month at the SMRS. The liquid comes out in small increments, spontaneously, in lumps the size of corn kernels, blackish brown and sometimes greenish yellow, and smells bad. Surgical scars are often inflamed since 6 months after hernia surgery and have often been constipated since the operation. History of hypertension and diabetes mellitus since 4 years ago, not in control and not taking medication regularly. On physical examination, vital signs revealed hypertension. On physical examination, the status of the left iliac a/rillois was seen, an open wound measuring 1x1.5 cm, smelly discharge (+), felt warm, edema (+), NT (+). On complete blood laboratory examination, found within normal limits. At the time of colonoscopy.

**Keywords:** *enterocutanic fistle, surgery*

### **INTODUCTION**

Fistula is an abnormal connection between to body parts, such as an organ or blood vessel and another structure (internal fistula), or a channel with the outside through the skin (externa fistula). Enterocutaneous fistula or enterocutaneous fistula (ECF) is classified as an external fistula, there is a connection between the small intestine and the skin and the large intestine with the skin.<sup>1-3</sup>

Enterocutaneous fistulas (ECFs) can occur as a complication of any type of surgery on the gastrointestinal tract which is usually appears 7-10 days postoperatively. Over 75% of all ECFs present as postoperative complications, while approximately 15-25% result from abdominal trauma or occur spontaneously in association with cancer, radiation, inflammatory bowel disease, or ischemic or infectious conditions.<sup>3</sup>

Despite of advances in nutritional care, infection control, and surgical techniques, enterocutaneous fistula (ECF) remains a source of considerable morbidity and mortality. The death rate in this fistula is ranging from 5-20%, due to sepsis, fluid and electrolyte imbalance and malnutrition.<sup>4,5</sup>

ECF is a common condition and a real challenge for surgeons as far as management is concerned. Over the past few decades, efforts to improve ECF treatment have continued to be developed. An aggressive approach with effective control of sepsis, adequate nutritional intake and fluid

and electrolyte balance are the keys to the successful management of this fistula. This affects the patient's quality of life, extends the hospital stay, and increases the overall cost of treatment. Understanding the pathophysiology and risk factors as well as appropriate treatment can help reduce the occurrence of enterocutaneous fistulas.<sup>6-9</sup>

### **CASE REPORT**

A 48-year-old male patient, an farmer, lived in North Aceh, Indonesia, was come to the emergency department of Cut Meutia Hospital by his family. He was complained of discharge from the wound after a hernia operation since 1 month ago. Liquid that comes out little by little and clots the size of corn kernels. Brownish black liquid like feces, and sometimes greenish yellow like pus. The liquid smells bad and comes out spontaneously without any pressure from the scar. The patient feels that the postoperative wound is not painful when the fluid comes out, the wound is only painful when pressed. Hernia surgery scars are often inflamed since 6 months after surgery. If it is inflamed, the wound looks open with a red, warm, swollen and throbbing pain around the wound. Spread of pain (-), fever (-), discharge (-), nausea (-), vomiting (-), constipation (-), constipation (+). Every time the wound is inflamed the patient treats the wound to the doctor and the wound will close again.

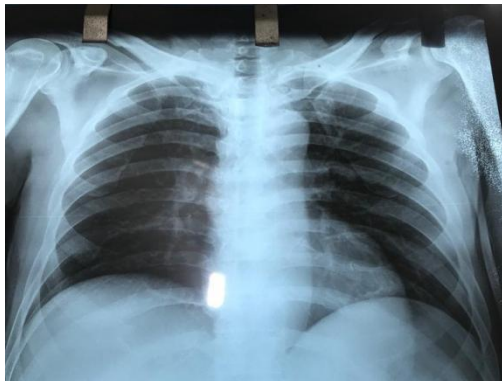


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He had history of hypertension, diabetes since 4 years ago. Not controlled and not taking medication regularly. History of smoking since the patient was 23 years old and history of drinking alcohol was denied. Daily patients work as farmers and patients receiving treatment are covered by BPJS

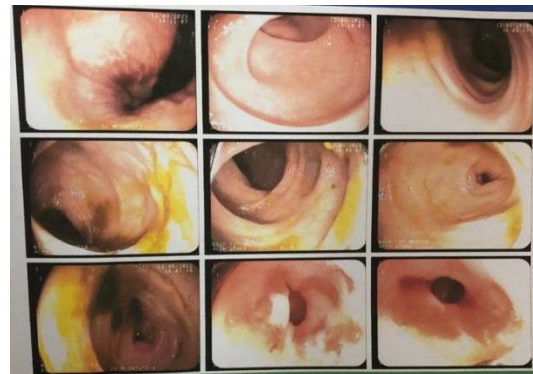
Physical examination revealed full of consciousness with slightly abnormal vital sign; BP 130/80 mmHg , HR 92 bpm, RR 21 bpm, temperature 36.4°C, SpO2 95% on room air. Abdomen examination showed symmetrical, lesion (+) in the left iliac region, flat, soepel (+), tenderness (-), no mass palpable. Ani sphincter is tight, no mass can be felt. Left iliac region showed open wound (+), measuring 1 cm x 1.5 cm, smelly yellow discharge (+), palpation was warm, edema (+), NT (+), timpani, tap pain (-), and bowel sounds (+) 3 x/minute.

Laboratorial evaluation presented normal CBC, normal bloodsugar level, normal RFT.



**Figure 1.** Chest x-ray

AP Thoracic Examination showed cardiology size, shape and location of the heart within normal limits and pulmonary vascular pattern looks normal, no spots were seen in both lung fields, right hemidiaphragm at the level of the 10th posterior rib, right left costophrenic sinus taper. Colonoscopy showed enterocutaneous fistula grade II Internal hemorrhoids



**Figure 2.** Colonoscopy

The patient was diagnosed with enterocutaneous fistula. The patient was fasted preoperatively, NGT (decompression), catheter placement and fluid balance. During hospitalization, he got ringer lactate, paracetamol, ceftriaxone, omeprazole, and ketorolac.

## DISCUSSION

A 48 year old male patient came to the emergency room at Cut Meutia Hospital with complaints discharge from a hernia operation scar on the left waist which was done 1 year ago. A fistula is an abnormal channel that connects two internal organs or runs from an internal organ to the surface of the body. Enterocutaneous fistula is an abnormal channel that connects the gastrointestinal organs and the skin. Enterocutaneous fistulas can arise spontaneously and as a result of postoperative complications. Enterocutaneous fistulas can occur as a complication of any type of surgery on the digestive tract. More than 75% of all ECFs present as postoperative complications and the ileum is the most common site, while approximately 25% of ECF patients are post-traumatic abdominal patients. Enterocutaneous fistula (ECF) may also occur spontaneously in association with malignancy, radiation, inflammatory bowel disease, or ischemic conditions or infections.<sup>1-3,4</sup>

The patient admitted that the liquid came out in small lumps the size of corn kernels. Brownish black liquid like feces, and sometimes greenish yellow like pus. The liquid smells bad and comes out spontaneously without any pressure from the scar. The patient feels that the postoperative wound is not



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painful when the fluid comes out, the wound is only painful when pressed. The main cause of this fistula is the result of postoperative complications. Factors causing postoperative enterocutaneous fistulas can be caused by patient factors and technical factors. Patient factors are malnutrition, infection or sepsis, anemia, and hypothermia. While the technical factor is the preoperative action. Prior to surgery, the nutritional state of the patient must be evaluated because losing 10-15% of body weight, albumin levels less than 3.0 g/dL, low levels of transferrin and total lymphocytes can increase the risk of enterocutaneous fistula. In addition, enterocutaneous fistulas can be caused by insufficient vascularization of the surgical site, systemic hypotension, excess pressure at the anastomosis, and creating anastomosis from an unhealthy gut.<sup>1-3,5</sup>

All fistula forms are associated with non-intestinal tissue exposure. Intestinal bacterial flora causes contamination and the eventual development of sepsis. Formation of fistulas, fissures and abscesses occurs according to the extent of inflammation into the peritoneum. If the inflammatory process continues, the abnormal channel that is formed can reach the skin (cutaneous) of the abdomen so that an enterocutaneous fistula is formed. The lesions (ulcers) are in constant contact with each other and are separated by normal tissue.<sup>6-7</sup> In advanced cases, the intestinal mucosa thickens and becomes fibrotic and eventually the intestinal lumen narrows. Localized effects of intestinal fluids can be damaging or corrosive to non-intestinal tissues, causing damage, erosion, and loss of normal organ or organ system function. Fistulae can be classified according to the anatomic structures involved, the etiology of the disease process leading to its formation, and its physiological outcomes (especially for enterocutaneous fistulas). Anatomical classification determines the fistula site of origin, drainage point, and whether the fistula is internal or external. Physiological classification depends on fistula output within 24 hours. Etiologic classifications (eg. malignancy, inflammatory bowel disease, radiation) define the associated disease leading to fistula development.<sup>1,3-5</sup>

On supporting examination, a colonoscopy was performed which obtained the impression of an enterocutaneous fistula. In this case, the patient was diagnosed with enterocutaneous fistula.

Enterocutaneous fistula begins with a disruption of the integrity of the intestinal wall which causes leakage of intestinal contents into the abdominal cavity or body surface. Initial symptoms started with fever and leukocytosis on days 3 to 5 after surgery. There is discomfort (pain) in the abdomen due to narrowing of the intestinal lumen which affects the ability of the intestine to transport products from intestinal digestion through the lumen. Because intestinal peristalsis is stimulated by food, pain usually occurs after eating. To avoid this pain, some patients tend to limit food intake, reduce the amount and type of food so that normal nutritional needs are not met. The result is weight loss, malnutrition, and secondary anemia. On physical examination found infection in the wound. The diagnosis becomes clear when drainage of intestinal material is found in the abdominal wound. Evaluation of the odor, color, consistency and volume of the fluid can help identify the source of the leak.<sup>6,9-11</sup>

Clinical manifestations of spontaneous enterocutaneous fistula are fever, leukocytosis, symptoms of ileus, and pain in the abdominal area or the presence of peritonitis. These symptoms are typical of inflammatory bowel disease.<sup>6</sup>

The patient underwent colonoscopy and was given non-medical and medical therapy. Management of fistulas in this patient is giving antibiotics to prevent infection and sepsis, giving parenteral nutrition to prevent malnutrition, intravenous fluids to prevent dehydration, dulcolax to launch bowel movements and analgesics to reduce pain.<sup>6,12</sup>

Enterocutaneous fistula can cause mortality of 10-15%, mostly due to sepsis. However, as many as 50% of cases of fistulas can close spontaneously. Factors that can inhibit the spontaneous closure of the fistula, namely FRIEND (Foreign body in the fistula tract, radiation enteritis, infection/inflammation at the source of the fistula, epithelialization of the fistula tract, neoplasm at the source of the fistula, distal obstruction of the intestine). Surgery can cause more than 50% morbidity in patients and 10% can recur.<sup>7-9,13-14</sup>

## CONCLUSION

Fistula is an abnormal connection between one channel and another channel (internal fistula), or between a channel and the outside through the skin (externa fistula). According to the cause, fistulas are



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divided into congenital fistulas, such as omphalomesenteric fistulas, and acquired fistulas. Acquired fistulas can be caused by inflammation, such as perianal fistulas in Crohn's morbus, injury especially sharp trauma, malignancy of the intestine, and can be iatrogenic as a result of surgery.

In this case report, the patient is 48 years old discharge from the wound after a hernia operation. On physical examination, there was an open wound on the abdomen that oozed a brownish-yellow, smelly liquid. A norit examination was carried out and the results were positive. Colonoscopy was performed and it was concluded that there was an enterocutaneous fistula. The patient was advised to have surgery again to close the hole, but the patient refused and did PAPS the day after colonoscopy was performed.

#### REFERENCES

1. De Jong W, R. Sjamsuhidaayat. Textbook of Surgery ed. 3. Jakarta: EGC. 2010, 752
2. Dorland WAN Dorland Medical Dictionary. Jakarta : EGC. 2002, p. 84
3. Kozell K and Martin L.. Managing the Challenges of Enterocutaneous Fistula. 1999 vols. 1, number 1. 10-14
4. Timothy A Pritts, David R Fischer, et al. Postoperative enterocutaneous fistula. NCBI Bookshelf. 2020
5. Evenson A. R et al. Current Management of Enterocutaneous Fistula. 2019. p.m. 455-463
6. John L Cameron, Andrew M Cameron. Current: Surgical Therapy ed: 11. Elsevier Saunders. 2019. P 142-145.
7. Thompson MJ and Epanomeritakis E. An Accountable Fistula Management Treatment Plan. British Journal of Nursing, 2018, vol 17 No.7.
8. Edward EW et al. Small Intestine. In : Charles F., Bronicardi et al. Swartz-Principle of Surgery. McGraw-Hill.
9. Stein DE 2018. Intestinal Fistula.
10. Kozell K and Martin L., 2020. Managing the Challenges of Enterocutaneous Fistula.
11. Amato J, 2019. Enterocutaneous Fistula
12. Evenson A. R et al., 2019. Current Management of Enterocutaneous Fistula.
13. Thompson MJ and Epanomeritakis E., 2018. An Accountable Fistula Management Treatment Plan
14. Edward EW et al. Small Intestine. In : Charles F., Bronicardi et al. Swartz-Principle of Surgery. McGraw-Hill.