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Case Report

A curious case of enterocutaneous fistula in incisional hernia secondary to broken tip of Ryles tube

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ABSTRACT

Enterocutaneous fistula is an abnormal connection that develops between the intestinal tract and the skin with drainage of intestinal contents through the skin. Enterocutaneous fistulas secondary to intraluminal foreign body are relatively rare. We report a case of 75-year-old bedridden female on Ryles tube feeding presented with painful swelling over mild line scar of abdomen and skin opening with watery discharge from lower end of scar. Radiological imaging revealed an obstructed incisional hernia with enterocutaneous fistula likely communicating to ileum. Intra-operatively an unexpected broken tip of Ryles tube was delivered through fistula opening. Patient managed successfully with fistula excision, wedge resection and closure. This case highlights the need for adaptability and timely action during surgical intervention.

Keywords: Enterocutaneous fistula, Intraluminal foreign body, Incisional hernia, Ryles tube

INTRODUCTION

Enterocutaneous fistulas are most commonly iatrogenic usually the result of surgical misadventure, cases related to intraluminal foreign bodies are relatively uncommon. Foreign bodies can result in irritation, inflammation and perforation and finally leads in formation of fistula in some cases.[1] Presence of foreign body hinders the closure of fistula, necessitating surgical intervention.

CASE REPORT

A 75-year-old bed ridden female, on Ryles tube feeding for the past year due to advancing Parkinson's disease was brought to emergency department by relatives with complaints of swelling over her midline abdominal scar for past 2 months, the swelling became irreducible from last 8 days associated with pain in abdomen aggravated on the day of presentation. Additionally, 5 days prior her relatives noticed skin redness around lower end of midline abdominal scar accompanied by watery discharge. Bedridden for the past year due to progression of Parkinson's disease over the last five years. On Ryles tube feeding since a year, they change Ryles tube once every 3-4 weeks. With significant surgical history, underwent abdominal surgery for rectal prolapse 1.5 years ago. On examination patient is restless, tachycardia present, GCS moderate. On per abdominal examination infraumbilical swelling over the midline scar, with skin opening noticed over swelling at the hypogastric region. The skin showed signs of erythema, thinning of skin and serous discharge (Figure 1) and generalized tenderness in all quadrants more in hypogastrium. Ultrasonography (USG) done suggested possibility of obstructed incisional hernia with bowel as content, while performing USG skin over hypogastrium unexpectedly opened up more and bilious discharge started. Computed tomography (CT) done indicated findings consistent with an obstructed incisional hernia with enterocutaneous fistula with internal opening in to small bowel most likely ileum. Patient was taken up for exploratory laparotomy, hernia contents were reduced. A loop of ileum was found adherent to the hernial sac with

small fistulous opening in to ileum, as shown in Figure 2. just proximal to opening tube like structure felt. Attempt was made to deliver the tube out through opening broken tip of Ryles tube delivered shown in Figure 3. As this finding not reported in CT brought a sudden surge of enthusiasm among us on the table while operating fistula, fistulous tract excised, wedge resection and closure of perforation done. Mesh not placed because of local infection; defect closed. Post-operative period was uneventful and patient got discharged. Later went to radiology department to review the CT scan and traced broken tip of Ryles tube as illustrated in Figure 4. Spontaneous closure rate depends on anatomy, etiology, nutritional status and output from fistula. Related complications are fluid electrolyte imbalance, malnutrition, sepsis, and local wound excoriation.

Figure 1: Per abdominal examination.

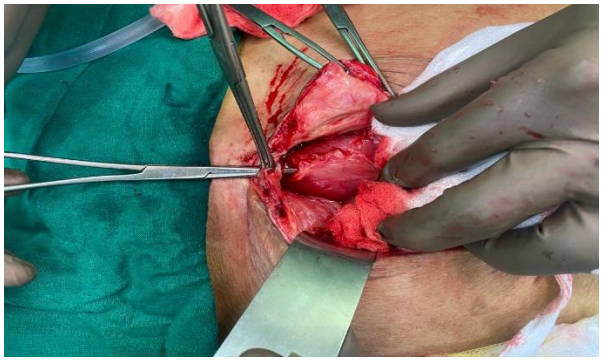

Figure 2: Fistulous tract opening into ileum.

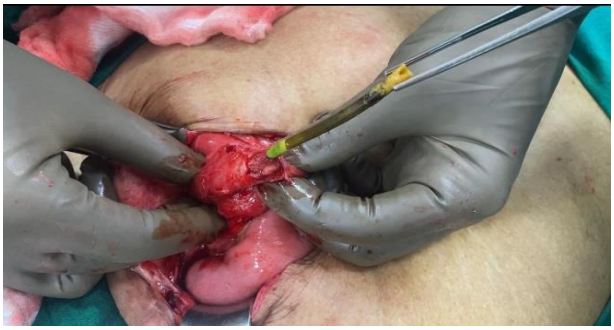

Figure 3: Broken tip of Ryles tube delivered through fistula.

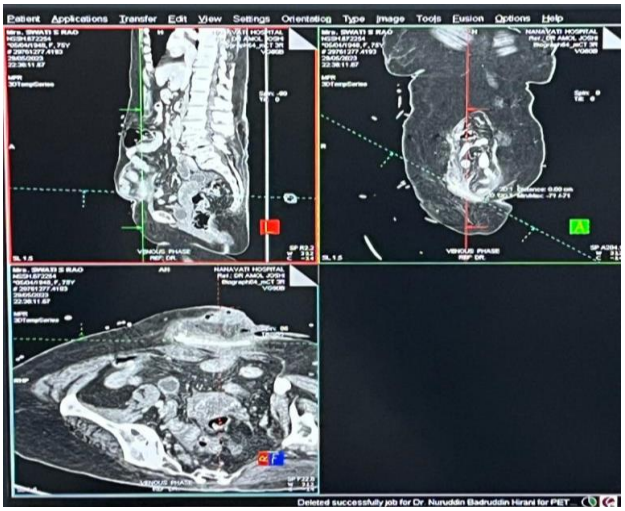

Figure 4: CT showing broken piece of Ryles tube.

DISCUSSION

Enterocutaneous fistulas are most commonly iatrogenic (75-85%) e.g., anastomotic leakage, injury of bowel or blood supply, erosion by suction catheters, laceration of bowel by wire mesh or retention suture. The remaining 15-25% are associated with predisposing conditions e.g., Crohn's disease, malignancy, radiation enteritis, diverticulitis, intra-abdominal sepsis, trauma.[1] Etiology includes anatomical, physiological and etiological classification mentioned in Table 1.

Table 1: Classification.[1]

Classification		
Anatomic	Internal	Enteroenteric
		Enterovesical
		Nephroenteric
		Enterovaginal
		Enterouterine
		Aortoenteric
	External	Enterocutaneous
Physiologic	Low output	< 200 ml/day
	Moderate output	200-500 ml/day
	High output	>500 ml/day
Etiologic	Traumatic	Postoperative
		Ingested foreign body
		Penetrating trauma
	Infectious	Diverticulitis
		Appendicitis
		Actinomycosis
		Tuberculosis
	Inflammatory	Crohn's enteritis
	Malignancy	
	Radiation	

The typical clinical presentation is of an erythematous wound with a bloody discharge leakage of enteric contents

occurs. They are classified according to their output as high output (>500 ml/24 hours) and low output (<500 ml/24 hours). Factors that prevent spontaneous closure of fistulas are: high output, more than 50% disruption of bowel continuity, tract >2.5 cm long, active inflammatory disease, malignancy, radiation enteritis, epithelialization of tract, foreign body.[2] Spontaneous closure rate depends on anatomy, etiology, nutritional status and output from fistula.

The four cardinal principles in the initial care of patients with ECF, i.e., correction intravascular volume deficit, drainage of abscesses, control of fistula effluent, and protection of the skin. Sepsis has become the most common cause of death, hence sepsis control is critical with appropriate antibiotics.[3] The major breakthrough came with the introduction of total parenteral nutrition (TPN) by Dudrick and Colleagues, "because it directly addressed malnutrition, the leading cause of death in these patients. It not only reversed the patient's catabolic state, but allowed most ECFs time to heal spontaneously.[4] Effluent control, best achieved with intubation of the fistula tract with drain. Protection of the skin around the opening to prevent excoriation is important.

The use of fluoroscopic contrast and CT along with clinical behavior can characterize the anatomy and pathology if the fistula.[5] In general, a period of 3-6 months is beneficial to allow the inflammatory response associated with sepsis to subside and adhesion formation to stabilize. It is reasonable to anticipate spontaneous closure of iatrogenic fistulas with conservative measures by 6 weeks but not spontaneous fistulas as the diseased segment of the bowel will not heal spontaneously and require resection.[6] The preferred operation is fistula tract excision and segmental resection of the involved segment of the intestine and re-anastomosis. If unexpected abscess is encountered or if the bowel wall is rigid and distended over a long distance, exteriorization of both ends of the intestine should be accomplished. Basic surgical considerations are-attempting a one stage procedure, careful adhesiolysis, wedge resection or intestinal resection covering sutures with viable tissues and avoiding friable areas that are not directly involved with fistulae.[7]

CONCLUSION

Early detection of foreign body enables pivotal role in timely intervention and reducing the risk of complication resulting in better outcome for the patient.

This go serves as a poignant reminder that surgical preparedness should extend beyond relying solely on radiology and diagnostic tools, emphasizing the need to anticipate and be prepared for unexpected challenges.

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