Chapter 7

Nursing care of a patient with hormonally inactive pituitary macroadenoma

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Abstract
Pituitary tumours are slow-growing benign neoplasms that account for approximately 15% of all intracranial tumours. The diagnosis of pituitary tumours includes clinical signs and neuroimaging studies. This case report concerns a woman, now 71 years old, who was first hospitalised for increasing headaches and vomiting at the age of 38. A diagnosis of meningeal syndrome and destruction of the saddle of Turkey was made. The first operation to remove the pituitary

macroadenoma via the transsphenoidal route took place fifteen years after diagnosis and, due to regrowth of the inactive pituitary adenoma, reoperation was performed twice after a further five years. The last surgery was complicated by paralysis of the right peroneal nerve and paralysis of the adductor nerve on the left side. The implementation of nursing care is based on the application of measures aimed at reducing discomfort, eliminating possible complications, increasing the patient's level of independence, providing education and counselling on lifestyle changes, and coping with the limitations imposed by the disease.
Key words: pituitary macroadenoma, hypopituitarism, nursing care

Introduction

According to the Polish National Cancer Registry at the Maria Sklodowska-Curie National Research Institute of Oncology in Warsaw, the number of cases of primary malignant tumours of the brain and other parts of the central nervous system amounts to approximately 2,900 cases per year. Approximately 2,800 patients die annually from primary tumours of the brain and its surroundings in Poland [1, p. 36–40].

The most common tumours located in the area of the saddle of Turkey are pituitary adenomas. In most cases, these are benign tumours originating from glandular cells and characterised by a low growth rate [2, p. 5–11]. Pituitary tumours account for 15% of all central nervous system tumours and are the third most common intracranial tumour after meningiomas and brain gliomas. In young adults aged 20–24 years, more than 30% of central nervous system tumours are actually pituitary adenomas. The prevalence of pituitary adenoma at autopsy is 16.7% and on radiography it is 22.5% [3]. Pituitary adenomas can be divided according to size and endocrine function. Depending on the size of the lesion, there are two types of adenoma, namely microadenomas, which are less than or equal to 10 mm in diameter, and macroadenomas, which are greater than 10 mm in diameter [1]. Pituitary macroglandular adenomas show a greater growth trend compared to microadenomas. An increase in the size of a microadenoma to that of a macroadenoma is very rare, with only 5% of microadenomas exceeding 10 mm in size [1,4]. With regard to hormonal activity, adenomas are divided into hormonally active, which secrete one or more hormones, and hormonally inactive adenomas. Within

the group of hormonally active adenomas, the most common are prolactin-secreting adenomas (40%), adenomas giving symptoms of acromegaly or gigantism that produce growth hormone (20%) and adenocorticotropic hormone-secreting adenomas in Cushing's disease (10%). Hormonally inactive tumours account for 25% to 30% of cases [5]. Approximately 5% of pituitary tumours occur in the context of hereditary syndromes such as multiple endocrine neoplasia type 1 (MEN1) caused by mutations inactivating the menin gene, Carney syndrome resulting from mutations inactivating the alpha regulatory subunit of protein kinase A (PRKAR1A) or familial isolated pituitary adenoma syndrome [3].

The clinical manifestations of saddle cell tumours depend on endocrine function and tumour size. Localised symptoms caused by the tumour mass include headache, onset of hypopituitarism, symptoms of increased intracranial pressure, double vision, drooping eyelids, facial sensory weakness and visual disturbances with a characteristic recoil visual field loss resulting from pressure on the optic nerve junction. With a prolonged disease duration and large tumour size, the following can be observed: saddle deepening and enlargement, saddle ridge erosion and calcification in the tumour [2,5].

Hormonally inactive pituitary tumours may present as incidentalomas, that is, they may be completely asymptomatic and detected incidentally during an imaging examination performed for another reason. Alternatively, they may be diagnosed in association with clinical symptoms resulting from pressure on the optic nerve junction or hypopituitarism. The incidence of tumour diagnosis has been increasing over the years and is related to the increased availability of modern imaging methods, and is now found in approximately 10% to 20% of patients [4]. Patients with hormonally inactive pituitary adenoma have multiple comorbidities and moderately increased mortality, mainly related to cardiovascular disease and infectious diseases [6,7].

The gold standard for morphological assessment of a pituitary adenoma is MRI with or without gadolinium contrast. A full neuro-ophthalmological assessment, including visual field and visual acuity testing, is required for visual complaints [2]. Treatment includes active surveillance,

surgery and radiotherapy. Currently, the standard technique is endoscopic or microscopic transbronchial resection of the adenoma [2,5]. Surgery can improve pituitary adenoma function in up to 30% of patients with pre-existing hypopituitarism. There is a risk of hormone deficiency after surgery in between 2% and 25% of cases. Tumour regrowth occurs in approximately 30% of patients treated with surgery [7]. Radiotherapy is only considered in cases where surgery is contraindicated, e.g. in patients with other serious comorbidities or in non-operative cases [2,5].

The intention of this study is to identify both the health situation and the most important nursing strategies. The study used an individual case study research method referring to the nursing process.

Several types of research techniques and tools were used in order to obtain the right amount of data and information about the patient's health status, as well as her medical history. The main source of information was an interview with the patient, as well as with her family. A physical examination was an integral part of the interview. Observation was also used to gain a more detailed understanding of the patient and her involvement in the therapeutic process. Medical records were analysed to understand the patient's medical history, as well as her examination findings. The patient was assessed on the basis of tools, questionnaires, as well as standardised scales such as:

- the Visual Analogue Scale (VAS);
- the Acceptance of Illness Scale (AIS);
- the Lawton ADL Scale: a scale of complex activities of daily living;
- the Adherence in Chronic Diseases Scale (ACDS): a scale used to examine the implementation of the therapeutic plan in terms of pharmacotherapy;
- the Multidimensional Scale of Perceived Social Support (MSPSS).

A case report

Background data
Sex: female
Age: 71 years

Medical diagnosis: hormonally inoperable pituitary macroadenoma
Comorbidities:
- type 2 diabetes mellitus;
- ischaemic heart disease;
- hypertension;
- hypothyroidism and adrenal insufficiency.

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Medical history

On 14.04.1990, a woman aged 38 years was admitted with worsening headaches and vomiting to the Infectious Diseases Ward of a hospital in Poland. The following day she was referred to the Department of Neurosurgery with a suspected expansive intracranial lesion. Meningeal syndrome was diagnosed and a cranial X-ray showed destruction of the Turkish saddle. During hospitalisation, the meningeal symptoms withdrew. The patient did not consent to the proposed surgical treatment, so she was discharged home with a recommendation for follow-up in one month. The first surgery to remove the pituitary macroadenoma via the transsphenoidal route took place in 2005. During follow-up visits in between 2006 and 2008, due to the hormonally inactive nature of the tumour and the stable MR image (no regrowth), reoperation was not proposed but further follow-up visits were recommended. On 16.03.2010, surgery was performed to remove the outgrowth of the inactive pituitary adenoma. The surgical treatment again took place without

complications. On 08.11.2011, the last surgical procedure for partial removal of the tumour took place, endoscopically via the transsphenoidal route. Right fibula nerve palsy was diagnosed on the second postoperative day and left adductor nerve palsy was on the third day, without binaural visual disturbances. The patient complained of headaches. Follow-up CT and MR imaging of the pituitary showed fresh postoperative changes and swelling of the residual tumour parts in the cavernous sinuses. Given the small chance of removing the residual tumour from both cavernous sinuses and the associated risk of life-threatening complications, the lack of visual disturbances but only oculomotor disturbances, reoperation was abandoned and conservative treatment was continued. The patient continued to attend follow-up appointments, the last one taking place on 20.07.2022. In 2019, the woman developed COVID. A complication of the disease was excessive hair loss and deafness of the left ear. The patient has been widowed for eight years and has three children. She lives in the countryside with her son, his wife and their child. The family situation and housing conditions are good. The patient has a vocational education. She supports herself with a pension. Physical examination revealed:

- respiratory system: breathing normal, exertional dyspnoea;
- cardiovascular system: pulse normal, swelling of feet and ankles, varicose veins on right calf;
- gastrointestinal system: weight normal, appetite and thirst normal, constipation, nausea and vomiting, diabetic diet;
- genitourinary system: without disorders, diuresis normal, menstrual disorders and premature menopause at 30 years of age;
- nervous system: full consciousness, palsy of nerve III and VI;
- musculoskeletal system: patient walking, joint mobility limited, muscle tone normal;
- skin: clean, dry, dull, warm, good hygiene condition;
- sight: nerve palsy III and IV, reading glasses;
- hearing: deafness of left ear;
- sleep: sleep disturbance (difficulty falling asleep, awakening during the night, daytime sleepiness);

– pain: headaches (six points on the VAS scale), right wrist pain (five points on the VAS scale);
– other: chronic fatigue, upper and lower dentures, disability group (moderate degree). After performing the tests and scales, the following results were obtained:

a) AIS questionnaire: the patient scored 22/44 points, indicating an average level of acceptance and adaptation to the disease.
b) ADL Scale according to Lawton: patient scored 23/27 points indicating that she needs little assistance in performing some complex activities of daily living.
c) ACDS scale: the patient scored 27/28 points, indicating a well-implemented therapeutic plan in terms of pharmacotherapy.
d) MSPSS scale: the patient scored Friends 27 points, Family 27 points and Significant Person 25 points, results indicating a high degree of social support.

After data collection and examination, the patient's main health problems were identified, nursing diagnoses and a nursing intervention plan were formulated, and the effects of care were assessed.

Nursing diagnosis

Nursing diagnosis 1:
headache (six points on the VAS scale) due to pressure of the tumour on adjacent structures, manifesting itself in increasing frequency and intensity.
Purpose of care:
reduction of pain.
Nursing interventions plan [8,9]:
– administration of pain medication as prescribed by the doctor;
– talking to the patient about the intensity and type of pain;
– assessment of pain according to the numerical VAS scale;
– observation of vital signs (blood pressure, pulse, respiration, temperature, glycaemic value, saturation);
– application of cold compresses that can relieve pain;

– identifying factors that may increase pain;
– ensuring the patient is quiet and calm;
– introduction to relaxation techniques, music therapy
– evaluating the effectiveness of the administered medicine, reporting to the doctor about side effects or resistance to the medicine;
– making the patient aware of the need to report pain immediately;
– documentation of actions.

Justification for implementing nursing interventions:
pain is a subjective indicator of an ongoing process in the body. The patient's definition of pain is the basis for the response and choice of intervention. Pain increases stress, which in turn can exacerbate pain. By eliminating stressors, learning relaxation, pharmacotherapy and non-pharmacological ways of relieving pain, the patient can be relieved of pain and feel better.

Interventions aimed at reducing pain. Assessment of pain parameters and vital signs will help to select appropriate interventions to reduce the patient's perception of pain. In addition, the use of cold compresses can relieve pain, which also contributes positively to wellbeing [10,11].
Evaluation of care outcomes and nursing interventions undertaken:
pain has been relieved (zero points on the VAS scale).

Nursing diagnosis 2:
pain in the right wrist (five points on the VAS scale) resulting from prolonged and regular overloading of the dominant hand, which is bothersome during extreme ranges of movement and carrying objects.
Purpose of care:
to relieve pain.
Nursing interventions plan [8,12]:
– administration of analgesic and anti-inflammatory medication as prescribed by the doctor;
– talking to the patient about the intensity and type of pain;
– assessment of pain according to a numerical VAS scale;
– observation and gentle palpation of the painful area;
– avoiding positions and activities that aggravate pain;

– relieving the wrist with an orthosis, wrist brace or splint;
– application of medication in the form of an ointment (calendula flower extract/chestnut bark) or gel (e.g. aluminium acetate 1%), which have anti-inflammatory, anti-coagulant and anti-oedema effects;
– applying a compress to the sore area;
– recommending the use of ergonomic principles when lifting;
– encouraging the use of physiotherapy.

Justification for implementing nursing interventions:
the use of pharmacological and non-pharmacological methods as well as rehabilitation and ergonomic principles during daily activities will minimise pain [10,11].
Evaluation of care outcomes and nursing interventions undertaken:
the pain has been relieved (zero points on the VAS scale).

Nursing diagnosis 3:
nausea and vomiting associated with hypothyroidism, accompanied by symptoms of weakness and discomfort.
Purpose of care:
elimination of nausea and vomiting. Prevention of dehydration.
Nursing interventions plan [8,9]:
– administration of antiemetic and rehydration medications as ordered by the physician;
– assessing and documenting each episode of nausea and/or vomiting;
– safeguarding the patient against choking;
– ensuring hygiene of the patient and the environment;
– encouraging the patient to rinse her mouth with water after each vomiting episode;
– ventilating the room to eliminate persistent odors;
– observation of vital signs;
– observation of hydration status of the patient (assessment of skin tone and elasticity, moisture content of mucous membranes, elasticity of eyes, degree of filling of jugular veins);
– conducting fluid balance;

- encouraging the patient to consume cool drinks and at least 1.5 litres a day;
- recommending eating frequently but in small quantities, eating slowly and without sipping during meals, and resting in a sitting position after meals;
- to improve the taste, recommend sucking on a peppermint and rinsing the mouth after each meal;
- advising the patient to take deep breaths through the mouth to reduce the sensation of nausea;
- educate the patient on the management of a recurrence of an episode of nausea and/or vomiting.

Justification for implementing nursing interventions:
hypothyroidism can cause gastrointestinal disorders and contribute to the presence of symptoms in the form of nausea and vomiting. Improving wellbeing and quality of life after treatment by relieving gastrointestinal symptoms promotes a reduction in discomfort and prevents dehydration. Adequate hydration is equally important to counteract dehydration and weakness. An adult should drink about two litres of fluids a day to ensure optimal body function [10].
Evaluation of care outcomes and nursing interventions undertaken:
discomfort resolved. Patient adequately hydrated.

Nursing diagnosis 4:
constipation caused by reduced peristalsis due to slowed metabolism in hypothyroidism, manifested by a constant feeling of heaviness and fullness in the abdominal cavity.
Purpose of care:
regulation of the bowel cycle, reduction of abdominal discomfort.
Nursing interventions plan [8,13]:

- evaluate bowel function, diet, physical activity, constipation measures taken, sensation of changes in the anal area and stool pattern;
- suggest keeping a bowel movement diary with information such as time of day, consistency, volume, frequency, bowel difficulties and use of bowel aids;

- recommend a fibre intake of 20 g per day and gradually increase the amount of fibre in the diet;
- recommending the intake of 1.5 to 2 litres of fluids per day;
- suggesting the use of cereal bran mixes, apple puree and dried prunes;
- recommending increasing the patient's physical activity;
- adopting a comfortable, physiological position during defecation;
- conversation with the patient about the medications she is taking, recommendation to avoid long-term use of laxatives.

Justification for implementing nursing interventions:
constipation is a common clinical problem causing many discomforts that significantly reduce the comfort of life. Constipation should be carefully diagnosed and treated according to the identified cause. Treatment and therapy includes identification and elimination of the causes of constipation, but most importantly, lifestyle changes (eating habits and increased physical activity). Treatment primarily involves the administration of osmotic and stimulant pharmacological laxatives. Patient education and support in the long-term process of lifestyle change are extremely important [10,14].
Evaluation of care outcomes and nursing interventions undertaken:
normal bowel cycle restored and comfort in the abdominal cavity.

Nursing diagnosis 5:
increased risk of falls for the patient due to visual impairment resulting from paralysis of the third and sixth optic nerve.
Purpose of care:
to minimise the risk of falling and assist with some activities of daily living.
Nursing interventions plan [8,9,15]:

- assessment of the patient's degree of independence;
- prevent physical injury by assisting the patient in an unfamiliar place, preventing collision with other people or objects;
- suggest wearing flat-heeled shoes with a non-slip sole to stabilise the ankle joint;
- suggesting the use of wall brackets or special chairs when bathing;

- recommending gradual standing up after a long stay in bed;
- using a walking stick, holding on to handles or having a third party help for longer walks and mobility difficulties;
- suggesting the arrangement of everyday objects so that it is not necessary to climb on chairs or bend excessively;
- installing proper lighting;
- securing angular elements in the dwelling;
- avoiding steep stairs, slippery surfaces and moving carpets;
- providing assistance from family or third parties in complex activities of daily living.

Justification for implementing nursing interventions:
the selection of interventions and investigations should be based on the patient's history and risk of falls. A sense of safety, comfort and minimisation of anxiety is the basis for preparing the patient to function independently. Eliminating threatening, external, environmental, residential factors will significantly contribute to reducing the risk of falls [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient's self-care needs and ability were determined and the risk of falls was eliminated.

Nursing diagnosis 6:
limitations in performing daily tasks, reduced independence, resulting from hypothyroidism, manifested by excessive fatigue.
Purpose of care:
to improve the patient's quality of life by minimising feelings of fatigue and regulating thyroid hormone levels.
Nursing interventions plan [8,16]:

- to assess the severity of fatigue and the frequency of its occurrence;
- checking medications taken by the patient for side effects in terms of increasing fatigue symptoms;
- identification of factors that may exacerbate fatigue: frequent lying in bed and frequent daytime naps, lack of activating activities, nausea and vomiting;
- assessing the patient's ability to perform activities of daily living;

– setting small, easy and short-term goals;
– encouraging the patient to keep a diary of daily activities and record symptoms and feelings related to fatigue;
– encouraging the patient to express feelings related to fatigue;
– familiarise the patient with magazines and websites on fatigue;
– teaching the patient energy-saving strategies, e.g. sitting instead of standing while showering;
– encouraging the patient to engage in physical activity appropriate to her condition;
– recommend follow-up visits to an endocrinologist and regular diagnostic tests to control thyroid hormones.

Justification for implementing nursing interventions:
controlling hypothyroidism by regular visits to the doctor and examinations, as well as constant use of medication and adjustment of diet and physical activity are the basis for well-being. Feelings of fatigue can be corrected by following a consistent daily schedule including rest, plenty of sleep and avoidance of stressors [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient recognises factors that exacerbate fatigue and applies the principles of fatigue control.

Nursing diagnosis 7:
excessively dry and dull skin associated with hypothyroidism, characterised by rough, wrinkled, scaly epidermis.
Purpose of care:
to restore normal skin condition.
Nursing interventions plan [17]:
– observation of skin coverings and documentation of pathological skin changes;
– recommendation to avoid long and hot baths;
– use of gentle pH-neutral preparations and thorough drying of the skin;
– use of light moisturising creams/emulsions designed for dry skin and containing UV protection, lubricating oils, and products containing substances such as urea, ceramides, glycerine;

– use of enzyme or algae scrubs to exfoliate the skin;
– diet containing fresh fruit and vegetables, nutritional products rich in vitamins B, C and E, omega-3 and omega-6 acids;
– recommendation to take about two litres of fluids per day.

Justification for implementing nursing interventions:
metabolic dysregulation in hypothyroidism affects many organs and systems. Dry skin in hypothyroidism is one of the most characteristic, annoying symptoms, but also one of the easiest to eliminate. Pharmacological treatment of hypothyroidism, complemented by dietary treatment and skin care, becomes the overriding goal [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient's skin condition has improved.

Nursing diagnosis 8:
excessive hair loss and brittleness due to hypothyroidism and a history of COVID-19, manifested by thin, sparse hair and mental discomfort.
Purpose of care:
to strengthen the condition and reduce hair loss and improve the patient's wellbeing.
Nursing interventions plan [18]:
– conversation with the patient regarding hair loss for her situation and disease entities;
– recommending the use of mild shampoos and rinsing hair with lukewarm water;
– performing scalp massage with hair growth rubs;
– suggesting the use of soft hair brushes;
– recommending the use of heat-protection products, low heat and a minimum distance of 15 cm of the hair dryer from the head when drying hair;
– giving up the use of flat irons and limiting the use of hair styling products;
– suggesting a diet containing iron zinc, vitamins A, E, D, biotin, omega-3 fatty acids;

– intake of 1.5 to 2 litres of fluids per day;
– recommendation to see a dermatologist and a trichologist.

Justification for implementing nursing interventions:
hair loss related to hypothyroidism, aggravated by a previous COVID-19 infection, is a problem for the patient due to the lack of acceptance of her appearance and the associated mental discomfort. Nursing interventions based on education and nursing activities have brought measurable benefits. It should be remembered that hypothyroidism is an unfortunate disease, so actions should be constant and systematic, taking into account the control of the underlying disease [10].
Evaluation of care outcomes and nursing interventions undertaken:
patient's hair condition and well-being improved.

Nursing diagnosis 9:
decreased physical performance resulting from reduced cardiac output manifesting as dyspnoea on exertion.
Purpose of care:
to increase exercise tolerance.
Nursing interventions plan [19,20]:

– assessing the patient's physical capacity and response to exercise;
– encouraging the patient to engage in physical activity appropriate to her exercise capacity and health status;
– identifying and eliminating factors and situations that may exacerbate dyspnoea;
– in case of exacerbation of the disease, placing the patient in a high or semi-high position;
– monitoring of vital signs (blood pressure, pulse, respiration);
– assessing the patient's skin tone;
– recommending the use of loose, cotton personal undergarments;
– reducing distress and anxiety associated with dyspnoea – being present and talking about concerns;
– teaching the patient and motivating her to perform breathing exercises;
– participating in pharmacological treatment as ordered by the doctor;
– documenting the measures taken.

Justification for implementing nursing interventions:
diagnosing and observing the patient is an indispensable element of the intervention in order to quickly observe undesirable symptoms related to dyspnoea and exercise intolerance. It is required to follow pharmacological recommendations and to use physical activity and breathing exercises [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient's physical capacity has increased.

Nursing diagnosis 10:
increase in the amount of fluid in the body caused by impaired cardiac systolic function due to ischemic disease and venous insufficiency, manifested by dough-like swelling of the feet and ankles of the lower limbs, a feeling of heaviness in the legs and varicose veins of the right calf.
Purpose of care:
elimination of swelling and varicose veins. To improve the patient's comfort.
Nursing interventions plan [8,16]:
- control of swelling and varicose veins including location and size;
- observation of pathological skin changes;
- daily monitoring of body weight;
- controlling the volume of fluid intake and excretion;
- monitoring of vital signs;
- prescribing a low-sodium diet;
- intake of a maximum of 1.5 to 2 litres of fluids per day;
- recommendation to use loose, cotton personal and bed linen;
- recommending the use of pH-neutral cleansers and thorough drying of the skin in the swollen areas with a soft towel;
- use of skin lubricating products;
- if fractures occur, making aseptic dressings with antiseptics;
- temporary positioning of the limbs above the level of the heart with the use of amenities;
- improving the blood supply to the skin by massaging in a cardiac direction;

– selection and use of compression stockings;
– adaptation of exercises to the patient's current state of health;
– avoiding prolonged standing and sitting;
– avoiding wearing tight trousers and high-heeled shoes;
– avoiding overheating: avoiding hot baths, saunas and tanning beds;
– documenting the measures taken.

Justification for implementing nursing interventions:
daily, constant observation of the places where oedema occurs will allow the patient to quickly notice any changes and decide whether the nursing interventions are effective. Proper skin care protects against possible skin cracking and infection. Gymnastics, physical activity, isometric exercises, diet and control of fluid intake and excretion will reduce swelling [10,21].
Evaluation of care outcomes and nursing interventions undertaken:
swelling and varicose veins of lower limbs decreased. The patient's sense of comfort improved.

Nursing diagnosis 11:
sleep disorders due to the underlying disease and comorbidities, manifested by difficulty falling asleep, waking up at night, getting up early, fatigue, low mood.
Purpose of care:
to obtain effective sleep.
Nursing interventions plan [8]:
– patient interview to assess the patient's functioning in terms of comorbidities and sleep disturbances;
– assessment of the patient's nightly rest conditions;
– monitoring of sleep patterns: time, naps, night waking;
– eliminating external factors interfering with sleep (e.g. light, noise from passing room);
– using calming and relaxation techniques before bedtime e.g. listening to soft music, reading, drinking warm non-wakeful drinks;
– limiting external stimuli immediately before bedtime;
– encouraging physical activity during the day e.g. walking;
– avoiding sleeping during the day and reducing activity in the evening;

– use of pharmacotherapy as prescribed by a doctor;
– documentation of actions taken.

Justification for implementing nursing interventions:
sleep disorders and the associated fatigue and irritability contribute to the patient's poor well-being. The long-term condition related to sleep disorders increased the patient's fatigue and symptoms of discomfort. The implemented nursing interventions regarding everyday hygiene and sleep hygiene improved the quality of sleep [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient falls asleep without difficulty, wakes up less often during the night, and gets up later.

Nursing diagnosis 12:
increased risk of pituitary stroke and complications from comorbidities including diabetes mellitus and hypertension.
Purpose of care:
to prevent life-threatening conditions and reduce the risk of complications.
Nursing interventions plan [22]:
– talk to the patient to educate her about risk factors for pituitary stroke, as well as other complications due to the patient's comorbidities;
– encourage a self-monitoring diary of blood pressure and blood glucose measurements;
– recommend measuring blood pressure and blood glucose after each exercise;
– advising to limit exercise when pain and dizziness are present;
– advising to avoid situations that may exacerbate a rise in blood pressure;
– avoiding prolonged standing and staying in poorly ventilated rooms;
– recommendation to eat regularly four to six times a day, in small portions and at fixed times;
– restriction in the diet of meat products, fried foods, consumption of products containing table salt, and avoidance of coffee and alcohol;

- recommending the inclusion in the diet of products such as wholegrain products, dark bread, cereals, poultry meat, fish, sauerkraut, tomatoes, lean cottage cheese, olive oil, vegetable margarine;
- offering healthy snacks in the form of raw vegetables and fruit;
- drinking 1.5 to 2 litres of fluids a day, eliminating sweetened and carbonated drinks from the diet;
- making the patient aware of the need to systematically take the medicines prescribed by the doctor and to contact the doctor in case of lack of therapeutic effects.

Justification for implementing nursing interventions:
the increased risk of stroke in the course of chronic diseases and existing risk factors requires patient education and effective, ongoing nursing interventions. Normalising blood pressure and glycaemic levels through pharmacological actions and lifestyle changes significantly reduce the risk of stroke [10].
Evaluation of care outcomes and nursing interventions undertaken:
the patient was educated about the risk factors and how to prevent them from developing.

Summary

The intention of this study was to recognise the health situation and identify the most important nursing and health care problems of a patient with hormonally inactive pituitary macroadenoma and to develop an individual nursing care plan. The aim of the study was achieved. Through the use of a detailed interview, careful observation and the use of a range of research tools, it was possible to make a detailed assessment of the patient's health situation and to undertake nursing interventions.

The problems/nursing diagnoses in the nursing process were arranged in a hierarchical manner. This made it possible to present all the problems, starting with the most distressing and finishing with the least distressing, but which could have a significant impact on the patient's quality of life. The main health problems of a patient with a pituitary macroadenoma were clinical symptoms related to the tumour mass and pressure on

adjacent structures, these included headaches, nausea, vomiting, visual disturbances and related consequences. Some of the health problems were due to the lack of hormonal function of the tumour and included symptoms such as constipation, excessively dry and dull skin, chronic fatigue, excessive hair loss and disturbed sleep patterns. A number of complaints related to the patient's comorbidities were also observed.

The implementation of nursing care for the patient with pituitary macroadenoma was based on the application of measures aimed at reducing complaints, eliminating possible complications, increasing the patient's level of independence, as well as providing education and counselling on lifestyle changes and coping with the limitations imposed by the disease. As a person with a pituitary tumour struggles with numerous changes in his or her appearance and requires a change in lifestyle, education on care activities is extremely important. Psychological support of the patient is also a particularly important element in order to provide a sense of security, increase quality of life and improve personal and social functioning.

Conclusions

A hormonally inactive pituitary macroadenoma significantly disrupts the patient's functioning in all areas of life and causes a range of health complaints related to the lack of endocrine function and the tumour mass and pressure on adjacent structures, requiring a multifaceted approach on the part of the nurse.

The care of a patient with a pituitary tumour requires an individual and holistic approach on the part of the nurse, taking into account the patient's needs and opportunities for activities of daily living in order to ensure a better quality and improved quality of life.

The role of the nurse in the care of a patient with a pituitary macroadenoma is to provide health education, encourage the use of knowledge and care for one's own health, develop coping skills, prepare the patient for informed self-care and provide psychological support to the patient.

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