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## CASE REPORT

LEIF CHRISTIANSON, MD

### CROHN'S DISEASE & ENTEROCUTANEOUS FISTULAS

#### CASE:

A 51 year old female with a past medical history of Crohn's disease presented from an outside hospital with complaints abdominal discomfort and swelling (initially diagnosed as a ventral hernia at an urgent care center) followed by the spontaneous drainage of feculent material. At her local hospital, a fistulogram was performed which demonstrated an 8mm wide enterocutaneous fistula associated with a 7cm wide collection of fluid in the anterior abdominal wall.

On arrival at UMHC, the patient was found to be very malnourished, underweight and deconditioned. Labs revealed electrolyte imbalances and a hemoglobin of 7.3 for which she was transfused with 2 units of PRBCs. Her initial management consisted of fluid resuscitation, electrolyte replacement, administration of TPN and skin care. Refeeding syndrome was of concern and her electrolytes were thus closely monitored during the early stages of her recovery. Gastroenterology and General Surgery were consulted for their assistance and recommendations. A CT of the abdomen/pelvis demonstrated that the fistula likely originated at the terminal ileum and that it was associated with a 2x10x10 cm intra-abdominal abscess that drained through the fistula. The patient was placed on levofloxacin and metronidazole. Gastroenterology recommended drainage of the abscess and planned to start a TNF-alpha inhibitor once the abscess resolved. General Surgery did not feel that the patient was a good surgical candidate due to her poor nutritional status as well as the early stage of the fistula; they did not recommend additional drainage procedures since the abscess was noted to be draining through the fistula on the CT scan. They plan to follow her as an outpatient and will consider surgery at a later date if conservative measures fail.

**DISCUSSION:**

Crohn's Disease has many complications and, of these, fistulas are among the most difficult to treat. Fistulas that arise in association with Crohn's Disease are classified as those with no evidence of active disease (type 1) and those associated with intra-abdominal abscess formation (type 2). This distinction is important since conservative management is likely to attain spontaneous closure of a type 1 fistula but not a type 2 fistula [1]. Enterocutaneous (EC) fistulas cause significant morbidity and mortality due to sepsis, malnutrition and fluid imbalance. Once developed, their treatment is often complex and difficult. EC fistulas are classified by their anatomic location (gastrocutaneous, enterocutaneous, etc), physiologic properties (low, moderate or high output) and the etiology of the fistula (malignancy, inflammatory bowel disease, post-operative, etc.). Understanding this classification gives physicians prognostic data to share with the patient [2].

The initial treatment of a patient with an EC fistula should center around 4 key aspects of treatment: nutrition, hydration and correction of electrolyte imbalances (especially hypokalemia), abscess drainage (and treatment of any associated infection) and skin care. Treatment of the underlying condition is also essential [1]. CT scan with contrast or a fistulogram should be performed to define the site of origin and the anatomy of the fistula and to determine if there is an associated abscess that might require CT-guided drainage. Despite proper care, mortality occurs in approximately 20% of cases. Spontaneous closure of EC fistulas varies, based on the severity and type of underlying condition; if the fistula does not respond to intense, conservative management, surgical closure may be required. About 30% of EC fistulas will heal spontaneously while 70% will eventually require surgical intervention [3].

Proper skin care is imperative for the resolution of an EC fistula. Use of an ostomy pouch is a common practice but this may allow skin to be in contact with the fistula output, causing local skin irritation. The use of barrier creams and artificial skin barriers can help to reduce this irritation and prevent skin breakdown. A more recent development in the management of EC fistulas is the use of vacuum-assisted closure (VAC) devices. In a study from Argentina, 97 patients were treated with VAC; of these 97 patients, 66 had presented with sepsis and the average output of the EC fistulas was over 1400 ml/day (high output category). With use of the VAC, fistula output was entirely suppressed in 40.7% and 57.1% had their output decreased to less than 500 ml/day; spontaneous closure occurred in 46.2% of patients within 90 days but 40.7% required surgical intervention. Surgical intervention resulted in successful closure of the EC fistula in 84% of those who underwent the procedure. VAC is a viable option in the treatment of EC fistulas if deemed to be appropriate; the overall mortality for this study was 16.5% [4]. Fistula output can also be significantly reduced with the use of somatostatin or octreotide and some studies have shown that they may decrease the time to spontaneous closure; however, no randomized control trials have been completed and their use remains controversial [1].

If a six month trial of conservative management for an EC fistula fails, surgical management should be considered. Immediate laparoscopy is warranted for any signs of peritonitis. Surgery is often made difficult due to dense adhesions which form as a result of the EC fistula; these adhesions are commonly referred to as "peritonitis obliterans" and usually begin to diminish after 6 weeks of medical management, thus making surgical intervention more successful by that time. Well nourished and infection-free patients are the best candidates for surgical repair; the procedure is often lengthy, involving extensive adhesiolysis, possible resection of necrotic bowel, resection of bowel at the site of fistula origination and the closure of abdominal wall defects [1,5].

In summary, the treatment of EC fistulas is complex and requires a multi-disciplinary approach for effective care. Therapy should center on nutritional support, adequate hydration, corrections of electrolytes, skin care and the treatment of infection, abscess (if present) and the underlying condition. Despite addressing all of these measures, EC fistulas are associated with significant morbidity and mortality. **(References on next page)**

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**FROM THE JOURNALS**

LESLIE HALL, MD

**Surrogate decision makers' interpretation of prognostic information: a mixed-methods study**

Zier, LS et al., Ann Intern Med, March 6, 2012; 156: 360-366

<http://www.annals.org/content/156/5/360.full.pdf+html>

This study explored the interpretation of medical prognostic information passed along to 80 surrogate decision-makers in response to 16 different prognostic statements. Interpretations of prognostic statements indicating a low risk of death tended to be accurate whereas interpretations of statements indicating a high risk of death tended to be overly optimistic. The authors suggest that surrogates often believe that the patient has attributes unknown to the physicians which will lead to better-than-predicted outcomes.

**End-of-life care discussions among patients with advanced cancer: a cohort study**

Mack, JW et al., Ann Intern Med, February 7, 2012; 156: 204-210

<http://www.annals.org/content/156/3.toc>

Although physicians are encouraged to discuss end-of-life (EOL) care with all cancer patients with less than one year of life expectancy, this study suggests that these discussions often occur late in the course of the disease. In 2155 patients with stage IV lung or colon cancer, 73% had EOL discussions documented; however, in over half of the cases, the first EOL discussion occurred during an acute care hospitalization. Among patients who died during the study, discussions occurred a median of 33 days prior to death.

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