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Post-Operative Complications and the Older Adult

Care of Patients with
Colorectal Cancer

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Care of Patients with Colorectal Cancer

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Colon and rectal cancers are the third most commonly diagnosed malignancies and third leading cause of cancer death in men and women.¹ An estimated 120,000 new cases of colorectal cancer are diagnosed each year. The five-year survival rate remains less than 50%.²

Nursing care for patients with colorectal cancer is part of a multidisciplinary approach that meets the needs of patients and caregivers.

Etiology

The cause of colorectal cancer remains unknown; however, several factors have been identified as increasing an individual's risk of developing the disease. The risk of colorectal cancer increases steadily after the age of 40. Its occurrence is most common in adults of 50 to 80 years of age. Among men, the greatest number of deaths from colorectal cancer occurs from 55 to 74 years of age and, in women, from 75 or more years of age.^{1,2}

Genetic predisposition is found in patients who have been diagnosed with specific hereditary syndromes, including familial adenomatous polyposis (FAP) or Gardner's

syndrome. Multiple adenomatous polyps of the colon characterize this syndrome. Colorectal cancer is inevitable in all individuals who are affected. Prophylactic proctocolectomy of the affected colon/rectum is usually completed before colorectal cancers can develop.^{2,3}

A diet high in fat and red meat may increase an individual's risk of colorectal cancer. High-fat diets increase the production and change the composition of bile salts, which are converted to potential carcinogens by the intestinal flora.¹ A high-fiber diet is thought to reduce the exposure of potentially harmful carcinogens by reducing intestinal transit time and diluting carcinogens in bulky stool.⁴

Diagnosis

Because colorectal cancer often has no outward symptoms, adults easily dismiss it. Initial symptoms may include bloody or tarry stools, a change in bowel habits, anemia, abdominal mass or pain, intestinal obstruction, and unexplained weight loss.^{1,2}

An individual who presents with any of these symptoms should have a diagnostic work-up, which may include laboratory and radiological studies as well as colonoscopy. Fecal occult blood tests are not diagnostic tools, yet they play a role in the detection of early, smaller colorectal lesions. If a fecal occult blood test is positive, it is important to pursue follow-up testing, which may include a barium enema or proctoscopy/flexible sigmoidoscopy.⁵

Table 1. Staging System for Colorectal Cancer: Modified Dukes' Classification System (GITSG*)

A	Tumor limited to mucosa (carcinoma in situ)
B1	Tumor penetrates muscularis mucosa
B2	Tumor penetrates through muscularis propria (serosa when present)
C1	One to four tumor-involved lymph nodes
C2	Five or more tumor-involved lymph nodes
D	Distant metastases

The staging system for colorectal cancer appears in Table 1.

Treatment

The management of colorectal cancer requires the involvement of a multidisciplinary team of caregivers to ensure the best possible patient outcome.

The primary treatment of choice for colorectal cancer is surgery. Surgical advances have made laparoscopic techniques possible for colon resection and cryosurgery for metastatic liver disease. After post-operative recuperation, the use of radiation therapy, chemotherapy, and immunotherapy may be prescribed. The use of adjunctive therapy is now recommended to improve long-term patient outcome.¹

The type of operative procedure chosen to treat colorectal cancer depends on the tumor location within the colorectal area and adjacent organ involvement. The procedure of

choice for cancer of the cecum or ascending colon is a right hemicolectomy. A transverse colectomy is the procedure of choice for a middle-to-left transverse colon lesion. Cancer of the descending/sigmoid colon is resected by a left hemicolectomy. Resection of a cancer in the rectum depends on the level of the lesion. A cancer in the upper third of the rectum can usually be removed with a low anterior resection (LAR). An abdominoperineal resection is performed when anal sphincter function cannot be preserved and the anus must be removed.^{2,5}

A permanent colostomy is created with an abdominal perineal resection. Selection of the colostomy site is best completed prior to surgery. Preoperative selection may prevent poor stomal placement and facilitate the patient's adaptation to the new stoma.

Preoperative teaching

Preoperative education sessions should include the patient and caregivers. The patient's physician is responsible for explaining the operative procedure and answering any questions. Nursing staff is responsible for reinforcing the information that patients received from their physician and to review general post-operative expectations including the number of tubes and holders. (Ed note: The patient should be informed of the many tubes that will be held in place by various tube holders including, IV lines, foley catheters, nasogastric tube and colostomy bag. If indicated, the application of an abdominal binder may be applied to hold "open wound" dressings in place, and additionally Velcro® straps can secure drainage lines and ostomy bags.

Preoperative preparation includes cleansing of the colon and rectum. While the colon and rectum can never be completely free of bacteria, the goal of cleansing is to reduce the number of bacteria as low as possible.¹ The patient achieves a thorough bowel cleansing by following a low residue or clear liquid diet and drinking an isotonic lavage solution or GoLYTELY. Prophylactic broad-spectrum antibiotics are given at scheduled times on the day before surgery. Intravenous (IV) antibiotics may be ordered prior to the operative procedure on the day of surgery.²

Post-operative care

Nursing care of post-operative patients immediately after a colon resection includes monitoring the patient for signs of post-operative complications, controlling pain, assisting the patient with activity progression, and preparing the patient and caregivers for hospital discharge. Maintaining invasive lines (IV solutions) is also a post-operative concern and the clinician may choose to apply a bendable armboard to prevent displacement of the invasive line).

The patient is generally kept NPO until bowel function returns. A nasogastric (NG) tube is connected to low suction to drain air and fluid from the intestinal tract to prevent distention. Nursing staff should monitor the amount, color, and consistency of NG output. To help prevent NG tube movement, an adhesive-back holder with a Velcro®-type locking device can be used for 2 or more days. Holders with adjustable locking tabs are

also helpful to keep NG tubes in place. After the return of GI function, the NG tube may be discontinued. A clear liquid diet is begun, with orders to progress to a soft/general diet.



IV fluid replacement maintains a patient's fluid and electrolyte balance during the post-operative period. Intake and output is recorded every 8 hours. A Foley catheter may remain in place for 4 to 5 days to avoid overdilatation of the patient's bladder and to accurately record the patient's urinary output. The application of a Velcro®-type legband holder can prevent accidental catheter movement. These holders can be moved from leg to leg to prevent meatal irritation. Electrolytes, especially potassium, are monitored through laboratory draws. IV antibiotics may be administered for 24 to 48 hours post-operatively, unless the patient is exhibiting signs or symptoms of infection.

A Ted® hose with or without sequential compression device (SCD) may be ordered to facilitate venous return and prevent deep vein thrombosis and pulmonary emboli. If prolonged bedrest is anticipated, the patient may be placed on anticoagulant therapy, e.g., subcutaneous heparin.

Early and frequent ambulation is essential to prevent post-operative venous stasis and lung atelectasis. Early ambulation also stimulates the return of GI function.

To provide adequate pain relief, the patient may have a patient-controlled analgesic (PCA) pump or epidural catheter. The latter patient must be evaluated frequently for potential side effects, which may include respiratory depression, sedation, itching, and nausea.

Deep breathing is encouraged every hour. The use of an incentive spirometer may further encourage the patient to deep breath. An abdominal binder may be used in conjunction with an incentive spirometer to encourage the patient to deep breathe.

If the patient has an abdominoperineal resection, the perineal dressing may need periodic changing due to drainage from the perineal space. Abdominal dressing holders can prevent additional skin trauma and allows for quick dressing changes). A surgically implanted drain may also be in place.

Evaluation of a colostomy stoma should reveal a dark pink or red color. If the stoma turns a dusky color, the physician should be notified, as blood flow may be compromised.⁵

Post-operative complications

Nursing involvement is essential in the early detection and intervention to minimize post-operative complications. After surgery for colorectal cancer, post-operative complications may include wound infection, anastomotic leakage, intestinal obstruction, urinary retention, and intra-abdominal abscess.¹

Long-term effects after an abdominoperineal resection may include sexual dysfunction and impotence.¹ Sexual dysfunction may vary from partial to complete and depends on the surgical technique, patient's age, and preexisting medical conditions.^{1,2}

Discharge planning

The average length of stay for an individual who has an operative procedure for colorectal cancer is less than 5 days.¹ Appropriate referrals need to be made at the time of hospital admission. The patient is referred to a Wound/Ostomy/Continence Nurse if he or she will have an abdominoperineal resection and permanent colostomy. Dietary services may be required to determine the patient's caloric needs or dietary modifications secondary to the operative procedure. A social worker may become involved to aid with a smooth transition from hospital to home.¹

Nursing staff should instruct the patient and caregiver about untoward complications, which may include fever, chills, shortness of breath, erythema of the incision line, wound separation, and more. These complications necessitate a call to the physician.

Should the patient require adjunctive therapy, arrangements may be made at hospital discharge for follow-up evaluations by an oncologist or radiation oncologist.

Conclusion

Caring for patients with colorectal cancer requires a multidisciplinary approach. Each team member adds his or her particular expertise in a different specialty to the overall management of the patient with colorectal cancer. The ultimate goal is to improve the patient's outcome and quality of life.

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