

Complication of ostomies

Ostomijų komplikacijos

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Objectives and Discussion

The earliest record of surgical formation of a colostomy was by Litre in 1710 as a treatment for an obstructing colonic carcinoma [1]. Ileostomy was first described by Brown in 1913 [2] as a temporary measure to rest the colon in severe ulcerative colitis. In 1952, Brooke [3] described spouting of the ileostomy to facilitate collection into a bag without damaging the adjacent skin.

About 1 million people in the United States have either temporary or permanent stomas. Several complications can affect it, making accurate assessment crucial. These complications may occur during the immediate postoperative period, within 30 days after surgery, or later. Lifelong assessment by a healthcare provider with knowledge of ostomy surgeries and complications is important.

Complications following stoma formation are unfortunately very common. Some are relatively minor or transient, others can be managed by skilful stoma care, and yet others require surgical reoperation. At least 15–20% of patients with a stoma require reoperation log-term follow-up [4, 5].

Consultation with an enterostomal therapy nurse can help immensely with marking of an ideal site for a stoma. The stoma site should be selected with the patient sitting, standing, and in supine position with normal clothes.

Complications can be categorised into early and late. Common early complications include stoma retraction, stoma trauma, mucocutaneous separation, allergy to the appliance and ischemia. Common late complications are prolapse, stenosis and paraostomal hernia.

Early complications

Stoma retraction

The best-formed stoma protrudes about 2.5 cm, with the lumen located at the top centre or apex of the stoma to guide the effluent flow directly into the pouch. In stoma retraction, the stoma has receded about 0.5 cm below the skin surface [6]. Retraction may be circumferential or may occur in only one section of the stoma.

Retraction causes a poor pouching surface, leading to frequent peristomal skin complications. Typical therapy is used for a convex pouching system and a stoma belt. If obtaining a pouch seal is a problem and the patient has recurrent peristomal skin problems from leakage, stoma revision should be considered [7].

Stoma trauma

Stoma trauma occurs when the stoma is injured, typically from a laceration. Lacerations usually result from the pouch appliance or clothing [8]. Stoma lacerations commonly result from a small opening in the flange or a misaligned pouch opening. There is usually no pain

associated with a laceration, and bleeding may or may not be present.

Lacerations may heal spontaneously, when the causative factor is removed. It's important to Resize the pouching system or the skin barrier/wafer so that the stoma is not in contact with the flange or other firm edges or adjust tight clothing that may be impinging on the stoma. If the situation doesn't improve, the use of hemostatic measures are helpful to control the bleeding (silver nitrate).

Mucocutaneous Separation

Mucocutaneous separation is seen commonly within the first few days after surgery and is caused by inadequate or improper approximation of the mucosa to the dermal layer or excessive bowel tension. It can also be caused by infection, steroid use, abdominal radiation, and malnutrition. Tension or tautness of the suture line can also cause mucocutaneous separation.

Treat the separation as a wound, and apply wound-healing principles: absorb drainage, reduce dead space, use the proper dressing, and promote wound healing. Flush the separated area with normal saline, tap water, or a noncytotoxic wound cleanser. Fill the separation with a product to absorb drainage and provide an environment for healing as calcium alginate packing into the cavity or barrier powder. After the defect is filled, apply the pouching system over the separation, exposing only the stoma. Complete separation may require a local revision.

Ischemia

Signs of ischemia usually arise within 24 hours. The stoma first appears edematous with bluish discoloration and then progresses to necrosis. The cause of necrosis usually relates to the surgical procedure, such as tension or too much trimming of the mesentery, or the vascular system that provides blood flow to the intestine. Other causes of vascular compromise include hypovolemia, embolus, and excessive edema.

Depth of ischemia can be assessed with an endoscope, glass test tube with an external light, or puncture with a needle. An ischemic stoma does not bleed after puncture by a needle. If ischemia is superficial, close observation is adequate. Full-thickness necrosis above the fascia could lead to stenosis later, especially if it extends more than 1

or 2 cm, and early revision is recommended to prevent future stenosis. If necrosis extends below the fascia, an urgent reoperation is required [9–11].

Late complications

Prolapse

Stoma prolapse is a full-thickness protrusion of intestine through the stoma. The incidence of stoma prolapse varies from 1 to 16% [9]. A common associated finding in prolapsed colostomy is a parastomal hernia. Up to 50% of patients with prolapsed colostomy also had a parastomal hernia [12].

Causes of stoma prolapse include large abdominal-wall openings, inadequate bowel fixation to the abdominal wall during surgery, increased abdominal pressure, lack of fascial support, chronic obstructive pulmonary disease (COPD), obesity, pregnancy, and poor muscle tone.

Patients with minimal prolapse or asymptomatic prolapse can be managed conservatively without surgery. The prolapse usually can be reduced with the patient in a supine position. After reduction, applying a hernia support binder often helps. Also, a stoma shield can be used to protect the stoma. A prolapsed stoma may require a larger pouch to accommodate the larger stoma. Some clinicians use cold compresses and sprinkle table sugar on the stoma; the sugar provides osmotic therapy or causes a fluid shift across the stoma mucosa and reduces edema.

Surgery is necessary when the prolapse has symptoms. If the stoma is temporary, the best approach is take-down of the stoma and reestablishment of bowel continuity.

Some of the potential risks of rectal prolapsed are poor fit of the pouching system, incarceration, obstruction, strangulation, and mucosal irritation or ulceration of the stoma.

Stenosis

Stenosis is a narrowing or contracting of the stomal opening that may occur at the skin or fascial level and usually results from ischemia or stomal retraction. Stricture acts as a mechanical obstruction.

Contributing factors for stenosis are local inflammation, hyperkeratosis, mucocutaneous separation, peristomal sepsis, and prior irradiation of the bowel segment.

Partial or complete bowel obstruction and stoma stenosis at the fascial level require surgical intervention. Avoid routine dilation of the stoma [10]. Local excision of scar tissue and formation of new mucocutaneous junction can resolve the stenosis [9]. Conservative therapy includes a low-residue diet, increased fluid intake, and correct use of stool softeners or laxatives for colostomies.

Paraostomal Hernia

A peristomal hernia is a bulge under the peristomal skin indicating that one or more loops of bowel have passed through the dissected area of fascia and muscle, which was needed to externalize the stoma.

The incidence of hernia is reported to be ~50% [9]. It is more common after ileostomy than colostomy, and a parastomal hernia is more likely to occur in an end stoma.

Parastomal hernias can occur any time after the surgical procedure but usually happen within the first 2 years. Risk factors may be patient-related or technical. Patient-related risk factors include obesity, poor nutritional status at the time of surgery, presurgical steroid therapy, older age, wound sepsis, and chronic cough. Risk factors related to technical issues include size of the surgical opening, location of the stoma outside the rectus muscle, and whether surgery was done on an emergency or elective basis.

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