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An easily forgotten tube

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Cases & Commentaries >

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## An Easily Forgotten Tube

Commentary by **Karen Ousey, PhD, RGN**

### The Case

A 45-year-old man was admitted to the intensive care unit (ICU) for acute liver failure secondary to alcohol abuse. His illness was complicated by acute renal failure requiring dialysis and by respiratory failure requiring intubation, as well as hepatic encephalopathy requiring therapy with lactulose. A rectal tube was inserted on hospital day 7 for management of diarrhea that occurred with lactulose therapy. Over the course of his ICU stay, the patient's encephalopathy improved and he was weaned from mechanical ventilation and extubated.

On hospital day 9, he was transferred out of the ICU to a general medicine floor for continued care. His mental status improved and his serum ammonia decreased. Although lactulose was discontinued, the patient's diarrhea persisted. He passed a swallowing evaluation, made significant progress with physical and occupational therapy, and was recommended for eventual transfer to an acute rehabilitation facility. On hospital day 13, the patient was incidentally noted to have an internal jugular deep vein thrombosis, likely related to previous temporary dialysis catheter placement. An intravenous heparin infusion was started. On hospital day 14, the patient's hemoglobin dropped by 2 g/dL, and dark red liquid stool was noted in the rectal tube. The heparin infusion was stopped, and the patient was transfused with two units of packed red blood cells. On hospital day 15, the patient underwent colonoscopy, which revealed a large area of ulcerated mucosa comprising half the circumference of the rectum, likely caused by the rectal tube.

After discussion of the risks and benefits, the heparin infusion was discontinued. The patient did not require an increased level of care, but his inpatient stay was prolonged, and he received both transfusion and the colonoscopy because of the rectal ulcer.

### The Commentary

by **Karen Ousey, PhD, RGN**

The prevalence of fecal incontinence can be difficult to determine as it relies on patient self-reporting and is often underreported (1) with patients experiencing embarrassment, shame, and depression.(2) The disorder is present in both genders and across all age ranges. Prevalence rates have been reported as ranging from 2.2% in ambulatory patients to approximately 50% in nursing home residents.(3) Globally, the best estimates of prevalence in community populations range from 4.4% (4) to 18.4%.(1) A 3-month prospective observational study undertaken on an intensive care unit reported a 22.4% prevalence.(5)

The traditional management of fecal incontinence has consisted of meeting patients' hygiene needs through the use of plastic sheets, incontinence pads, and frequent bed linen changes. These activities are time consuming for health care professionals and can compromise patient dignity. A fecal management system (FMS) is a fully closed system that collects and contains liquid or semi-liquid stools and can assist in the prevention of fecal contamination of the environment.(6) An FMS may be indicated when the patient has severe uncontrolled diarrhea that is a threat to skin integrity (6); diarrhea also

increases the risk of cross-contamination and infection from pathogens such as *Clostridium difficile*.

FMSs currently available in the United States include the Flexi-Seal fecal management system (ConvaTec); Bowel Management System (Hollister); and DigniCare Stool Management System (Bard). These systems all redirect fecal matter to an external collection bag via a catheter inserted into the patient's rectum and are secured by inflating a balloon that prevents the device being dispelled. Each device can be used for up to 29 days. It is important to note that patients must have adequate anal sphincter tone before insertion; if anal tone is compromised, the balloon will not remain in place. The devices are contraindicated for persons below the age of 18 years.

Although there are currently no standardized international guidelines for the management of acute fecal incontinence, there are several useful national guidelines, including those from the American College of Gastroenterology (7), the Welsh Wound Network (8), and the UK's National Institute for Health and Care Excellence (NICE) guideline (9) on the management of chronic incontinence. The NICE guideline provides the most specific recommendations related to FMS.(9) Before considering use of FMS, it is important to assess the causes of fecal incontinence identified from the patient history along with an examination that includes, as a minimum, a general examination, digital anorectal examination (3,9), and assessment of cognitive function. Contraindications to the use of FMS are suspected or confirmed rectal mucosa impairment; recent large bowel surgery or rectal surgery within the past year; sensitivity or allergies to any of the materials used in the device; rectal or anal injury; severe rectal or anal stricture or stenosis; fecal impaction; poor rectal tone; rectal/anal tumor; and severe hemorrhoids, because these factors increase the risk of damage to the bowel and other tissues. An FMS device should not be used for a mobile patient as movement may lead to pressure on the tubing, preventing free flow of fecal matter and causing damage to the skin and mucosa. An FMS is unsuitable for spinal cord injury patients due to the high risk of autonomic dysreflexia that occurs in people with a spinal cord lesion above the level of the sixth vertebra.(10) Any stimulus below the level of the spinal lesion can start autonomic dysreflexia; Safaz and colleagues (11) report that irritation of the colon leads to massive sympathetic discharge above the level of sympathetic splanchnic outflow. Although it might seem logical that an FMS could increase the risk of gastrointestinal bleeding in patients on anticoagulation, only one case report of rectal bleeding associated with an FMS in a patient receiving antithrombotic agents could be located in the literature.(12) However, based on this report and common sense, caution needs to be taken when patients are receiving antithrombotic medication.

In patients with FMSs, daily assessment is essential for early detection and treatment of any adverse events. Potential adverse events may include loss of anal sphincter muscle tone, pressure necrosis of rectal or anal mucosa, infection, bowel obstruction, perforation of the bowel, persistent rectal pain, rectal bleeding, and abdominal distention.(8) If any suspected adverse event occurs, the FMS should be discontinued and an urgent referral made to an appropriate medical specialist.

The presented case highlights the importance of undertaking a thorough medical history, reviewing this frequently prior to commencement of different medications, and an in-depth understanding of all invasive devices. It would appear that, for sound clinical reasons, the medical priorities for this patient were to treat the internal jugular deep vein thrombosis and to manage his liver failure. While the case provides no evidence that the rectal ulcer could have been discovered prior to the initiation of anticoagulation, one wonders whether asking the patient about rectal pain or early signs of heme-positive stool might have led to tube removal before the initiation of anticoagulation and prevented the adverse event. The management of bowel and hygiene issues is often perceived to be a fundamental aspect of the patient's care and the domain of nursing rather than medical staff. This highlights the importance of multidisciplinary work where communication between the various professional groups is effective to ensure there are no contraindications between the multiple care interventions and treatments.

The inadequate reporting of fecal incontinence due to patient embarrassment has led clinicians and policymakers to underestimate the extent of the problem. If reporting of fecal incontinence was as vigorous as it is for urinary incontinence (for which there are widespread guidelines that help us manage

Foley catheters), we might have more research and guidelines to help manage patients with the former problem. Until then, it is vital that all health care areas using FMS provide education that allows professionals to understand how to assess the patient for a device and to be aware of adverse events.

### Take-Home Points

- The prevalence of fecal incontinence can be difficult to determine as it relies on patient self-reporting and is often underreported.
- Fecal management systems, which involve rectal tubes that divert stool to an external collection bag, are available to manage selected patients with fecal incontinence.
- Fecal management systems cannot be used for a mobile patient as this may lead to pressure on the tubing, preventing free flow of fecal matter and causing damage to the skin and mucosa.
- A digital examination of the rectum should be undertaken prior to using a fecal management system.
- Caution needs to be taken when patients with fecal management systems are receiving antithrombotic medication. This includes close monitoring of vital signs and any bleeding from the rectal area.

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