

Gierosz, Daria, Mess, Eleonora. Problems in the management of a geriatric patient with colorectal cancer based on ICNP® - a case report. *Journal of Education, Health and Sport*. 2022;12(11):91-102. eISSN 2391-8306. DOI <http://dx.doi.org/10.12775/JEHS.2022.12.11.012> <https://apcz.umk.pl/JEHS/article/view/40394> <https://zenodo.org/record/7238441>

The journal has had 40 points in Ministry of Education and Science of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of December 21, 2021. No. 32343. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical Culture Sciences (Field of Medical sciences and health sciences); Health Sciences (Field of Medical Sciences and Health Sciences). Punkty Ministerialne z 2019 - aktualny rok 40 punktów. Załącznik do komunikatu Ministra Edukacji i Nauki z dnia 21 grudnia 2021 r. Lp. 32343. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przynależność dyscypliny naukowej: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).

© The Authors 2022.
This article is published with open access at Licensee Open Journal Systems of Nicolaus Copernicus University in Torun, Poland
Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author (s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike. (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.
The authors declare that there is no conflict of interests regarding the publication of this paper.
Received: 01.10.2022. Revised: 20.10.2022. Accepted: 23.10.2022.

Problemy w leczeniu pacjenta geriatrycznego z nowotworem jelita grubego na podstawie ICNP® - opis przypadku

Problems in the management of a geriatric patient with colorectal cancer based on ICNP® - a case report

Daria Gierosz, Eleonora Mess

Department of Clinical and Obstetric Nursing, Faculty of Health Sciences, Medical University of Piastów Śląskich in Wrocław.

Abstract: Colorectal cancer is the third most common malignancy among the population. The average incidence is over 65 years of age. The majority of cases are not hereditary and sporadic infections predominate. The aim of this study was to determine the most important nursing problems of a patient with colorectal cancer, as well as to recognize his bio-psycho-social situation. Using interview technique, physical examination, observation and research tools such as standardized scales and indicators. This allowed to prepare and implement a holistic nursing process. The most important nursing problems in the analyzed case were: hypoxia of the patient, limitation of independence as a result of weakness of the organism, pain in the bony button, dehydration, occurrence of skin changes in the stoma area, anxiety and lack of acceptance of the disease state. There were also knowledge deficits regarding dietary recommendations, as well as the effects of nicotine on the human body.
Keywords: Colorectal cancer, nursing care, nursing process

Introduction: The average age in Poland has increased over the last century. With the development of people's awareness of healthy lifestyles, preventive examinations and medical advances, life expectancy has lengthened. In 2020, it was 72.6 years for men and 80.7 years for women. Compared to 1990 figures, life expectancy is 6.4 years longer for men and 5.5 years longer for women[1]. However, the incidence of cancer increases with age. Approximately 50 per cent of all cancers occur in the population after the age of 65. The third most common cancer in terms of incidence among men and women is colorectal cancer.[2]
Colorectal cancer (according to ICD 10: C-18 to C-20) usually occurs in the colon, sigmoid flexure or rectum. It develops due to changes in the genome of the cells, i.e. mutations that lead to uncontrolled proliferation. It most commonly develops on the basis of a urothelial adenoma. It accounts for nearly 95% of all cases. The remainder are squamous cell tumours, undifferentiated tumours and adenocarcinomas. Multiple tumours account for about 3-5% of all colorectal cancers. Nowadays, there is a noticeable change in the location of the tumour, which is moving towards the right half of the colon.[3] The risk factors for colorectal cancer are well-known. We can distinguish between sporadic and hereditary incidence. Conditions unrelated to genes and heredity account for the vast majority of cases as 75%. Genetic causes account for 25% of colorectal cancer cases, associated with syndromes such as familial adenomatous polyposis or Lynch syndrome.[4] The underlying cause of this syndrome is mutation of the MSH-2 and MLH-1 genes, where carriers have a 90% risk of developing the disease. The age of the patient also plays a major role. Nine out of 10 patients diagnosed with cancer are over the age of 50. Past inflammatory bowel disease is also important. Crohn's disease increases the risk of the disease by 5-6 times, while ulcerative colitis increases the risk by as much as 20 times. [3] Diet and a healthy lifestyle are important in minimising morbidity. A meta-analysis showed that a diet characterised by a high intake of whole grains, dairy products, fruit and vegetables, and with a limited amount of red meat is associated with a lower risk of colorectal cancer incidence. [5]
Statistics from the National Cancer Registry show that in 2019, the incidence rate of male colorectal cancer was 12.2% of all registered malignancies with a malignancy death rate of 13%. It has an increasing incidence trend

with a stabilised mortality rate. In contrast, in the female population, the incidence in 2019 was 9.5% of all malignant neoplasms with a death rate and at 7.7% with a death rate of 11.6%. [6]

The clinical picture depends on the location and stage. A lesion located in the right half of the colon causes latent bleeding which results in anaemia. Often one of the first symptoms is a dull pain in the lower abdominal region located on the right side, which may be confused with that of appendicitis. In contrast, left-sided and rectal lesions manifest with overt bleeding and a pathological bowel rhythm. Alternating diarrhoea and constipation occur. The presence of intestinal colic-like pain is significant. Obstruction occurs in approximately 6% of patients. Associated symptoms are fever, inappetence, anorexia and significant weight loss (unintentional loss of at least 5 % of the patient's body weight in less than six months). In severe cases, symptoms appear as a result of infiltration of surrounding organs such as the bladder or vagina and the presence of metastases e.g. in the lungs. [7]

Diagnosis of suspected colorectal cancer begins with a physical and psychological examination. The first-choice examination is a per rectum examination; however, endoscopic examinations such as colonoscopy or rectoscopy are the basis for the diagnosis of cancer. During these examinations, a specimen is taken and examined histopathologically.[8] A number of imaging examinations are performed to assess the extent of the tumour, its location, the evaluation of lymph nodes and the detection of potential metastases. Ultrasound, PET, abdominal and pelvic CT and chest X-ray including lateral and anteroposterior views are performed. [9] In order to provide an accurate representation of the patient's condition and treatment, the International Union Against Cancer has created the TNM classification. It is based on three groups:

- T- tumour size
- N- regional lymph node metastases
- M- distant metastases

The treatment of patients with colorectal cancer is based on surgery, chemotherapy and radiotherapy. Depending on the location and stage of the lesion, these methods can be combined as desired.[10] With small lesions, partial removal of the bowel is possible. An endoscopic or laparoscopic approach is used for this. However, in most cases, it is necessary to excise the tumour together with a large part of the bowel and create an intestinal fistula-colostomy.[11] Often all treatment methods are combined to achieve the best possible therapeutic effect. Approximately 66% of patients with stage II tumours and 61% of patients with stage III colorectal cancer have undergone complementary treatment. However, these therapies have a lot of side effects due to their cytotoxicity against all dividing cells. [12]

Patient prognosis depends mainly on the stage of the disease. A 5-year survival rate of approximately 70-90% is possible when the cancer is diagnosed at stage I, whereas the mortality rate increases with further progression of the disease. Diagnosis at stage III results in a 5-year survival of only 46-65%. [13]

The cancer process is a state of high burden on the body. During this period, the patient needs specialised care to provide a sense of security and create the best possible existence. The symptoms of the disease reduce the patient's quality of life and are often a life-threatening condition. Therefore, a holistic approach to the patient and the establishment of a nursing action plan is essential. [14]

Objective: The aim of this study was to present the nursing process for a patient with colorectal cancer using ICNP®

Materials and methods: The research method is based on an individual case study using the nursing process, according to the method of Dorothea Elisabeth Orem. Techniques used included interview, physical examination, observation and research tools such as standardised scales and indicators.

Case description: Patient K.B, born 10.01.1954 (age 68), admitted to the Department of Rheumatology and Internal Diseases at the Jan Mikulicz-Radecki University Clinical Hospital in Wrocław, ul. Borowska 213, on 8 February 2022 due to poor general condition resulting from a neoplastic process of the large intestine and its treatment. The neoplastic process was diagnosed on 04.11.2020. The man was brought in at approximately 14.30 by the hospital emergency team from his home. The son called the ambulance due to his father's distressing condition. On admission, the patient was conscious, in logical contact, allo- and autopsychically oriented. He was fully aware of the need for hospitalisation. His skin was pale and sweaty. The patient was weakened. Additionally, he reported dizziness and insomnia. During the interview, the patient had accelerated breathing and also increased fatigability.

The patient's history and medical history showed that K.B had been suffering from cancer of the colon - part of the rectum (C20) since November 2020. The man had been experiencing a feeling of incomplete bowel movements and morning diarrhoea with an admixture of fresh bright red blood since August 2020. The patient was referred for diagnosis by his GP in October 2020. He had a colonoscopy with specimen collection for histopathological examination, CT imaging and blood tests. At the Lower Silesian Cancer Centre in Wrocław, pl. Hirszfelda 12, the diagnosis was made - rectal cancer T3N1M0 The patient underwent radiotherapy to a total dose of 25Gy/5fr.and was prepared for surgery. In April 2021, surgical treatment was performed at the DCO in Wrocław. Laparoscopic abdominoperineal rectal amputation (using the TME principle) with emergence of an end colostomy (ASAR) was performed . The patient left hospital after one week. Histopathological examination

indicated GII adenocarcinoma of the rectum, where the tumour infiltration covered the entire thickness of the muscularis membrane and passed through the peri-intestinal fatty tissue. Occupied part of the large bowel 30 cm long with a fragment of rectal skin. Cross-sectional view showed a solid, grey, crater-like tumour with a maximum dimension of 2.5 cm with an adjacent bowel defect of 5 cm. The patient remained under the control of the Oncology Outpatient Clinic and in contact with the stoma nurse. K.B received LF1 complementary chemotherapy in the form of 5FU 824.5 mg i.v +Levofolic 19.4 mg i.v + Zorfan 8 mg i.v in a six-month cycle. In December 2021, the patient started experiencing localized pain in the nodal segment. He also developed a persistent cough and general weakness. CRP- 270mg/l and CEA- 28.84 mg/l. K.B was referred for a specialist imaging study of the PET-CT and CT scan of the abdomen and small pelvis, which was performed at DCO in Wrocław. Two meta nodules measuring 1.1 cm x 0.8 cm were seen in segment III of the right lung. The liver was not enlarged in segment IVb an area of focal steatosis was present. There are calcified deposits in the gallbladder measuring 0.4 cm and renal cortical cysts up to 1 cm. On PET scan, an irregular soft-tissue structure infiltrating the last segments of the nodular bone can be seen just below the nodular stump. The cervical lymph nodes are not involved. The patient undertook chemotherapy with Xelox.

Physical examination 08.02.2022

Cardiovascular system
RR: 105/71 mm/Hg
Heart rate: 99 beats/min
Edema: None
Syncope: Over the past week, the patient has had 2 episodes of fainting and one syncope that lasted approximately 3 min.
Respiratory system
Respiration: Accelerated and deepened, with increased tidal volume
Number of breaths: 20 breaths per min
Saturation: 92%
Cough: Paroxysmal, without expectoration of secretions. Seizure lasts about 10 min and happens regularly every 1h or so.
Shortness of breath: Increased with physical exertion. Occurs during coughing fits.
Gastrointestinal system
Body weight: 52kg (He has lost 9kg in the last 3 months)
Nutrition: oral
Excretion: Patient with a stoma. There is watery diarrhoea. Reports foul-smelling discharge in pouch
Appetite: Lack of appetite - since starting last cycle of chemotherapy
Thirst: Decreased
Swallowing reflex: Normal
Flatulence: Yes
Other complaints : Nausea (takes away his desire to eat food)
Nutritional status: Malnutrition
Diet: The patient does not follow any diet
Thermoregulatory system
Temperature: 36.2 °C
Sweats: Normal
Shivering: None
Genitourinary system
Urine output: Normal
Urine coloration: Straw
Urinary incontinence problem: Negative
Sexual activity: None
Musculoskeletal system
Mobility: Limited. Over the past week, he has found movement and handling difficult
Joint mobility: Preserved
Posture: Inclined forward
Physical abilities: The patient is able to get out of bed and move to a chair and to the toilet. He walks a distance of approx. 3 m without stopping
Height: 169 cm.
Mobility aids: Assistance from a carer. Does not use other facilities
Senses
Sight: Wears corrective reading glasses

Hearing: Correct
Smell: Preserved
Touch: Normal
Skin and mucous membranes
Skin: Cool, dry, greyish
Pathological changes: Reddening of the skin around the stoma, peristomal hernia and also a pink fine rash
Pruritus: Yes- peristomal area
Oral cavity: No pathological changes
Nervous system
Speech: Normal
Consciousness: Allo- and auto-oriented patient
Pain: Feels pain at the level of the hyoid bone
Sleep: Difficulty falling asleep
Patient's mental state
Mood and drive: Decreased
Self-feeling: Poor
Contact: Answers questions briefly. Provides only necessary information
Anxiety: Fears that his health will begin to deteriorate rapidly and that he will be fully dependent on his family
Emotional reaction: Depressed
Attitude: Patient does not accept his condition
Uses: Nicotinic - has been an active smoker for 20 years. He smokes approximately 12 cigarettes per day. He has had episodes of struggle with addiction in the past. Does not drink alcohol.
Socio-demographic data
The man lives with his wife and two adult children, who work professionally and spend little time at home. He is a civil engineer by training. He is currently in retirement. As he emphasises, contact with other people is important to him. Until 2020, he was actively involved in the local community. He served as treasurer of a housing association. He currently spends his free time watching TV and reading books. K.B mentions the plot of land where he grew vegetables and fruit until two years ago. He spends most of his time at home.

To gain a deeper understanding of the patient's clinical picture and bio-psycho-social status, a patient assessment was carried out using scales, a questionnaire and an index:

- AIS scale- 12 points. This shows the patient's lack of acceptance of the condition.
- GDS scale -25 points. A score of more than 20pts shows, poor mental state of the patient. He is depressed and further diagnosis and treatment for mental health condition is necessary.
- Barthel Scale- 70 points. The patient requires assistance with some activities of daily living such as moving up stairs and bathing the entire body. He is moderately dependent on a carer
- MNA scale- 15 points.
- VAS- 7 points
- BMI- 18.21 points
- Karnofsky scale- 50 points.
- The patient is an active smoker therefore an assessment was carried out using the Fagerström Questionnaire- 7 points shows a strong degree of nicotine dependence

Pharmacotherapy:

- Chemotherapy: Xelox, Oxaliplatin 260 mg i.v, Zorfan 8mg i.v,
- Dexaven 4 mg i.v
- Ketanol 100 mg i.v 1-0-1
- Supplementation vit.C 1000mg+ vit. E
- Tardyferon-fol 80mg 1-0-0

Nursing problems

1) Nursing diagnosis:

Patient hypoxia due to paroxysmal coughing, in the course of pulmonary lesions, resulting in dizziness and fainting

ICNP diagnosis: dizziness [10006160], fainting [10007508], cough [10005249] + hyperventilation [10041352].

Objective of care: Proper oxygenation of the patient. Minimisation of dizziness and fainting

Nursing actions:

- Assessment of patient's respiratory quantity and quality
- Assessment of the patient's physical capacity
- Continuous monitoring of basic vital signs with particular attention to saturation levels.
- Observation of the patient for signs of hypoxia such as: a change in the colour of the skin coverings: mainly distal parts of the limbs and mouth.
- Improve airway patency by placing patient in semi-high position
- Assisting and supporting the patient during hygiene and mobility
- Ensure access to fresh air: ventilate the room, maintain adequate temperature (18-20 °C) and humidity in the room (about 60-70%)
- Eliminating cough-provoking factors from the environment (cigarette smoke, dust, strong odours)
- Moistening the throat and mouth with small but frequent intakes of water
- Making inhalations with 0.9 % saline solution to moisten the airways
- Securing or removing all sharp-pointed objects that could cause harm during a breach.
- Learning the principles of hygienic coughing
- Administration of cough suppressants as prescribed by a doctor
- Administration of oxygen as prescribed by the doctor

Expected outcome of care: The patient's oxygenation has improved. The frequency of coughing has decreased so that the patient experiences fewer episodes of fainting and dizziness. Saturation has increased from 92% to 98%. ICNP results: effective gas exchange [10027993] + effective airway patency [10027964]+ effective respiratory status [10033830].

Rationale: Hypoxia or hypoxia is a condition of the body that is caused by insufficient oxygen. Oxygen is a biogenic element, together with nitrogen and carbon it forms the basis for the structure of chemical compounds. It is transported by erythrocytes, which, thanks to their binding properties, distribute it to every cell in the body. Reduced oxygen volume and inefficient gas exchange lead, among other things, to impaired consciousness, consciousness and vision. The patient is in a state of general weakness and often complains of excessive sleepiness and malaise. Therefore, it is important to monitor the patient's blood oxygen saturation level and observe the skin for signs of cyanosis. Coughing fits reduce the efficiency of gas exchange, so the importance of patient education is to learn effective coughing and cough hygiene. Also significant is the patient's environment, which should be free of provocative odours, cigarette smoke and have an appropriate percentage of humidity and temperature. In the case of exacerbated cough attacks, it is necessary to administer medication and inhale the patient. The overall measures make it possible to prevent complications of hypoxia and minimise dizziness and syncope.[15]

2 Nursing diagnosis:

Presence of malnutrition due to side effects of chemotherapy and cachexia in the cancer process

ICNP diagnosis: malnutrition [10042077] + cachexia [10003802] + underweight [10027316] + cachexia [10011734]+ disorders associated with insufficient nutrition [10025519].

Objective of care: To improve body nutrition

Nursing actions:

- Assessing the patient's nutritional status using the MNA scale (15 points)
- Measuring the patient's weight and height, calculating BMI (18,21)
- Taking nutritional history
- Adaptation of meals to the patient's taste preferences
- Implementing a high-carbohydrate and high-protein diet, increasing caloric intake to approximately 35-45 kcal/kg bw/day
- Introduction of high-energy supplements, i.e. Nutridrink
- Recommend eating more meals in smaller portions
- Use of ginger preparations
- Implementation of parenteral nutrition according to doctor's orders
- Recommend periodic weight measurements
- Collection of blood for laboratory tests (blood count, vitamin B12, iron, sodium, potassium)
- Patient education on correct calorie intake
- Feeding by artificial route, through enteral feeding as ordered by the doctor

Expected outcome of care: The patient's nutritional status will be observed and monitored. Target requires longer-term follow-up. Patient motivated and educated.

ICNP outcome: nutrition [10013403] + impulse [10009903].

Rationale: Malnutrition is a very common problem among the elderly and those with chronic diseases. Often weight loss is due to psychological, social or medical reasons. [16] Malnutrition affects approximately 35.9% of patients undergoing oncological treatment. [17] It results from a reduced food supply due to loss of appetite and

side effects of chemotherapy such as nausea and vomiting. It is therefore important to adapt meals to the patient's taste preferences. Increasing the number of meals by reducing their volume. Over and above this, meal replacements in the form of industrial products such as Nutridrink can also be used. Indicators that enable the patient's nutritional status to be monitored are the MNA scale and the BMI scale. With these we can monitor the progress of therapy and draw conclusions. Non-pharmacological and education play an important role during the patient's recovery. However, sometimes therapy is unsuccessful and it is necessary to include enteral feeding by artificial means. [18]

3 Nursing diagnosis:

Discomfort due to tumour bone pain due to the presence of bone metastases in the sacro-lumbar region

ICNP diagnosis: tumour pain [10003841] + bone pain [10003569]+ discomfort [10023066].

Goal of care: To minimise pain and reduce discomfort.

Nursing actions:

- Assessment of the location, nature and also the intensity of pain (VAS scale=7 points).
- Assessment of factors that increase and decrease pain
- Prescribing a supine position to the patient to relieve pressure on the hyoid bone
- Assist patient in adopting a comfortable position
- Application of local compresses
- Administration of analgesics and anti-inflammatory drugs as ordered by the doctor
- Observation of the patient after the administration of painkillers aimed at the possibility of an anaphylactic reaction or other side effects

Expected outcome of care: Pain has been reduced. Patient currently rates his pain on a VAS scale=2 points (weak pain)

ICNP outcome: reduced pain [10027917].

Rationale: Effective pain management is based on a cyclical assessment of pain, its location, nature , as well as its duration. According to the IASP, pain is a negative sensation. If pain persists over a long period of time or its intensity is increased, it loses its original warning function and becomes a fact of suffering. Pain in people undergoing cancer treatment often leads to a loss of meaning in life and discomfort. It is therefore important to include pharmacological and non-pharmacological analgesic treatment to improve the patient's quality of life. The patient should be allowed to adopt a comfortable position, pain-reducing compresses should be applied and pain levels should be regularly checked. Such measures will improve the patient's functioning and relieve his or her suffering. [19]

4 Nursing diagnosis:

Patient dehydration due to diarrhoea, as a result of inadequate diet after stoma removal

ICNP diagnosis: Dehydration [10025981]+ diarrhoea [10000630].

Goal of care: Hydrate the patient and restore electrolyte balance. Dietary education of the patient.

Nursing actions:

- Monitor patient for signs of dehydration such as dry mouth, decreased micturition, decreased skin tone
- Monitoring bowel movements and stool consistency
- Establishing a fluid balance chart and performing a fluid balance
- Monitoring of basic vital signs
- Collecting blood samples for laboratory tests
- Encouraging the patient to drink more fluids
- Teaching proper hygiene and fistula care during excretion of increased faecal masses
- Dietary education regarding the correct diet after colonostomy removal
- Suggestion of dietary consultation for selection of an appropriate diet (non-fasting, with adequate fibre and fluid intake)
- Implementation of intravenous fluid and electrolyte replacement therapy as ordered by the doctor
- Participation in pharmacotherapy as ordered by the doctor

Expected outcome of care: Diarrhoea has stopped. Consistency and number of bowel movements normal. Patient hydrated. His skin is tight. Diuresis normal.

ICNP results: effective fluid volume [10042054]+ effective electrolyte balance [10033709] + no diarrhoea [10040059].

Rationale: The geriatric patient has an increased risk of dehydration. This is due to physiologically lower fluid absorption, appetite disturbances or changes in endocrine balance e.g. aldosterone and renin amounts. However, severe dehydration can lead to diarrhoea, resulting in cardiovascular and urinary disorders, as well as reduced energy metabolism. It is therefore important to assess the patient's hydration status, which is possible by checking skin tone, dry mouth and fluid balance. Fluid therapy as well as taking care of the electrolyte balance are important measures to restore an adequate hydration status. [20] By eating a low-fat diet with an adequate

supply of fibre, limiting legumes and flatulent foods such as cabbage, the patient with a stoma can eliminate unpleasant odours, flatulence and diarrhoea. It is also important to limit the consumption of alcohol and mouldy cheeses. A holistic approach, i.e. pharmacotherapy, education and nursing, will allow the patient to regain balance of the water-electrolyte balance.[21]

5. Nursing diagnosis:

Reduced ability to self-care due to the patient's debilitation during the course of chemotherapy

ICNP diagnosis: self-care deficit [10023410] + self-care deficit [10023410] + weakness [10022880]+ impaired active range of motion [10040173].

Goal of care: To increase the patient's independence in terms of self-care. Maintenance of hygiene.

Nursing activities:

- Assessing the patient's condition using the Barthel scale (70 points) and the Karnofsky scale (50 points).
- Assisting the patient with basic hygiene and nursing care
- Assisting the patient during transfers
- Preparation of a meal that is high in energy, high in protein and balanced
- Instruction in self-care and self-care
- Motivating the patient to take care of body hygiene
- Providing facilities such as handrails in the bathroom, a walker and shower chair.
- Removing items from the room that may increase the risk of falls (e.g. carpets)

Expected outcome of care: Improved self-care capacity. Patient motivated to self-care.

ICNP outcome: independent hygiene [10017769].

Rationale: The patient's debilitation during cancer treatment is caused by a number of metabolic changes that occur in the cells. Assistance with basic hygiene and activities of daily living is therefore necessary, as well as educating him to improve his self-care capacity. A patient undergoing chemotherapy often takes small amounts of food or food is not absorbed adequately due to side effects. It is therefore significant to maintain a well-chosen diet that will cover the patient's full caloric requirements. In this way, the patient will regain his strength and be better able to manage in self-care and hygiene. [22]

6 Nursing diagnosis:

Patient anxiety due to fear of becoming fully dependent on family due to cancer process

ICNP diagnosis: anxiety [10000477].

Goal of care: To provide support to the patient.

Nursing actions:

- Observing the patient in terms of assessing his mental state
- Conduct a discussion with the patient and his/her family to answer their questions concerning the care of the patient after leaving hospital.
- Offer to join a free support group under the banner of "Academy Against Cancer" in Wrocław.
- Offer consultation with a long-term care nurse
- To identify and provide a list of psychological counselling centres where the patient can go for support.

Expected outcome of care: The patient was reassured. Completed a questionnaire expressing willingness to join the support programme.

ICNP outcome: reduced anxiety [10027858].

Rationale: Anxiety about psychological and physical dependence in chronic diseases accompanies patients very often. It is conditioned by the fear of becoming a burden for loved ones. The nurse's role is to talk to the patient and family, to make them aware and to refer the patient to a place where he/she will receive professional psychological help, as well as to suggest the use of a long-term care nurse who can relieve the family of the burden of care procedures. [23]

7 Nursing diagnosis:

Discomfort due to rash and pruritus in the stoma area resulting from due to inadequate skin care and use of adhesive products

ICNP diagnosis: stoma-related complication [10040442]+ lack of knowledge about the condition [10021994] + impaired ability to manage stoma care[10029595] + discomfort [10023066].

Goal of care: To improve skin condition. To reduce discomfort by reducing itching and rashes.

Nursing actions:

- Assessment of the condition of the stoma: its size, colour and site of emergence
- Assessment of skin condition (type, surface and nature of lesions)
- Assessment of knowledge of stoma appliance management
- Instruct and educate the patient on correct skin hygiene around the stoma i.e. use warm soapy water, gently dry the skin by touching it with a soft towel.
- Explain to the patient how to correctly fit and put on a stoma pouch

- Demonstrate methods and sprays to facilitate changing of the pouch
- Suggest that the patient takes a bath without a stoma bag to allow for adequate oxygenation of the skin.
- Provide the necessary information on the type of stoma equipment and its reimbursement.
- Offer you a contact and appointment with a stoma care nurse
- Providing free starter kits of stoma equipment along with sealing and healing paste

Expected outcome of care: The condition of the skin surrounding the stoma has improved. Patient is educated and skilled in proper stoma bag care and replacement

ICNP outcome: colostomy care [10046075] + disease knowledge [10023826].

Rationale: Cancer of the colon, rectum and also ulcerative colitis are the most common indications for colostomy removal. Correct care of the skin surrounding the stoma is key to maintaining comfort when using stoma pouches. Remember not to grease but moisten the skin to ensure proper adhesion of adhesives. Professional stoma care also includes patient education and instruction. Correct appliance and prophylaxis have a significant impact on therapeutic success. [24]

8 Nursing diagnosis:

Malaise due to sleep problems resulting from a flurry of thoughts.

ICNP diagnosis: insomnia [10010330] + disturbed sleep [10027226].

Aim of care: To ensure a normal amount of sleep and improve wellbeing

Nursing actions:

- Talking to the patient about sleep problems and their concerns
- Providing answers to any questions that arise
- Creating the right conditions for falling asleep: airing the room, maintaining a temperature of around 18-20oC and providing clean bed linen and darkening the room
- introducing the principles of sleep hygiene
- ensuring peace and quiet
- Eating a lightly digestible dinner before bedtime
- Drawing attention to the importance of having a hobby to distract the mind from the condition
- Informing the patient about available relaxation techniques such as aromatherapy, phytotherapy and visualisation.
- Administering sleeping pills as ordered by the doctor
- Suggesting a visit to a psychologist

Expected outcome of care: Restoration of adequate sleep quantity and rhythm.

ICNP outcome: adequate sleep [10014939].

Rationale: Insomnia is a complex problem. It occurs with increased frequency among oncology patients. Adequate diagnostics to find the cause of these disorders is therefore essential. The most common factors are anxiety, tension, emotional crisis, change in lifestyle, reduced physical activity. Therefore, nursing care should focus on maintaining adequate sleep hygiene, creating appropriate conditions for rest and psychological support for the patient, as well as adequate education of the patient on the importance of rest. [25]

9 Nursing diagnosis:

Lack of acceptance of the disease due to insufficient support from the immediate family

ICNP diagnosis: lack of family support [10022473], health status acceptance disorder [10029480].

Goal of care: Acceptance of one's health status and increased family awareness of the importance of support in illness

Nursing activities:

- Assessing the patient's disease acceptance status using the AIS scale (12 points).
- Conducting a mental status assessment using the GDS scale (25 points)
- Refer the patient for psychiatric consultation for diagnosis of depression
- Suggesting family psychotherapy
- Introducing a support group for patients with advanced cancer
- Talking to the patient's family about the importance of support in the illness

Expected outcome of care: Goal partially achieved. The patient's family was motivated to be more supportive of the patient's illness. However, the patient still does not accept his condition. Objective needs further revision.

ICNP outcome: impetus [10009903]+ supportive action [10018434].

Rationale: The family is the primary social cell. The patient needs the support of his/her loved ones to fully accept the illness. At every stage of treatment, it is essential to accompany the patient in the fight against the disease. By listening and caring, it is possible not to lose hope and to find strength and joy in the day-to-day. The nurse's role is to support the patient as well as the family, and to raise awareness of the importance of companionship in chronic illness. It is also essential to assess the patient's acceptance and mental state. Regular

monitoring will allow appropriate interventions to be applied and, in a moment of crisis, to suggest that collaboration with a psychologist be undertaken.[26]

10 Nursing diagnosis:

Relapse to nicotine addiction due to lack of knowledge about the negative effects of smoking.

ICNP diagnosis: tobacco misuse [10022247].

Goal of care: To mobilise the patient to quit smoking.

Nursing actions:

- Interviewing the patient to check his/her level of knowledge about the harmful effects of cigarette smoking
- Assessment of nicotine dependence using the Fagerström questionnaire (6 items)
- Interview about the number of cigarettes smoked per day
- Presentation of the harmful effects of smoking
- Educating the patient about the increased risk of lung metastases resulting from active smoking
- Suggestion to join a support group for nicotine addicts
- Motivating the patient to take up the fight against addiction

Expected outcome of care: Patient motivated to stop nicotine addiction. Target needs further verification

ICNP outcome: readiness to quit smoking [10038610].

Rationale: Nicotine has a negative effect on the human body. It has mutagenic abilities and can interfere with metabolic processes carried out in cells which increases the risk of cancer development and metastasis. Therefore, nursing care should include education about the harmful effects of nicotine on the human body and present the consequences of long-term smoking. [27]

Discussion

Colorectal cancer, is the third most common cancer worldwide. [29] According to the Global Burden of Disease Cancer Collaboration, it is diagnosed in approximately 17.5 million people annually and has a mortality rate of approximately 8.7 million people. [28] In the last decade, there have been positive changes regarding the treatment and management of patients with colorectal cancer. By optimising therapeutic interventions in this way, this has increased survival rates and enabled the development of an individualised management pathway tailored to the needs of the patient. [29] In connection with the course of the neoplastic process, patients develop a number of complaints related to the proliferation of tumour cells in the organ initially involved as well as in the organs affected by metastases. These manifest themselves as fatigue, pain and reluctance to eat, among other things. [28]

One of the most common complaints observed in oncology patients is bone pain. In the medical case analysed in the patient, there are also complaints of pain, which are caused by metastatic cells infiltrating the nodular bone. [19] According to Davila, bone is the third most common site for metastases, after the lung and liver. [30] In addition, approximately 60-84% of people with advanced cancer are experienced by pain of varying frequency. In the United States, this amounts to approximately 4500000 patients per year.[31] In K.B's case, too, the pain caused the patient discomfort and reduced his quality of life. Therefore, it is important to properly plan care focused on non-pharmacological and pharmacological treatment according to the standards outlined by the WHO (World Health Organisation) using a three-step analgesic ladder to eliminate or minimise pain. [19]

In the case analysed, the period of disease onset was consistent with the described clinical course of the disease entity described. The patient developed the disease at the age of 66 years. The initial symptoms that occurred such as blood in the stool, diarrhoea and a feeling of incomplete bowel movements are often the first signs of cancer. However, the patient only reported to his primary care physician after two months of persistent symptoms. Above that, he did not make use of the available colorectal cancer screening programmes. In 2015, the percentage of people in Poland who responded to a personal invitation for screening tests, i.e. colonoscopy and faecal occult blood test, was only 16.78%. This demonstrates the low level of patients' knowledge of cancer prevention.[32] According to a study by Jurczak et al. 50.5% of respondents believe that screening is insufficiently promoted and not well publicised, and that the level of knowledge about screening is low. [33] In the case presented in the study, the tumour was diagnosed as stage IIIb colorectal cancer as determined by the TNM classification. It is an advanced neoplasm occupying a single lymph node. According to Roth et al. Early detection and treatment of colorectal cancer results in a better prognosis and prolongs patient survival.[34] Patient K.B developed distressing symptoms of insomnia, anxiety, lowered mood and reduced drive as a result of his cancer. According to an analysis by H.R. Smith, depression affects more than 10% of those diagnosed with cancer. Sadness is a natural defensive reaction to the diagnosis. However, stress that goes beyond the coping mechanism results in the occurrence, of depressive disorders. This makes communication with the patient and the therapeutic process more difficult. The nuisance of chemotherapy and radiotherapy can also have a large impact. Side effects such as nausea, vomiting and weakness lower the patient's mood.[35] In the case presented here, the patient complained of the above-mentioned complaints, so an assessment of his

mental state was carried out using the GDS (Geriatric Depression Scale). According to Rhondali et al. this is the best scale for a pre-test used in psycho-oncology.

36] The results showed that he had intrusive thoughts, feelings of emptiness and a lack of confidence in a better future. Such feelings are corroborated by studies conducted among cancer patients. It was observed that cancer has more consequences for male patients than for female patients in terms of depressive symptoms, Furthermore, Goldzweig et al. investigated the degree of acceptance of the disease in people with a stoma. The results showed that men without a female partner showed the lowest level of acceptance. [37] In the case analysed, the patient is married and has children, however, he fears dependency on them and does not feel fully supported. Therefore, the family was included in the therapeutic process. Care was taken to ensure that those closest to the patient knew about his illness and care. The patient was examined using the AIS scale, which showed a lack of acceptance of the condition. According to a study by Ruszkiewicz and Kreft, social and family support and the strategy adopted in coping with the illness are of fundamental importance in the process of accepting the diagnosis and struggling. Women were 14, 55% better at using a constructive coping style in stress. They also point out the importance of the medical staff's contact with the patient and his or her family. Priority is given to the provision of information and sound knowledge, as well as the implementation of professional psychological support and the inclusion of the family. Feelings of loneliness have a negative impact on wellbeing and cause excessive negative feelings. [38] In the case analysed, the patient experienced malnutrition and also significant weight loss. The patient was restricting his food intake due to nausea. However, the therapy undertaken had satisfactory results. The persistent side effects of chemotherapy were alleviated and the patient's appetite increased. Assessment of nutritional status and measurement of body weight should be done regularly to effectively monitor the patient's condition. Malnutrition is a significant problem occurring in geriatric and chronic patients. The magnitude of this phenomenon is underestimated and overlooked, but it has a huge impact on life expectancy and the effectiveness of therapy.[39] It is estimated that this problem occurs in approximately 10-15% of patients with colorectal cancer. The European Society for Clinical Nutrition and Metabolism (ESPEN) emphasises the importance of implementing dietary counselling in patients with gastrointestinal cancer. High-carbohydrate and high-protein therapy has the best effect. Increasing the caloric supply to 35-45 kcal/kg bw/day enables a patient devastated by chemotherapy to replenish his energy requirements.[40] In the case analysed, therapy based on a balanced high-carbohydrate diet resulted in an improvement in the patient's physical condition. The patient also experienced a subjective improvement in mood and relief of nausea with the introduction of ginger into his diet. A study by Marx et al. showed a multidirectional effect in the prevention of nausea during chemotherapy. However, the research is inconclusive and the efficacy of ginger extract is anecdotal.[41] According to Krzeminska-Siemaszko, the MNA questionnaire administered to patient K.B is a basic, practical and authoritative tool to assess nutritional status and risk of adverse health events. [42] In a study conducted by Ulatowska and Bączyk using the questionnaire, 33% of the subjects scored, as did K.B, below 17pts on the MNA scale were geriatric patients. This demonstrates the scales of malnutrition among the elderly.[43]

In summary, an individualised approach to the patient and the disease entity is an essential part of nursing care for the patient. The aim of care is to identify the patient's most significant nursing problems and to make up deficits. A patient diagnosed with cancer requires special care on a physical and psychological level.

Conclusions

The basis of the therapeutic process in a patient with colorectal cancer is the care of the patient's physical and psychological condition. The nurse's task is to assist the patient in selecting appropriate stoma equipment and skin care measures in the stoma area. Caring for a person with a stoma also includes the necessary educational and follow-up aspect. The most important nursing problems in the case study were: patient hypoxia, reduced independence due to weakness, pain in the stoma bone, dehydration, skin lesions in the stoma area, anxiety and lack of acceptance of the condition. There were also knowledge deficits regarding dietary recommendations, as well as the effects of nicotine on the human body. Dietary guidance and motivation of the patient to follow an appropriate diet are crucial in maintaining a proper water and electrolyte balance. The nurse's role in caring for a patient with colorectal cancer, is to alleviate the side effects of chemotherapy, ensure that the patient is properly nourished and hydrated, minimise pain, educate on self-care and dietary recommendations, and provide emotional support. Reduced acceptance of the disease negatively affects the therapeutic process and the patient's general condition. Anxiety and anxiety are factors that hinder the therapeutic process, so increased observation of the patient's mental state and measures to improve the mental state are essential. A patient diagnosed with cancer expects support on a physiological, therapeutic, educational but also spiritual level.

Bibliography

- [1] Główny Urząd Statystyczny Trwanie życia w 2020r. Department of Statistical Publishing, Warsaw, 2021: 8-13
- [2] Kening J. Colon cancer in the older population. *Journal of Oncology* 2021, 71 (2): 119-121.

- [3] Berner A., Piekarski J. Colorectal cancer and rectal cancer. [in:] Jassema J., Kordka R. (eds.) *Oncology-Handbook for students and physicians*. Via Medica Gdansk 2019: 186-191
- [4] Agency for Health Technology Assessment and Tarification Opinion No. 2/2021 of 4 January 2021. Agency for Health Technology Assessment and Tarification on the appropriateness of public funding of Stivarga (regorafenib) for the indication of malignant neoplasm of the sigmoid colon (ICD-10: C19.1) within the framework of emergency access to drug technology Ministry of Health, Warsaw 2021
- [5] Schwingshackl L., Schwedhelm C., Hoffmann G., et al. Food groups and risk of colorectal cancer. *International journal of cancer*, 2018, 142 (9): 1748-1758
- [6] Didkowska J., Wojciechowska U., Olasek P., et al. Malignant neoplasms in Poland in 2019. Ministry of Health, Warsaw 2021
- [7] Podolak-Dawidziak M., Szczeklik A., Gajewski P. Polyps and neoplasms of the large intestine.[in:] Szczeklik A. (ed.) *Interna Szczeklika Medycyna Praktyczna*, Kraków 2017 : 1037-1044
- [8] Deptała A., Frączek M. Colorectal cancer[in:] Deptała A. (ed.) *Oncology in practice*. PZWL, Warsaw, 2015: 217-224
- [9] Wełna M.J., Kaźmierczak B. Nursing care in the diagnosis of oncological conditions. [in:] Koper K.J., Koper A. *Pielęgniarstwo onkologiczne PZWL*, Warszawa , 2021: 89-103
- [10] Yoshino T., Arnold D., Taniguchi H. Pan-Asian adapted ESMO consensus guidelines for the management of patients with metastatic colorectal cancer: a JSMO-ESMO initiative endorsed by CSCO, KACO, MOS, SSO and TOS. *Annals of Oncology* 2018 ; 29: 44-70
- [11] Kózka M. Care of patients with bowel disorders [in:] Ścisło L. (ed.) *Pielęgniarstwo chirurgiczne PZWL* Wydawnictwo Lekarskie, Warsaw, 2020 : 375-377
- [12] Adzimah J.N., Fazilah S. N., Colorectal Cancer Immunotherapy: Options and Strategies. *Frontiers in Immunology*, 2020 ; 11
- [13] Jeziorski A. Rak jelita grubego [in:] Jeziorski A., (ed.) *Onkologia Podręcznik dla pielęgniarek*. PZWL Wydawnictwo Lekarskie, Warsaw, 2021: 119-128
- [14] Łuczyk M., Szadłowska-Szlachetka Z., Ślusarska B. Standards and procedures in oncology nursing Wydawnictwo Lekarskie PZWL Warsaw 2017 :180-194.
- [15] Ackley B.J, Ladwig G. B, Flynn Makic M. B *Nursing diagnosis handbook: an evidence-based guide to planning care*. Elsevier St. Louis, Missouri 2017
- [16] Kanikowska A., Swora-Cwynar E., Kargulewicz A. et al. Malnutrition in the elderly - an underestimated clinical problem *GERIATRIA* 2015; 9: 31-38
- [17] Van Den Broeke C., De Burghgraeve T., Ummels M. et al. Occurrence of malnutrition and associated factors in communi-ty-dwelling older adults: those with a recent diagnosis of cancer are at higher risk. *J Nutr Health Aging* 2018; (22): 191-198.
- [18] Badian M., Dzierżanowski T. Malnutrition in palliative care *Palliative Medicine* 2018; 10(1): 12-18.
- [19] Kaptacz I., Wiśniewski M.: Ból w chorobie nowotworowej [in:] Kaptacz A., Walden- Gałuszko K. *Pielęgniarstwo opieki paliatywnej*. Wydawnictwo Lekarskie PZWL. Warsaw 2016: 29-31
- [20] Ozimek E., Mess E. Man in old age - The role of water in the body [in:] Sobieszkańska M, Pirogowicz I (eds) *Współczesna Geriatria-Nowe Perspektywy dla Pacjentów*. Wrocław Scientific Publishing House Atla 2, Wrocław 2017: 161-170
- [21] Pachocka L.M., Urbanik A. Principles of nutrition for patients with an emergent stoma. *Wiadomości Lekarskie* 2016, 69/1: 33-36
- [22] Krawczyk A. Fatigue and strategies for coping with cancer at different stages of treatment *Sztuka Leczenia* 2013, 1-2: 21-30
- [23] Rogowska J., Krajewska-Kulak J., Kondzior D. Adapting to life in patients after stoma removal. *Pielęg Chir Angiol* 2013 2/2013: 44-54.
- [24] Kolodziejczak M., Ciesielski. P., Kosim A. Therapeutic management of skin complications and hard-to-heal wounds around stomas *Nowa Medycyna* 2013, 2/2013: 52-55
- [25] Irwin M. R. Depression and insomnia in cancer: prevalence, risk factors, and effects on cancer outcomes. *Curr Psychiatry Rep.* 2013 ;15(11): 404-409
- [26] Dembe K., Chłosta P.L The role of the family in the treatment of the oncological patient [in:.,] Dembe K, Chłosta P.L Czech A.K. *Oblicza choroby nowotworowej Poradnik dla pacjentów z nowotworami układu uczowo-płciowego oraz dla ich rodzin lub opiekunów*. Publisher Polskie Towarzystwo Urologiczne Warsaw 2019: 52-54
- [27] Grando S. Connections of nicotine to cancer. *Nature Reviews Cancer* 2014; 14: 419-429
- [28] Pawlak N., Romanowicz J., Serafin L, et al. Nursing aspects of a patient with cachexia-anorexia syndrome in palliative care - a case study based on the International Classification of Nursing Practice ICNP Published by the State Vocational University in Włocławek Włocławek 2018
- [29] Rosen A.W., Degett T.H., Gögenur I.. Individualized treatment of colon cancer. *Ugeskr Laeger*. 2016 1;178(31)

- [30] Davila D., Antoniou A., Chaudhry M.A.. Evaluation of Osseous Metastasis in Bone Scintigraphy. *Semin. Nucl. Med.* 2015;45: 3-15
- [31] Zajączkowska R., Kocot-Kępska M., Leppert W. et al. Bone Pain in Cancer Patients: Mechanisms and Current Treatment. *Int J Mol Sci.* 2019; 20(23)
- [32] Stefanowicz A., Kulik T.B., Skórzyńska H., et al. Knowledge of a colorectal cancer prevention programme among people aged 50-65 years *GERIATRIA* 2017; 11: 259-264
- [33] Jurczak A, Kaczmarek G, Wieder-Huszla S, et al. Importance of colonoscopy screening in public opinion. *Fam Med Prim Care Rev.* 2012; 14(3): 231-234
- [34] Roth A. D., Delorenzi M., Tejpar S. et al. Integrated Analysis of Molecular and Clinical Prognostic Factors in Stage II/III Colon Cancer. *Journal of the National Cancer Institute*, 2013; 105/ 2, (16) 151-152,
- [35] Smith H.R. Depression in cancer patients: Pathogenesis, implications and treatment (Review). *Oncol Lett* 2015, 9: 1509-1514
- [36] Rhondali W., Freyer G., Adam V., et al. Agreement for depression diagnosis between DSM-IV-TR criteria, three validated scales, oncologist assessment, and psychiatric clinical interview in elderly patients with advanced ovarian cancer. *Clin Intervent Aging.* 2015; 10: 1155-1162.
- [37] Ocalewski J., Izdebski P. Experiencing cancer among people in late adulthood. A review of research. *Gerontologia Polska* 2016, 24, 251-258.
- [38] Ruszkiewicz M., Kreft K. Correlates of disease acceptance in a group of oncological patients *Psychoonkologia* 2017, 21 (2): 37-44
- [39] Mziraj M., Żuralska M., Książek R., et al. Malnutrition in the elderly , methods of its assessment , prevention and treatment. *Ann. Acad. Med. Gedan.* 2016, 46, 95-105
- [40] Janion K., Walkiewicz K., Copija A., et al. Practical dietary recommendations during chemotherapy in patients with gastrointestinal cancer. *Pielęgniarstwo Polskie* 2018 Vol 69/3
- [41] Marx W., Ried K., McCarthy A.L., et al. Ginger - Mechanism of action in chemotherapy-induced nausea and vomiting: A review. *Crit Rev Food Sci Nutr.* 2017; 57(1): 141-146.
- [42] Krzymińska-Siemaszko R., Wieczorowska-Tobis K.: Evolution of malnutrition assessment in elderly patients using the MNA questionnaire. *GERIATRICS* 2012; 6: 139-143
- [43] Ulatowska A., Bączyk G.: Assessment of the nutritional status of elderly patients placed in a geriatric ward , made using a scale. *Pielęgniarstwo Polskie* 2016 Nr 1(59) 3/2016