

An Altered Life Process: Colorectal Cancer

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Abstract

The nursing profession recognizes colorectal cancer as an altered life process that affects the regulation, perception, and cognition of the client. Colorectal cancer occurs when the colon cells become inflamed and hyperproliferate in the crypts of Lieberkuhn until a carcinoma develops. Colon cancer is categorized from stage I through stage IV, depending on how far the cancer penetrates the mucosal layer and whether it spreads into surrounding organs. There are a number of treatment options for colon cancer: surgery, chemotherapy, and radiation therapy, all of which have unpleasant side effects. The theory of unpleasant symptoms can be applied to clients with colorectal cancer due to the number of symptoms they experience between the disease and the treatment options. There are a number of ways to aesthetically describe the experience of colon cancer. The poem "Uncertainty," written by Beverly Holoka, explicitly demonstrates the patient described and her experience of colon cancer.

Regulation, Perception, and Cognition of Colorectal Cancer

Hippocrates and Celsus receive credit for the terminology *cancer*. The term, of Greek origin, receives its name from how it stretches out in many directions, like the legs of a crab (Monahan, Sands, Neighbors, Marek, & Green, 2007). Cancer encompasses hundreds of diseases that spread out in different directions, much like how the crab's legs spread out in multiple different directions. Fear, anxiety, pain, and uncertainty are all emotions that individuals experience when living with this disease. With cancer patients, regulation, cognition, and perception are all altered from the time of diagnosis through treatment.

Colorectal cancer is a major health concern for Americans; it can potentially affect 5.5% of the population in the United States (Berg & Linienfeld, 2000). Knowledge of normal bowel anatomy is crucial in order to understand the pathophysiology of colon cancer. According to Shelton (2002), the outermost layer in the bowel lumen, called the mucosal layer, is in direct contact with anything that enters the intestines, which makes it very susceptible to damage. The crypts of Lieberkuhn, found within the mucosal layer, are where colon cell development occurs. Damage to the crypts of Lieberkuhn disrupts cell formation, causing inflammation and hyperproliferation of cells, which can eventually transform into an adenoma. Monahan et al. (2007) state colorectal cancer begins with a hyperproliferation of epithelial cells in the mucosa of the intestines and progresses into a small adenoma or tissue dysplasia, which will eventually develop into carcinoma. This is a slow and insidious process; it is theorized to take anywhere from five to twelve years for the cells to transform from normal epithelial cells of the bowel into carcinoma.

Most forms of colorectal cancer are considered adenocarcinoma, which means that initially the superficial layer of the bowel lining is invaded by a carcinoma; however, the cancer can eventually progress through the bowel wall (Shelton, 2002). The diagnosis of colon cancer depends on the stage of the disease. Colon cancer ranges from stage I through IV. Monahan et al. (2007) demonstrate

that stage I occurs when there is an invasion extending into the muscularis but no invasion beyond the submucosa. In stage II the cancer extends into or through the serosa. In stage III the cancer invades regional lymph nodes, and in stage IV distant metastases are present.

Generally colon cancer is asymptomatic until the disease progresses to later stages. The signs and symptoms of colorectal cancer depend on the location of the tumor. If the cancer develops in the sigmoid or left colon, the descending colon, the symptoms are related to a partial obstruction, because the lumen is narrower in this part of the bowel and the lesions are more likely to grow, encircling the colon wall (Monahan et al., 2007). These symptoms include a change in bowel habits, colicky abdominal pain, nausea, vomiting, and a feeling of incomplete bowel emptying. If the cancer develops in the right colon or transverse colon, symptoms of a partial obstruction are less likely to occur, because the lumen is larger and the stool is still semi-liquid in this portion of the bowel. The symptoms in this part of the colon include abdominal aching, anemia, weakness, occult blood in the stool, and a palpable tumor mass. Generalized signs and symptoms of colorectal cancer include anorexia, severe pain, weight loss, and malaise (Shelton, 2002).

A diagnosis of colorectal cancer can have a huge impact on an individual's perception of himself/herself, individual roles, and quality of life. In a qualitative study to determine the emotions that newly diagnosed advanced colorectal cancer patients felt, one common theme described the patients' experience with colorectal cancer: an attempt to salvage their normal lives (Houldin & Lewis, 2006). Within this common theme, there were six main domains identified: feeling like their life was disrupted, having to rely on physicians, feeling unprepared for everything, the need to rethink parenting, wondering "Why me?," and then just dealing with their disease.

The first domain was feeling that life is disrupted. Houldin and Lewis (2006) revealed that participants didn't view their symptoms as symptoms, but more as losses. For example, the participants described a change in bowel habits, weight, sexuality, and sleep as losses. Activities of daily living and their normal routines were disrupted by the physical symptoms they were experiencing. The second domain included having to experience and rely on physicians. The participants in this study had mixed feelings about how they felt about their physicians. The third category was feeling unprepared in a variety of areas, ranging from the initial diagnosis of the colon cancer to the anticipated treatments and outcomes of the disease. The fourth category was the need to rethink parenting, because most participants were unsure how to address the cancer with their children and wanted to be able to spend more time with them. The fifth domain consisted of participants wondering "why me?" The majority of the participants attempted to make existential sense of their illness; making sense involved searching for reasons, worrying about the implications of the disease, conducting a life review, and confronting their mortality. The final category of this study was participants just dealing with their disease. This domain includes three main methods that participants used to cope with their illness: staying positive, accepting help from others, and adjusting their life to manage their disease (Houldin & Lewis, 2006).

A crucial part of this disease is a basic understanding of how the disease progresses. If the client decides not to start a treatment regimen, the cancer can spread directly or metastasize through the lymphatic or circulatory systems. The five-year survival rate is 90% if the cancer is detected early (Monahan et al., 2007). It drops to 67% if it spreads to other organs or lymph nodes, and the survival rate drops to ten percent if the cancer metastasizes. Since the survival rate decreases rapidly, early detection is the key to management of this disease.

Mental status can change throughout the course of disease. Females, African Americans, and patients with two or more co-morbidities tend to exhibit depression more frequently, and the psychological status of the elderly tends to develop closely with their symptom experience (Houldin & Lewis, 2006). For example, if the development of the disease suddenly worsens, mental status generally declines. It's important for clients to understand what to expect related to the side effects of different treatment therapies and the results of these side effects. Fatigue is the most common side effect of cancer treatment therapies. Cancer-related fatigue is often associated with a decline in the functional status of the client (Poirier, 2007). Functional status includes cognitive functioning and the ability of clients to perform their activities of daily living.

Treatment

Currently, the only curative treatment option for patients with colon cancer is surgical resection of the cancerous area in the colon, but only a limited number of people are candidates (Berg & Li-

nienfeld, 2000). Candidacy for bowel resection is based on age, the stage of the disease, and the overall health status of the individual. Nearly half of the patients undergoing bowel resection die within five years of the surgery. Adjuvant chemotherapy can be used to reduce the risk of the cancer reoccurring and improve survival rates of patients. The adjuvant use of infusional 5FU, Capecitabine, or Oxaliplatin can increase the survival rate of clients undergoing bowel resection anywhere from 20-40% (Gee, 2009).

Most other therapies are used palliatively to make the patient more comfortable and reduce the symptoms of colorectal cancer. A major problem with using radiation therapy in patients with colon cancer is the close proximity of vital organs such as the small intestine and liver. These organs receive external beam radiation resulting in toxicity, which causes the consequential side effects of skin changes, dehydration, diarrhea, and fatigue (Berg & Linienfeld, 2000). Nurses need to closely monitor patients receiving radiation therapy, to comfort the client and help the client cope with the unpleasant side effects of radiation therapy. Side effects of radiation are generally a consequence of the area being radiated. For example, someone having radiation targeted at the colon may experience diarrhea. According to Poirer (2007), fatigue is the most common side effect, occurring in 65-100% of the people receiving radiation therapy. The fatigue generally begins two weeks into the treatment, increases through the remaining of the treatments, and peaks at the end of the treatment.

Chemotherapy is the treatment of choice for metastatic colorectal cancer. 5FU was the main treatment until the recent approval of three more chemotherapeutic agents. Combination chemotherapy treatments have shown better outcomes than the use of single chemotherapy treatments; the most common are oxaliplatin and 5FU, oxaliplatin and capecitabine, and irinotecan and 5FU (Gee, 2009). Currently, the first line treatment for advanced colorectal cancer is 5-FU/leucovorin in combination with irinotecan, because of the higher response rates to the therapy and the prolonged progression time of the cancer (Shelton, 2002). Toxicity effects of this therapy include bone marrow suppression, peripheral neuropathy, fatigue, hair loss, delayed diarrhea, sore mouth and ulcers, and skin changes (Gee, 2009). Depending on toxicity and how these side effects affect the daily life of the individual, treatment dosages may need to be manipulated. The choice of chemotherapy treatment depends on the intended purpose. Expectations may range from curing the cancer to improving quality and quantity of life. Consideration also needs to be given to the age, performance status of the chemotherapeutic agent, liver function, and co-morbidities of the client when choosing a specific chemotherapy regimen.

Screening

Regular screening for colorectal cancer is critical for the general population, because colorectal cancer is often asymptomatic or doesn't become symptomatic until the disease progresses to later stages. Winawer et al. (2003) state if someone has symptoms of colon cancer, a complete diagnostic work-up is recommended at that point, but if one is asymptomatic, a diagnostic work up isn't recommended until age 50. But if one has a direct family history of colon cancer, the recommended age is forty even if the client is asymptomatic. A fecal occult blood test should be offered yearly to determine if there is any blood present in the stool that one is unable to visualize. A sigmoidoscopy should be offered every five years and has been proven effective in discovering two-thirds of the lesions within the reach of the sigmoidoscope. It is not effective when there are lesions that are outside the reach of the sigmoidoscope. Sigmoidoscopy has been proven effective in reducing colorectal cancer mortality. A colonoscopy should be offered every ten years. This screening test is only as effective as a sigmoidoscopy, but it allows more of the bowel to be visualized (Winawer et al., 2003). A risk assessment should be done with all people to identify when screening should begin, based on their medical history. Screening is vital for early detection and better outcomes with colorectal cancer.

Nursing Theory

My client was a 67-year-old Caucasian female admitted for metastatic disease. She had not seen a physician in over twenty years and had no medical history because of this. She found out a month prior to our interaction that she had cancer. A computer tomography scan of her abdomen and pelvis was performed and a six cm by six cm colonic mass was discovered in her descending colon. A biopsy was performed, which confirmed primary colon cancer. The cancer had metastasized to her bones and her reproductive organs. My client was currently receiving radiation treatment targeted at the colonic mass and the bone metastasis in the lumbar spine and iliac area. The date of our interaction was

the sixth out of ten days of her treatment. She was receiving a concentration of three hundred megavoltage per day, which is a usual dose. Such radiation therapy can be used palliatively to treat symptoms of advanced cancer or it can be used therapeutically to treat bone metastases (Berg & Linienfeld, 2000).

In order to more thoroughly describe my client, I will be using the mid-range theory of unpleasant symptoms. I will be describing my client simultaneously as I explain the theory. The theory of unpleasant symptoms has three main components: the symptoms the client is experiencing, the influencing factors that can affect the symptom experience, and the consequences of these symptoms. In the case of my client, she was experiencing multiple symptoms simultaneously, which can catalyze the effects of the symptoms and make them more severe (Lenz, Pugh, Milligan, Gift, & Suppe, 1997).

According to Lenz, Push, Milligan, Gift, and Suppe (1997), symptoms can be characterized by intensity, timing, level of distress perceived, or quality, all of which are related to one another. Early in the morning, my client was experiencing a pain level of 5/10. My client was scheduled for MS Contin every twelve hours, and she had Dilaudid intravenous push every four hours as needed for breakthrough pain. I didn't administer any PRN medication because my client told me that her pain was tolerable. She was lying in bed as comfortable as possible, but when I started to do my morning assessment, she became severely nauseous. After my client began to get nauseous, her pain level increased to a 6-7/10. I administered Zofran to my client for nausea. After I administered the Zofran, her pain decreased to a 5/10. I told my client that I would let her rest for a while to help decrease the nausea and pain, but within an hour an ambulance came to take my client for radiation therapy. After radiation therapy, my client was severely fatigued, had a pain level of 7-8/10, and became severely nauseous from moving around. Her PRN pain medication, Dilaudid, was readily available for her, but a physician came and performed a cervical biopsy before I could administer the medication. After the biopsy, my client was exhausted and in severe pain. She had had multiple tests, was severely nauseated, and had intolerable pain rated a 10/10 on the pain scale. My client was curled over in the fetal position, was crying, had pained facial expressions, and was moaning. In this situation, all of these symptoms occurring concurrently had a synergistic effect and made all symptoms worse than if they were to occur alone.

Using Lenz et al.'s Theory of Unpleasant Symptoms (1997), there are three main influencing factors that can contribute to the severity of unpleasant symptoms: physiological factors, psychological factors, and situational factors. Physiologic factors include normally functioning body systems, any underlying pathologies that may cause unpleasant symptoms, and nutritional status. The underlying pathology of my client was primary colon cancer. She had hyperproliferation of the cells in her colon, forming a tumor that was causing symptoms including bloating, nausea, pain, and vomiting. The tumor had metastasized to her bones and her reproductive organs, causing hyperproliferation of the cells in these areas, also adding to her pain and discomfort.

In addition to having underlying pathologies causing pain, my client also had a decreased nutritional status. At the time of our interaction, she hadn't been able to eat for five days because of the nausea and vomiting. Her total protein level was low at 5.0, and her albumin level was low at 1.9. Whenever I asked my client to eat, she would promise me that she would eat something, but never could. Due to my client's decreased nutritional status, she was on continuous total parenteral nutrition and lipids. The high amount of glucose in the formula caused uncontrollable blood sugars. Her fasting blood sugar was critically high at 554. She also had an oral nutritional supplement. My client's abdominal assessment included a round, soft abdomen, with present active bowel sounds in all four quadrants, and light palpation caused nausea and tenderness. I didn't perform deep palpation for this reason. Upon light palpation there were no masses identified, and the patient exhibited no rebound tenderness.

Psychological factors included the patient's given mental status and mood, the affective reaction to her illness, and the degree of uncertainty about the symptoms this client was experiencing (Lenz et al, 1997). This client was alert and oriented to person, place, and time. Her speech and actions were appropriate to the conversation and situation. My client was as cooperative as she could possibly be, given the pain, nausea, and fatigue she was experiencing. On the date of our interaction, my client was very distraught about the progression of her illness. Early in the day of our interaction, my client told me that she understood her illness and that she understood what she had to do to fight. She understood how far this disease had progressed and that there was a chance that the radiation therapy she was receiving wouldn't resolve the cancer. She had been having vaginal bleeding for the past three days and had a vaginal ultrasound early in the morning. The physician explained to my client that cysts were found at the neck of her uterus and a biopsy was needed to determine if the cysts were cancerous. My client became really upset because there was a chance that the cancer had progressed to her reproductive organs. My client stated, "Every time I finally understand the cancer and what I have to do about it,

I get thrown another curve ball and have to start out fresh again.” A few days later I checked my client’s status, and the cancer had indeed migrated to her reproductive organs.

Situational factors include the social and physical environment that could affect the way the person experiences and reports their symptoms (Lenz et al., 1997). My client has a strong support system. She has a significant other that she has been with for thirty years. She has three children and four grandchildren, all of whom live in the area. Someone was generally in the room with her or calling to talk to her on the phone. The client actually told me she had to tell her family a specific time not to call, just so she could get some rest. My client is Catholic and has a very strong religious affiliation. She explained to me it was family and God that was helping her through this hard time. My client was very cold the entire day, and this could have been an environmental variable that affected the way she experienced her symptoms. I generally kept the light low or off so the client was more comfortable, but I did have to turn the lights on for assessment and nursing activities. The noise was at a reasonable level because she was in a single room at the end of the hallway, away from the nurse’s desk; this way she was able to get better sleep while at the hospital.

All of these physiological, psychological, and situational factors can interact with each other and influence the way people experience unpleasant symptoms (Lenz et al., 1997). For an example, two clients can have the exact same physical symptoms, but due to their individual environmental and physical factors, those two clients may experience their symptoms much differently. The way symptoms present themselves in every individual client determines the functional performance of the individual. In the case of my client, the unpleasant symptoms she was experiencing caused a severe decline in her functional performance. My patient stated that she was no longer able to take care of the household chores, so her significant other had taken over the cooking, cleaning, and laundry. My client informed me how upset it made her that she was unable to take care of her grandchildren because she became so fatigued after a short amount of time. It has been demonstrated that as the amount and severity of one’s symptoms increase, people tend to have lower functional health status, less effective role performance, lower cognitive functioning, decreased quality of life, and lower physical performance (Lenz et al., 1997). A poem by Beverly Holoka (2009) demonstrates my client and her battle with colon cancer, along with her experience of unpleasant symptoms.

Aesthetic Experience

“Uncertainty”

The feeling of Uncertainty
Like a cold frost;
It creeps up at me...
Sneakily making me ill.

Unsuspecting stranger that
That I am and I used to be
It has hardened my heart;
It froze little pieces of me.

And now I realize it;
It has taken my soul in ice
Underneath the ponds water
I am slowly fading, suffocating.

Hypothermia has taken over
And I have no control;
No way to keep myself warm
My embers have finally died.

The first stanza describes my patient before she knew exactly what was going on with her health. The pain in her lower back had gradually worsened and crept up on her. The pain slowly increased in severity as the cancer continued to metastasize from the colon to the rest of her body. She understood that something was wrong because she shouldn’t be experiencing this amount of pain in her back.

The second stanza describes when she decided to go the chiropractor. The unsuspecting stranger represents the cancer. The chiropractor found something on the x-rays, and ordered a magnetic resonance image to further investigate what was going on. My client never thought that her back pain could be cancer; therefore the cancer that was found was an unsuspecting stranger. These findings upset my client. She didn't know what to do, so she just tried to ignore it. She froze that part of her mind so she didn't have to think about it.

The third stanza represents the situation when my client couldn't take the pain in her back and the tingling in her legs any longer. She came to the emergency room and finally realized and admitted that she does have cancer. This is when my client finally decided to start treatment to try to reduce or eliminate the cancer. The diagnosis completely suffocated her because of the amount of information, treatments, and emotional stress this disease was putting on her.

The final stanza doesn't necessarily apply to my client quite yet. The hyperthermia represents the cancer as it begins to take over her body. It began as colon cancer and then metastasized, first to her bones and then to her reproductive organs. On the date of our interaction, my client actually stated that she felt like she was losing control. She told me whatever she does, it hasn't helped her disease, and by her facial expressions and the way she presented her self, it seems like she's beginning to lose hope, as if her embers were dying out.

Conclusion

Colorectal cancer is a devastating disease affecting millions of people around the world. It can disrupt people's lives and affect them cognitively, socially, occupationally, and in all other aspects of their life. There are treatment options available to people diagnosed with this type of cancer, but all have serious side effects that can continue to debilitate an individual. A strong social support system is needed to help victims through this difficult time. The majority of people diagnosed with colorectal cancer have few symptoms until it's too late. In order to try to reduce the effects this disease has on the population, early detection through screening is vital. Every individual needs to be assessed for risk factors to determine their need for screening, and hopefully one day this disease won't be as devastating to the population.

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