

Benefits of diet in patients with colostomy

Daniela Radu^{1*}, Adriana Marinescu¹, Marius Sebastian Teodorescu²

¹ *Surgical Clinic I of County Emergency Hospital Timisoara, University of Medicine & Pharmacy”
V. Babes”Timisoara,.10-th. Bulbuca- Av. Romania*

² *Head of The Surgical Department I of County Emergency Hospital Timisoara, University of Medicine & Pharmacy
”V. Babes”Timisoara,. 10-th. I. Bulbuca- Av. Romania*

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Abstract

On the left colon neoplasms (CCS), colostomy is one of the technical procedures, with external derivation of intestinal contents. These derivatives can be permanently (CAN definitive, Hartmanns operation) or temporary protection of a colo-rectal anastomosis. At the UMFVBT 1th Surgery Clinic, from a total of 678 operated CCS (2005-2009), colostomy (CAN) was performed at 433 (64%). If temporary CAN are not special problems of food, situation is quite different in patients with definitive colostomy. Patients quality of life depends on patient education in the use of colostomy bags, on quantity of colostomy bags and on adequate dietary regime. With proper diet, in time, patients can removed the intestinal contents with almost daily schedule. Depending on the patient education and compliance and using drugs to slow the passage bowel, we managed the elimination of intestinal contents into the colostomy bag.

In conclusion, by these simple measures, patients knows when emptying the bowel follow, applied his regular bag and lead a normal life.

Keywords: colostomy, patient education, dietary, quality of life.

1. Introduction

Colostomy is a necessity surgical treatment done when the irreparably damage of the colon requires its resection (removal a part of large intestine) and / or rectum . There are some diseases that ask such surgery: cancer, obstruction, fistula, stricture, congenital defects, ischemia, thrombosis, trauma, inflammatory disease. Either of these can evolve to irreversible damage, pathological of these segments of the digestive tract with are the colon and rectum. The main function of the colon is to absorb water from fecal mass, store, and eventually eliminate these waste products from the body through the anus. In the pathology of the left colon, one of the technique procedures must done is external derivation. The colostomy is a surgical opening in the abdomen in which the colon (large intestine) is brought to the skin surface [1-5].

This opening in the colon may occur anywhere along its length. The end of the colon brought to the skin surface is called the stoma, (a Greek word for “opening”). The stoma becomes the exit for all bowel movements and gas. A colostomy may be temporary or permanent. A colostomy may be permanent (CAN definitive, Hartmann’s surgery) or temporary, for protection a colo-rectal anastomosis. A temporary colostomy diverts the stool passe out of the body in order to protect the part of the colon or rectum which were removed or bypassed, or with must suffer another therapy(chemotherapy, radiotherapy, etc). The colon may be rejoined at a later surgery, this could be weeks, months or years later. Reintervention requires a new colostomy surgery when the previous treatment was completed, the intestine is fully healed and can resume normal functions of the parameters, no malfunctions or relapses [6,7].

Colostomy patients come into the category of persons with special needs after this surgery that requires changing the usual route through the body of food and the brought to the skin's surface of the faeces by a prosthesis. Having a colostomy should not affect the ability to eat and digest food. In reality the social recovery and reintegration of these patients is extremely difficult and sometimes without the help of specialists before it will be never done.

Since there is no muscle around the stoma, there are not able to control when stool passes out of the body. Therefore, an odor proof pouch is applied to the skin, around the stoma, and collects the stool and gas are a disadvantage of the stoma. A temporary colostomy may be needed for a period of time to allow a portion of the colon to heal. The colon may be rejoined at a later surgery. This could be weeks, months or years later [8].

When a large part of distal colon is affected, the colostomy will be permanent. A permanent colostomy may be needed for a variety of reasons. The stoma will be the permanent exit for the stool. The rectum may be left intact. In this case, it is normal for some form of drainage, periodically to come from the rectum. When the rectum was removed and there is no distal portion of bowel, the single elimination will be through colostomy.. The type of colostomy varies with the portion of the colon brought to the skin's surface. The types are termed: ascending, transverse, descending, or sigmoid colostomy. The skin's place of the stoma is very important. Suitable location is the left abdominal flank, in the area without folds to allow the sticking of colostomy pouch, a place allow for hygiene and care to the patient. There are situations, fortunately rare, when stoma should be placed on the transverse or ascending colon. Colostomy in these patients will be in the median or even the right of abdomen because the remaining colon can not be mobilized until the mid left abdomen. These patients will be further discomfort thereby placing stoma [9].

The stool will be thick liquid, unlike it is brought out from descending or sigmoid colon, where there is enough intact and functioning, so the fluids to be reabsorbed from the colon and the stool will be formed. Common shortcoming of the colodotomy patients is the absence of the fecal matter removal control.

Because the colostomy does not have a sphincter muscle, the anal sphincter, there is no voluntary control over bowel movements, things that make the patients feel like dissability persons. Because of the bad odor from forming gas in the body and of the bad feeling from the pouch lay on the skin, these patients give up to social and family activities and they don't dare to do any home activity. To many patients, stoma was the price of their healness. Their life expectancy is in the tens of years and they have to get used to this disability and have a life and an activity similar to that before surgery. The aim of our studies is to procedure the diet of these patients for obtain the elimination of faeces at fixed hours after ingestion the food, so that patients to organize their daily schedule as any other person. Along with regular bowel elimination, people with colostomy may have a normal life with daily activity at work, household, shopping or swimming and sex. They become so regular people without fear of being ostracized or isolated from others. But this is not possible until, after a shorter or longer period of intestinal adaptation with individualized diet and lots of perseverance.

2. Materials and Method

We analyzed the cases operated in 1st Surgery Clinic UMFVBT in 2005-2009 with intestinal diseases. During this period a total of 678 left colon cancers (CCS) operated and at 433 patients was performed colostomy, CAN (64%). Data included; patient demographics (age, gender), preoperative assessment, pathology, clinical staging, procedural details (procedure performed, time, complications) and short postoperative follow-up (length of stay, complications).



Figure 1. An intraoperative image:intestinal loop affected by underlying obstruction.

Before the operation, patients were assigned a score based on the diagnosis of malignancy, comorbidity and patient weight (ASA-Score and body-mass-index BMI).

Patients underwent a standard preoperative investigation consisting of: colonoscopy, biopsy, chest radiography, abdominal ultrasound and computed tomography of the abdomen. If pulmonary metastasis were suspected, a computed tomography of the lung was added. Patients with rectal cancer received before the operation an endorectal ultrasound as well as an abdominopelvic nuclear magnetic resonance and an anorectal manometric investigation. The level of carcinoembryonic antigen was determined before and after surgical intervention.



Figure 2. Endoscopy aspects: 1. An infiltrative colorectal tumor; 2. Vegetant tumora in sigmoid colon; 3. A malignant polyp. 4. Intestinal bleeding.



Figure 3. Sigmoid colon with malignant tumor removed with oncological safety limits.

Resection was offered to those patients thought preoperatively to have curable disease and to those with metastasis who were considered to benefit from palliative resection. Mechanical bowel preparation was given if possible.

Patients received a central venous and epidural catheter before surgery or alternative a PCA pump (patient controlled analgesia). The following procedures were performed; open right hemicolectomy, transverse colectomy, left hemicolectomy, sigmoid colectomy, high anterior resection, deep/ultra deep rectal resection with protective ileostoma, abdomino-perineal extirpation of the rectum, multivisceral resection, Hartmann's procedure, palliative stoma and entero-enteric bypass anastomosis [10].

3. Results and Discussion

About 70 % from the total number of studied cases received surgery with curative intent.

Mortality and complication rates were calculated by studying the surgical procedures deployed. The abdomino-perineal rectal extirpation had the highest complication and mortality rate. Comorbidity, emergency surgery and postoperative complications could influence mortality rates. Cardiovascular and pulmonal disease also increased the surgical risks involved.

With proper treatment and regular follow-up for detecting and treating any recurrences, life expectancy in these patients is the order of years or tens of years (depending on age who practiced surgery). With indispensable recommendations, absolutely necessary to colostomy care and respecting food diet, the patients can lead normal lives soon after discharge.

If temporary shunt have no special problems of nutrition, that is not the same situation in permanent CAN. In these situations, patient quality of life depends on patient education in the use of colostomy pouch, of their quality and adequate hygienic-dietary regime.

Part of the intestine remained functional after surgery resumes gradually his functions. Meanwhile, the patient may present one of the following symptoms: gas, cramps, diarrhea, dehydration, weight loss.

Causes of diarrhea: watery unscheduled bowel movement can be caused by eating too much raw fruit, beans, broccoli, green leafy vegetables like spinach, highly spicy foods or foods which irritate the mucosa, milk, prunes, large fluid intake particularly beer, some medications, emotional pressure or excessive excitement, travel related water intake from strange unfamiliar sources, generalized illness such as a viral condition.

Causes of constipation can range from insufficient bulk in the diet contributed by lack of enough fiber in the diet, not drinking enough fluid and water, high stress and emotional disturbances, side effects of some medications.

Causes of gas formation (exces of intestinal gas with bloating sensation and loud elimination, foul-smelling) fast eating and swallowing air, smoking, chewing gum some gas producing foods, food combinations and drink, skipping meals and even the anxiety. Some gas producing foods are fish, nuts, eggs, some cheeses particularly string cheeses, milk, melons, onions, sweet potatoes, asparagus, vegetables of cabbage family (broccoli, cabbage, cauliflower, brussel sprouts) and beer. Causes for bad odor can be an unclean skin are around the stoma, vitamins and certain drugs mainly antibiotics. Foods that may produce strong odor are eggs, chicken, fish, baked beans, cabbage, brussel sprouts, onions, certain cured cheeses, mushrooms, alcoholic beverages.

After surgery and discharge of patients follow a period of convalescence and recovery of the body, during which daily acitivities will be interrupted until the body is completely rebuilt, the percentage curve is rising, there are not reported unpleasant symptoms, the immune system is normal and able to face other assaults.

After your recovery, the colostomy should not interfere with exercise. Daily exercises are important for the body. Contact sports such as football, karate, or wrestling are a concern, since injury to the stoma could occur. Any non-contact sport should not be an area of concern.

Many people have concerns about having intimate relationships after surgery.

The ability to love, care and be intimate with another person does not change. Expressing the feelings and talking with the partner are important. Sexual activity, hugging, and affection will not hurt the stoma. After surgery the body will need time for healing, and time to adjust to this change. Males having a colostomy may note some changes in sexual function, they being guided to the psychologist or psychiatrist because these disorders, due to unconscious inhibition.

General Dietary Guidelines. If the patient were on a special diet before surgery for a medical condition, he will need to continue on that diet.

After surgery the diet will progress from clear liquid to a bland, low fiber diet. The patient can return to his regular diet within 1-2 months after surgery. The diet must be well balanced, caloric and nutritional, ensuring adequate amount of alimentary necessity. Some foods are never completely digested by your body, such as peanuts, corn, and mushrooms. These same foods were not completely digested before your surgery. Drinking water helps prevent constipation. Most medicines are absorbed in the small intestine. People with ascending or transverse colostomies may not have total absorption of time-released and time sustained medicines. People who do not have this portion of the intestine require regular injections with vitamin supplements.

A proper diet can control eliminating of the faeces almost the same hour. Having also specific therapy antiperistaltic we managed to compliant patients with adequate health education an almost total control to elimination of faeces in the colostomy pouch.

Discussions. Minimization of common health problems such as gas, constipation, diarrhea, unpleasant smell of colostomy pouch are issues that we can solve totally. Dehydration and nutritional deficiency through proper intake of calories, protein , salts and minerals are preventing if the patient has an appropriate level of education and respect the indications and recommended diet. At any intercurrent disease wich affect the body (fever, illness, vomiting, diarrhea) may be countered by injecting additional fluids and vitamins.

4. Conclusion

- Age may influence operative mortality rates because there are times in which a clinical decision is made not to operate on patients with presumed poor prognosis at an advanced age;
- The only level of comorbidity studied was the ASA-grade;
- The length of the hospital stay may impact the patient's outcome as well;
- Quality of life is an important consideration when determining the patients' management. If quality of life is expected to be poor, this will impact any decision to proceed with surgery but this prediction is more difficult than the prediction of surgical mortality;
- Patients presenting malignant large-bowel obstruction can be recognized as a high-risk group with significantly increased postoperative morbidity and mortality;

- Elderly patients presenting obstruction and metastatic disease are predicted to have a mortality rate between 30 and 70 percent;
- Patients with permanent colostomy to that life expectancy is high, with appropriate education level, periodicals follow-up, personalized diet we were able to adapt regular bowel elimination time remaining almost fixed. These patients applied their colostomy pouch regularly and have normal quality of life.

References

1. Yanick R, Wesley M, Ries L. et al., Comorbidity and age as predictors of risk for early mortality of male and female colon carcinoma patients, *Cancer*, **1998**, 82, 2123-2134,
2. Yanick R, Wesley M, Ries L. et al., Comorbidity and age as predictors of risk for early mortality of male and female colon carcinoma patients, *Cancer*, **1998**, 82(11), 2123-2134, [doi: 10.1002/\(SICI\)1097-0142\(19980601\)82:11<2123::AID-CNCR6>3.0.CO;2-W](https://doi.org/10.1002/(SICI)1097-0142(19980601)82:11<2123::AID-CNCR6>3.0.CO;2-W)
3. Repetto L, Venturino A, Vercelli M, et al. Performance status and comorbidity in elderly cancer patients compared with young patients with neoplasia and elderly patients without neoplastic conditions, *Cancer*, **1998**, 82(4), 760-765, [doi: 10.1002/\(SICI\)1097-142\(19980215\)82:4<760::AID-CNCR20>3.0.CO;2-V](https://doi.org/10.1002/(SICI)1097-142(19980215)82:4<760::AID-CNCR20>3.0.CO;2-V)
4. Piccirillo JF, Tierney RM, Costas I, Grove L, Spitznagel EL. Prognostic importance of comorbidity in a hospital-based cancer registry, *JAMA*, **2004**, 291(20), 2441-2447
5. Read WL, Tierney RM, Page NC, et al., Differential prognostic impact of comorbidity, *Journal of Clinical Oncology*, **2004**, 22(15), 3099-3103, [doi: 10.1200/JCO.2004.08.040](https://doi.org/10.1200/JCO.2004.08.040)
6. Sobin LH, Wittekind. *TNM classification of malignant tumours. Union International Contre le Cancer*, 6th ed. New York : Wiley-Liss, 2002, 72-76
7. Hamilton SR, Aaltonen LA. *Pathology and genetics of tumours of the digestive system: World Health Organisation Classification of Tumours*, IRAC Press, France, Lyon, 2000, 104-19
8. D. Radu, M. Stancovici-Fernbach, A. Marinescu, M.S. Teodorescu: „The Relationship: Precociousness-Prognosis in colo-rectal cancer”. P318, *Intestinal, Colorectal and Anal Disorders, Surgical Endoscopy*, **2010**, 24(Suplm 1), 62–156, [doi: 10.1007/s00464-010-0976-3](https://doi.org/10.1007/s00464-010-0976-3)
9. D. Radu, M. Stancovici-Fernbach, M.S. Teodorescu: „Left stenosed colon cancer - a new chalange”. P308, *Intestinal, Colorectal and Anal Disorders, Surgical Endoscopy*, **2010**, 24(Suplm. 1), 62–156, [doi: 10.1007/s00464-010-0976-3](https://doi.org/10.1007/s00464-010-0976-3)
10. Daniela Radu, The Surgical Management of the Ischemic Intestinal Syndrome, *Cercetări experimentale medico-chirurgicale*, **2007**, 14(4), 125-128, ISSN-1223-1533