

Management of Enterocutaneous Fistula with VAC therapy. Case report and literature review

Manejo da Fístula Enterocutânea com terapia VAC. Relato de caso e análise literária

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ABSTRACT

Enterocutaneous fistulas are a rare complication of the usual abdominal-intestinal surgical practice that represent a challenge for the surgeon in his treatment that is generally stagnant due to the progressive deterioration of the condition of the patient suffering from the fistula. There are multiple treatment modalities and accepted schemes. In recent years, VAC therapy has gained ground in this pathology, We presenting the case of a 60-year-old man who presented enterocutaneous fistula after ileostomy closure as a postoperative complication, which is managed with therapy. VAC.

Keywords: fistula, surgery, vaccum.

RESUMO

As fístulas enterocutâneas são uma complicação rara da prática cirúrgica abdominal-intestinal usual e representam um desafio para o cirurgião em seu tratamento, que geralmente fica estagnado devido à deterioração progressiva da condição do paciente que sofre com a fístula. Existem várias modalidades de tratamento e esquemas aceitos. Nos últimos anos, a terapia VAC ganhou terreno nessa patologia. Apresentamos o caso de um homem de 60 anos que apresentou fístula enterocutânea após o fechamento da ileostomia como uma complicação pós-operatória, que foi tratada com terapia. VAC.

Palavras-chave: fístula, cirurgia, vácuo.

1 INTRODUCTION

The communication between two surfaces of the body's economy that should not exist is known as a fistula, it compromises practically any organ of the abdominal cavity.

It represents one of the states with the highest morbidity and mortality in the surgical field and forces the surgeon to face a challenge that leads him to form a multidisciplinary team that includes an internist, intensivivist, nutritionist, dentistry, etc.

Prolonged fasting and total parenteral nutrition are considered the usual treatment as the pillars of treatment for this pathology together with hydro electrolytic replacement and sepsis management.

Despite this, it is often not enough, so alternatives to the usual established treatment continue to be added, one of these therapies is the vacuum system (VAC) that helps both to protect the edges of the wound, decrease debit and closure wound progression.

We present the case of a 60-year-old man who was managed with therapy and later presented satisfactory closure of his fistula. We present this case to the scientific community so that this tool can be considered in the future management of this pathology in the community. surgical.

2 CASE PRESENTATION

We present the case of a 60-year-old man known by the digestive surgery service of our institute for presenting a history of complicated Diverticular Disease at the level of the sigmoid colon, who presented an episode of Hinchey III complicated Acute Diverticulitis 1 year ago, which warranted Emergency laparotomy with sigmoidectomy and colorectal anastomosis and a dysfunctional ileostomy for anastomosis protection.

He completed his immediate postoperative period without complications and 1 year later, after the corresponding studies, he was scheduled to close the ileostomy from his previous surgery. Surgery is performed finding severe adhesion syndrome that leads to exploratory laparotomy to close the ileostomy.

Quite torpid postoperative course with symptoms of ileus and abdominal pain and a month postoperatively, fluid leaked from the surgical wound of the laparotomy with intestinal appearance that warranted surgical revision, finding an enterocutaneous fistulous tract (Figure 1).

Figure 1: Presence of an orifice through which intestinal content comes out.



Source: Authors

The fistula protocol was activated with total fasting, total parenteral nutrition, wound care, broad-spectrum antibiotic therapy, strict hydro electrolytic replacement.

Despite treatment, a patient with a fistula increases spending from 200 ml/24 to 700 ml 24/hours on day 15 after diagnosis, so VAC therapy placement is decided (Figure 2).

Figure 2: Placement of the vacuum negative pressure system on the enterocutaneous fistula



Source: Authors

Once the vacuum system was placed at 24 hours, the output dropped to 400ml/24 hours in this way progressively until day 20, when it stopped due to the fistula site.

The vacuum system is withdrawn, and total closure of the fistula is evidenced, thus discharging the patient from the hospital without added complications. (Figure 3)

Figure 3: Total closure of the Enterocutaneous Fistula



Source: Authors

3 DISCUSSION

A fistula is defined as any abnormal communication between two epithelized surfaces. When there is a communication between the gastrointestinal tract and the skin and/or wound, we can speak of an enterocutaneous fistula. (1)

Enterocutaneous fistulas considerably increase the mortality and morbidity of the patient, in fact sepsis and malnutrition are the main causes of death in this type of patients(1)

The causes of fistulas are varied and can be iatrogenic, due to trauma, inflammatory bowel disease (IBD), iatrogenic represent 75 to 85% in the series studied and 15 to 25% of these occur spontaneously; Iatrogenic small bowel injuries are generally postoperative, with half due to anastomotic leakage and the other half due to inadvertent small bowel injury during surgery. (2) The spontaneous ones are usually due to IBD (the most common), cancer, appendicitis, ischemia, radiation and diverticulitis (3).

A fairly common form of classification is due to the total output of the fistula , calling a fistula with a output of more than 500 ml in 24 hours a high output fistula , a fistula with a moderate output between 200 to 500 ml in 24 hours and a low output fistula . the one that produces less than 200 ml in 24 hours. (4)

Another form of classification is according to their communication, which can be internal or external; internal those that are formed by the communication of two hollow viscera, which are treated with resection and anastomosis, and the external ones that communicate with the skin that is the object of our review(5)

According to the organ affected, they are classified into:

Type I: Stomach, duodenum, esophagus

Type II: Small intestine

Type III: Large intestine.

Type IV : Integer atmospheric. (6)

Formerly the treatment of each enterocutaneous fistula was performed by surgery, it was not until 1964 that Chapman and Edmuns accepted that the main thing in the management of the Fistula was the control of fluids and electrolytes and fighting Sepsis, leaving the surgical resolution in the background. (7).

Currently the European Society of Nutrition promotes the SOWATS regimen for enterocutaneous fistula (8)

S : sepsis

O: optimization of nutritional status

W - Care of Wounds

A: Anatomy of the Fistula

T : Time to perform the surgery

S : surgery planning

Fistula management is complex, difficult, strong and prolonged, the objective of which should be to promote the closure of the fistula and restore Gastrointestinal transit with the lowest possible morbidity and mortality, requires a multidisciplinary approach and an integrated team (9). .

The stabilization of the patient together with the management of sepsis is the absolute priority in the management of enterocutaneous fistulas, since these patients are hypovolemic, dehydrated and have severe hydroelectrolytic imbalances due to losses from the fistulas and formation of a secondary third space. infectious peritonitis (10). The degree of fluid depletion can reach 3000 ml per day depending on the topography of the fistula, as we have already commented (9).

Volemia resuscitation must be performed in the first 24 hours after establishing the diagnosis and must be aggressive with correction of fluids, electrolytes, and acidosis (11).

A strict fluid balance and quantification every 4 or 8 hours is suggested, until the patient stabilizes, especially with high-output fistulas, which are extremely vulnerable due to the loss of sodium, potassium, chloride, bicarbonate and malnutrition that tends to progress. up to systemic multi-organ failure; many times the evaluation of the loss is complicated, therefore it is recommended not to suspend resuscitation even intraoperatively (12).

In pancreatic fistulas, bicarbonate replacement is recommended, and in high-output and long-standing intestinal fistulas, zinc, vitamin, and microelement supplementation is recommended. (13)

Sepsis is the main cause of death in fistulized patients, some authors indicate that its mortality reaches 77%, therefore its control is a primary objective, it is carried out together with stabilization (14).

The management of sepsis involves identifying the source, drainage, and antibiotic therapy. CT is very helpful for the diagnosis of intra-abdominal collections and their probable percutaneous drainage; In addition, with water-soluble oral contrast, the fistula could be studied and an emergency reoperation could be considered if the case warrants it (15).

Antibiotic treatment should be started with a broad-spectrum antibiotic for 7 to 10 days, followed by staggered antibiotic therapy according to the antibiogram, and this has reduced mortality by 30% (16) . Empirical antibiotic therapy is not recommended in low-output fistulas that do not present fever, tachycardia, or with undefined infection.

Malnutrition is basically due to inadequate intake due to fasting indicated in the management of these fistulas, hyper catabolism secondary to sepsis and massive protein loss. (17)

Total parenteral nutrition introduced by Duudrick in 1969, was one of the greatest advances in the current treatment of this condition, total parenteral nutrition together with total fasting reduce the secretion of the gastrointestinal fistula by up to 50%, which helps to manage hydroelectrolyte and dehydration. (18)

The most widely used drugs are antisecretory drugs, antacids, antiperistalsis, somatostatin and analogues, although the use of most of these is controversial. (19,20)

The care of the surrounding skin must begin shortly after identifying the fistula, the skin must be protected and the wound taken care of from lesions due to the corrosive action of intestinal fluid (acid or alkaline). These can appear after only 3 hours of exposure to contact with skin (21, 22,23)

Currently, the use of vacuum therapy (VAC) for the management of local control of enterocutaneous fistula has become popular. Many studies indicate that when vacuum therapy is applied to the wound, it acts by considerably reducing the cost of the fistula, promotes closure of the wound and protects the surrounding skin, with this triple effect of the vacuum system it constitutes an essential current weapon in the management of enterocutaneous fistulas.(24,25). The case presented here was treated with VAC therapy with excellent results.

4 CONCLUSIONS

Enterocutaneous fistulas represent a multidisciplinary challenge, therapy has evolved over the years and our therapeutic arsenal increases over time, we must consider negative pressure therapy as part of the usual management of enterocutaneous fistulas.

ETHICAL CONSIDERATIONS

The patient in question gave his written authorization to carry out this work

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