

# NURSING CARE OF A PATIENT WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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## ABSTRACT

**Introduction:** Systemic lupus erythematosus is one of the connective tissue systemic diseases that is caused by direction of the immune system in an organism against cells and tissues of its own body, which is commonly called autoimmunity. In the course of the disease, many organs and tissues are damaged. The disease is characterised by many symptoms, a very diverse course, and periods of exacerbation and remission. Systemic lupus erythematosus can have quite a mild course, but there are also severe forms, even life-threatening.

**Aim of the study** was to show the clinical aspects of systemic lupus erythematosus, its causes, symptoms, and methods of treatment and prevention, as well as the planning nursing care of a sick person.

**Material and methods:** The work was based on the method of a case study: a patient suffering from SLE for 17 years, in whom analysis of medical records, casebook, observation sheets, and the results of diagnostic tests as well as the anamnesis and observation of the patient were used. To assess the patient's state the following scales were used: VAS, Tinetti, GDS, and Barthel, as well as measurements of BP, pulse, and temperature.

**Results:** On the basis of the analysis of documentation, anamnesis, observations, and measurements, the patient care process was developed, defining diagnoses and objectives, and nursing activities were planned.

**Conclusions:** Individualised nursing care carried out on the basis of a detailed diagnosis contributed to the improvement of the patient's comfort of life and the improvement of her mental and social functioning.

**Key words:** nursing care, systemic lupus erythematosus, study case.

## INTRODUCTION

Systemic lupus erythematosus (SLE) is a chronic, multi-organ, autoimmune disease of connective tissue, which develops as a consequence of complex disorders of the immune system and the cause of which is not fully understood [1-4]. It is characterised by a great variety of symptoms as well as recurrent periods of exacerbations and remissions [3]. Systemic lupus erythematosus consists of affecting tissues and damaging many organs as well as cells through auto-antibodies and immunological complexes that bind to tissues [5]. They can concern almost all systems of the human body [1]. The most severe forms of systemic lupus erythematosus occur with the affection of the cardiovascular system, lungs, nervous system, and kidneys [6]. The pathogenesis of the disease in-

cludes the role of hormonal, genetic and environmental factors, which may be responsible for the complex immunological phenomena [2]. The disease can lead to disability and premature death [1].

The incidence of lupus in the Caucasian population reaches 20-50/100,000. Every year, 3-5/100,000 people are diagnosed this disease, and about 2/3 of the cases occur in people between 16 and 55 years of age [6]. Due to the autoimmune background, SLE gives multi-organ symptoms and thus creates various clinical pictures. The symptoms that result from lupus activity are difficult to identify in a clear-cut way because both the treatment of the disease and its possible complications can change the clinical picture in various ways [7].

The symptoms of systemic lupus erythematosus can be divided into "general" symptoms, which are

often the first symptom of lupus, but they may also indicate its exacerbation – these are usually the feeling of weakness and great fatigability, general malaise, body temperature above 37.5°C, lymphadenopathy above 1 cm of diameter, loss of appetite, nausea, and unintentional weight loss above 5% [1, 3, 7]. Organ changes in the course of lupus, as mentioned earlier, may refer to skin, mucous membranes, joints, muscles, pleura, circulatory system, and nervous system, in the form of polyradiculopathy, mononeuropathy, polyneuropathy, nerve plexus palsy, and myasthenia gravis [3]. Moreover, during the first two years, lupus nephropathy, nephrotic syndrome, and changes in the salivary glands and conjunctivas may occur, as well as inflammation of the optic nerve and retinal vessels [5, 8].

The diagnostics of lupus erythematosus in Poland involves evaluation of disease activity using the SLEDAI scale [1]. The patient also undergoes haematological tests, ESR, CRP, electrolyte, and urea concentration, as well as immunological tests of ANA and dsDNA antibodies. An additional element of the diagnosis is medical imaging, such as chest X-ray, computed tomography, as well as kidney diagnostics and skin biopsies for the presence of IgG and complement deposits. In the case of suspected CNS lupus, magnetic resonance imaging is necessary [9].

Treatment of SLE depends on the form and phase of the course of the disease [1]. In the active form, which threatens organ function, intensive immunosuppressive therapy is initiated, and in the case of organ dysfunction resulting from the thrombotic process, caused by the secondary antiphospholipid syndrome, systemic anticoagulation and mild immunosuppression are implemented [1, 2].

Apart from the pharmacological treatment, an extremely important factor is a change in the patient's lifestyle: avoiding exposure to ultraviolet and solar radiation, eating a balanced diet, and undertaking physical activity adapted to the patient's fitness, as well as acquiring stress management skills. The nurse's task will therefore be to undertake activities connected with the implementation of the doctor's recommendations, especially during periods of exacerbation of the disease, as well as to provide systematic health education concerning lifestyle changes that will condition better quality of life and reduce the probability of subsequent relapses. An important aspect of the relationship between the nurse and the chronically ill patient is also to provide emotional support and to strengthen personal resources [10-12].

## AIM OF THE STUDY

The aim of the work was to characterise the care of a female patient with diagnosed systemic lupus erythematosus, its impact on health improvement

and the functioning of the ill person, and to present options of disease treatment and prevention of periods of SLE exacerbation. A model of individualised nursing care was presented, in which caring diagnoses typical of this disease entity were included along with the care goals and plan. They show the complexity of the problems, which concern both the physical and psychosocial sphere of the patient.

## MATERIAL AND METHODS

In the research, the method of an individual case study was used. In order to make accurate nursing diagnoses, the following were analysed: the female patient's medical record, casebook, observation sheets from hospital stays, and the results of diagnostic tests. Another method of collecting data was observation of the patient and her functioning in everyday life. In order to collect information on the patient's bio- and psychosocial status, interviews were conducted with the patient, and the following scales were used: Visual-Analog Scale (VAS), TINETTI Scale, Geriatric Depression Rating Scale, and the Barthel scale. The basic vital parameters, blood pressure, heart rate, and temperature were also measured. During the process of documenting the collected information, a self-made interview form and sheets of diagnostic scales were used. The research was conducted in the period from January to March 2018, at the patient's place of residence. The research was carried out in accordance with the Declaration of Helsinki.

## RESULTS

Systemic lupus erythematosus was diagnosed in the patient on March 15, 2001. Since 1983, she had been treated for psoriatic arthritis. The therapy did not improve the patient's state and the symptoms did not subside. In 2001, she sought medical attention due to the pain of the whole body, in particular the joints of the upper and lower limbs and the head, as well as increased scaling of the scalp and outflow of purulent content from this area. The patient was prescribed methylprednisolone and analgesics, after which the pain decreased and the symptoms weakened. At the turn of 2006 and 2007, her lupus exacerbated, which was confirmed by positive results of antinuclear antibodies (ANA) against double-stranded DNA (dsDNA), and increased ESR index. At that time, the patient was hospitalised because of pain and swelling of the upper and lower limb joints limiting mobility.

Due to the occurrence of systemic lupus erythematosus, the patient is weakened, and the exercise tolerance is reduced, she has problems with balance and locomotion. She often has attacks of joint pain and headaches. On the VAS scale, the patient assesses her pain at level 6, occasionally the pain reaches

level 10. As a result of the disease, the range of joint mobility has decreased. She moves with the help of a stick. She lost her hair, especially on the parietal lobe of the scalp, which negatively affects her sense of self-confidence and contact with people. The patient also reports hypersensitivity to sunlight.

The patient is a widow living alone. Her socio-economic conditions are very good, she lives in a detached house. The patient denies genetic diseases occurring in her family. The patient was born on March 12, 1954 in Dębica. Her height is 170 cm, weight 95 kg, BMI 32.87 (first-degree obesity), blood pressure 125/85 mmHg, heart rate 95 bts/min, well palpable, regular, normal breath, regular, odourless, cough does not occur. The patient has chronic swelling of the lower limbs, especially the lower left limb, no signs of cyanosis. She is an independent person, both in performing basic everyday activities and in keeping the house, but she requires help in the periods of pain exacerbation (VAS 10). Whilst moving and performing basic activities of daily life she is accompanied by effort dyspnoea and dizziness. Moreover, the patient suffers from balance disorders. The patient complains about sleep problems caused by pain in the shoulder, elbow, hip and knee joints, as well as the lumbar spine, she can hardly sleep all night, and there are also episodes of sleepless nights.

The patient is aware of the time, place, and her own person, and she is in a good logical-verbal contact. She accepts her illness and actively participates in the treatment and rehabilitation process. The patient is a lonely person, but in every situation she can count on the help and support of her family.

The patient has broad knowledge of her illness, its symptoms, and ways of treatment and prevention. In order to avoid exacerbation of SLE, the patient follows the recommendations of her primary care doctors and nurses in everyday life, regularly makes follow-up visits, undergoes recommended tests, and diligently measures heart rate and blood pressure.

### Model of nursing care of a patient with lupus erythematosus

**Nursing diagnosis I:** Chronic pain of the joints and head caused by degenerative changes in the locomotor system.

Care objectives: Minimising pain, improving the patient's condition in 24 hours.

Care plan:

- assessment of the intensity of pain, its nature, and location, using the visual-analogue scale (VAS), as well as observation of non-verbal signs of pain, facial grimace, clenching the patient's hand into a fist twice a day,
- observation of factors triggering and intensifying pain twice a day,

- raising the pain threshold through elementary psychotherapy, ensuring a comfortable position while sitting and lying, as well as relaxation,
- using analgesics in accordance with the individual order sheet,
- doing active and passive exercises of upper and lower limbs (bending, straightening, rotation, pulling to and out, stretching exercises) adjusted to the patient's activity and current possibilities twice a day,
- helping the patient in performing everyday activities that are difficult for her during pain exacerbation VAS 10,
- providing the patient with comfortable underwear that will not restrict her movements,
- ensuring comfort and a safe environment,
- eliminating factors that increase pain.

**Nursing diagnosis II:** Limitation of mobility in the joints and weakening of muscle strength hindering movement and self-care.

Care objectives: Facilitation of locomotion and everyday activities by increasing mobility in the joints within a week.

Care plan:

- encouraging the patient to do regular active and passive exercises adjusted to her possibilities, preferably twice a day,
- co-operation with a physiotherapist and helping the patient in doing rehabilitation exercises,
- helping the patient in performing everyday activities that are physically too demanding for her, 100 points in Barthel scale,
- providing the patient with equipment facilitating locomotion,
- removing dangerous objects from the area in which the patient moves,
- enabling the patient to move safely thanks to the use of handles and handrails, ensuring good lighting of the rooms,
- observation of the patient and monitoring her vital signs (BP, heart rate, temperature) as well as their documentation, twice a day,
- creating suitable conditions for rest, ensuring peace and quiet, ventilation of the rooms,
- taking medicines by the patient in accordance with the doctor's recommendations.

**Nursing diagnosis III:** Risk of complications due to the treatment with glucocorticoids:

Care objectives: Prevention and early reduction of adverse effects of pharmacological treatment.

Care plan:

- talking with the patient and her family about taking medicines and the possibility of side effects of pharmacological treatment and teaching how to cope with them, once a week,
- informing the patient about the need to take medicines in accordance with the individual medical order sheet,

- medication adherence, i.e. making sure that the prescribed medicines are taken at the right times,
- observing the patient in terms of the appearance of alarming symptoms and encouraging her to perform self-observation and daily documentation of the symptoms,
- informing the patient about the need to report the intensification of symptoms,
- regular control of vital signs, such as heart rate, BP, and temperature, once a day,
- blood glucose control, after each change in treatment with steroids,
- control of calcium, cholesterol, and potassium levels, once a month,
- doing general fitness exercises adapted to the state and feeling of the patient, preferably twice a day.

**Nursing diagnosis IV:** Low self-esteem of the patient due to loss of hair in the parietal lobe.

Care objectives: Providing the patient with mental support, improving her self-esteem within a month.

Care plan:

- observation of the patient, her mood, and general feeling,
- talking with the patient, spending time with her,
- gaining the patient's trust as well as showing empathy, understanding, and acceptance,
- explaining the causes of discomfort,
- encouraging positive thinking,
- providing the patient with support, giving hope,
- motivating the patient to devote her free time to her interests,
- using a headscarf or a wig to minimise patient's discomfort due to excessive hair loss,
- encouraging the patient to maintain frequent contact with family and friends.

**Nursing diagnosis V:** Limiting social contacts due to a change in appearance, as a result of the disease process.

Care objectives: Help in overcoming fears and facilitating social contact.

Care plan:

- talking with both the patient and her family/friends, explaining the causes of the changes in her physical state,
- strengthening self-esteem, improving self-image by pointing out the strengths of the patient,
- encouraging the patient to meet family and friends,
- informing about the possibility of participating in the association "3majmy się razem" (Let's Stay Together),
- providing contact with a psychologist if necessary.

**Nursing diagnosis VI:** Effective sleep disorders due to joint and spine pain.

Care objectives: Improvement of the patient's condition by getting effective sleep.

Care plan:

- talking with the patient about the conditions in which she sleeps,
- assessment of her lifestyle and ways of spending free time,
- educating the patient on sleep hygiene, i.e. going to bed at the time of feeling tired, planning to read before sleeping, a short walk, listening to quiet music, getting up at a set time, giving up naps during the day, avoiding excessive intellectual effort, ventilating the room before going to bed, choosing the right room temperature, limiting consumption of caffeine and large amounts of simple sugars as well as large meals, once a week
- attempting to relax by: assuming a comfortable position, covering made of delicate, natural materials, using simple relaxation techniques.

**Nursing diagnosis VII:** Risk of injury caused by balance disorders.

Care objectives: Reducing the risk and ensuring safety for the patient.

Care plan:

- patient observation and assessment in terms of balance and gait disorders, according to the 17-point TINETTI scale,
- providing the patient with orthopaedic equipment facilitating locomotion, e.g. a stick,
- instructing the patient not to walk in too loose or too tight shoes, recommending buying shoes with a rubber sole,
- informing the patient about the need to cover any sharp edges in her flat,
- asking the patient's family to attach handles in the toilet and in the bathroom to facilitate holding and to buy an anti-slip mat,
- encouraging the patient to use other people's help.

## SUMMARY

Systemic lupus erythematosus is a rare autoimmune disease affecting mainly women at a young age. With its course it can attack any organ and tissue leading to their damage, and thus a disorder of the function of the whole body, which in some cases can even cause death. Thanks to constant advances in medicine, this disease can be diagnosed early and successfully. Undertaking appropriate, individually designed treatment and education on the prevention of SLE exacerbations allows long-term remission of the disease and prevents damage to organs and tissues. In this case it was found that:

1. The symptoms of systemic lupus erythematosus reduced the functional fitness of the ill person; in the examined patient the assessment of mobility indicates limitations requiring little help, which is connected with the current remission of the disease.

2. The patient possesses knowledge of the disease and knows the ways of preventing periods of exacerbation, which is why since 2007 there have been no symptoms of SLE exacerbation. However, complementary health education concerning diet, activity, coping with stress, and physical exercises can further improve the quality of the patient's life.
3. Social support plays an important role in coping with the disease. It provides a sense of security, both physical and psychological, and motivates the patient to fight this illness, especially during the periods of its exacerbation. The nurse's task is to give support, maintain hope, and inspire the patient to keep good social relations.
4. A person suffering from SLE may experience balance and gait disorders due to degenerative changes in the limb joints, as well as pain and dizziness. Planned nursing actions should prevent such situations; regularly performed general improvement exercises stimulated by a nurse and a physiotherapist are also of considerable importance.
5. Exacerbation of the course of systemic lupus erythematosus causes pains. Therefore, it can be acknowledged that this is an extremely important problem accompanying the patient, especially in exacerbation of the disease.
6. Systemic lupus erythematosus can cause depressive disorders resulting from its chronic character and symptoms, especially pain and physical limitations decreasing the comfort of life.

Nursing care plays an important role in the process of treatment of systemic lupus erythematosus. It helps patients to cope with the disease in their everyday lives, teaches how to deal with lupus symptoms, and prevents periods of SLE exacerbations. The nurse supports the patient, and mobilises the patient's family to give him or her the necessary help so that they do not feel lonely in their fight against the disease. Moreover, by undertaking educational actions connected with lifestyle and rehabilitation, she can contribute to improving their quality of life.

#### Disclosure

The authors declare no conflict of interest.

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