NURSING PROCESS IN A PATIENT WITH SEQUELAE ISCHEMIA

Bertha Alejandrina Vásquez Morán[1], Mariuxi Johanna Zurita Desiderio[2], Carmen Alejandrina Pacheco Cabrera[3], Martha Alejandra Chumacero Pacheco Técnico de laboratorio[4]

[1]*Msc. Universidad Técnica Estatal de Quevedo,bvasquezm@uteq.edu.ec ORCID: 0000-0003-3145-0920*
[2]*Msc. Universidad Técnica Estatal de Quevedo,, mzuritad@uteq.edu.ec ORCID: 0000-0001-9238-6251*
[3]*tutora de internado rotativo de la Universidad Técnica Estatal de Quevedo, cpachecoc2@uteq.edu.ec, https://orcid.org/0009-0003-7197-5251*
[4]*Universidad Técnica Estatal de Quevedo. mchumacerop@uteq.edu.ec. https://orcid.org/0009-0004-8514-0578*

KEYWORDS
stroke, older adult, nursing care.

ABSTRACT:

The present case study aimed to successfully apply nursing care of an ischemic cerebrovascular event in a geriatric patient by collecting data to determine key points and implement the possibility of an improvement in the patient's health through nursing care. Nursing care of geriatric patients affected by ischemia after ischemic stroke is crucial due to its impact on both mortality and quality of life of patients, highlighting the need for a comprehensive and specialized approach in the field of geriatric nursing. We present the case of a 72-year-old female patient with multiple comorbidities, including bronchopneumonia, acute respiratory failure, ischemic stroke, in addition to diabetes mellitus and hypertension. The patient was admitted with left brachio-crural hemiparesis, decay and decreased appetite. Her initial assessment revealed hemodynamic stability, but with evidence of respiratory compromise and cardiac findings such as left ventricular hypertrophy, as well as the presence of severe bronchospasm during invasive procedures, which led to the need for advanced life support. Throughout his stay in the intensive care unit he experienced recurrent complications, such as deterioration of renal function, bradycardia and hypotension events and finally a fatal episode of bleeding through the tracheostomy that resulted in irreversible cardiac arrest and his death on May 23, 2023.

1. INTRODUCTION

In the following case study, the challenges of nursing care in this context will be specifically addressed, considering both the clinical particularities of the geriatric patient and the latest scientific evidence. Through an interdisciplinary and evidence-based approach, it seeks to improve the understanding and implementation of optimal care strategies for patients with sequelae ischemia in the geriatric setting.

The objective of this study is to comprehensively address the nursing care required by a geriatric patient with sequelae ischemia. Best practices will be applied in prehospital assessment, therapeutic decision-making, and post-reperfusion care. Specialized and coordinated care plays a crucial role in the recovery of geriatric patients after an ischemic episode.

Cerebrovascular Accident (CVA) occurs when the blood supply to the brain is interrupted or when there is bleeding in it, being defined by the World Health Organization (WHO) briefly to the rapid growth of crucial or global symptoms compromising the capacity of the brain, presenting an interval of clinical manifestations during the 24 hours, which can lead to death, even without any cause of said vascular onset (1). The most common types are ischemic and hemorrhagic. Ischemic stroke is the most common, and is caused by a blockage of the normal flow of blood to the brain. Hemorrhagic stroke is less common but more lethal, and occurs when a blood vessel in the brain ruptures, causing a stroke (2). Thus, the present case study addresses the nursing care directed to a geriatric patient affected by sequelae ischemia. This problem acquires relevance due to its impact on both mortality and quality of life of patients, which underscores the need for a comprehensive and specialized approach in the field of geriatric nursing.

Taking into account that this disease is considered the # 3 cause of death in developed territories. It

is claimed that this disease increases
its incidence after the age of 60, when atherosclerotic processes reach their maximum expression. According to data from the World Health Organization, by 2050, 46% of the population will be over 65 years of age. This is a major public health problem since age is the main risk marker, therefore, the increase in the average age of the population conditions the increase in the percentage of strokes. Cerebrovascular disease is linked to habits, lifestyle and risk factors that can be identified early, in order to intervene in its prevention and control (3). Deaths from stroke increase, with respect to different sources, by 21-25% in the acute stage, usually being caused by hemorrhage (50%) as opposed to when it is ischemic (20-25%), with a percentage of 74% of losses in stroke of unidentified gender (4).
The classification is presented in 2 different categories: ischemic and hemorrhagic. Ischemic is caused by a blockage of the arterial vessels causing permanent deterioration due to ischemia; therefore, if the deterioration is temporary and resolves on its own, brief manifestations will arise, therefore, reference is made to a transient ischemic event, defined as an event of neurological deficiency due to cerebral ischemia, with a duration of 60 minutes (5).
It should be noted that the damage caused to the blood vessels that supply blood to the brain occurs when one of these vessels is obstructed by a clot "embolism or thrombus" or "hemorrhage" ruptures, which does not allow blood to reach the brain cells, so that they die in greater or lesser quantities because they do not receive the necessary oxygen and nutrients; It is also known as stroke, stroke, stroke, or stroke. Strokes are one of the most frequent reasons for admission to emergency departments (6).
Stroke was responsible for 5,106,125 deaths in 1998, being the second cause of death for both sexes, mainly in the age groups over 60 years and 45-59 years. It is surpassed only by coronary ischemic disease. Primary and secondary prevention of stroke is focused on the control of high blood pressure, hyperlipidemia, diabetes, cigarette smoking, obesity and a sedentary lifestyle

The cerebrovascular diseases or strokes are caused by acute circulatory disorders at the level of the cerebral vessels, and give rise to a transient or definitive alteration of the affected regions of the brain (7).
As a result, 30-40% had serious sequelae and for this reason it is defined that 60% are people with low sequelae or without consequences, only 6% of people with severe initial paralysis present absolute improvement in their mobility (8).
A sedentary lifestyle and poor diet are directly related to stroke, as they are associated with various risk factors. The symptoms that usually develop in a stroke patient range from a headache to difficulty walking and numbness in the legs, face and arms. These are usually secondary to an acute stroke, where seizures, encephalopathies, migraines occur; These symptoms are usually sudden rather than progressive. Stroke patients have an estimated life prognosis of 80%; therefore, the surviving population presents a neurological sequelae that includes side effects such as aspiration, heart disease, loss of mobility. The complications following an ischemic stroke are bronchoaspiration, having the highest rate of morbidity and mortality, so we must have a due evaluation to avoid future complications in swallowing; in turn, temporary or permanent disability will depend on the time that blood stopped passing to the brain and the affected part (9).
The initial assessment should include: evaluation of the airway, breathing and circulation (10). Risk factors can be modifiable or non-modifiable, with most modifiable factors. Among the non-modifiable factors, age corresponds to the heaviest risk factor, and among the modifiable factors, arterial hypertension (HTN) is identified as the most prevalent associated factor (11).
Doctors around the world have realized that brain tissue can be saved if patients are evaluated in a timely manner and appropriately treated appropriately. Individuals with cerebral ischemia do not usually go to the doctor of their own volition, as they rarely feel pain and do not always realize or are able to recognize their suffering. In these cases, the one who requests help is usually a family member or casual bystander. Consequently, patients and their families should be advised to seek emergency services as soon as they notice any of the following signs: changes in vision, gait, speech, or understanding; or unexpected severe headache (12).

The general objective of this study is to comprehensively describe nursing care for a geriatric patient with sequelae ischemia resulting from an ischemic cerebrovascular event.

SPECIFIC OBJECTIVES.

1. To review in detail the geriatric patient's medical history, medical history, risk factors, and characteristics of the ischemic cerebrovascular event that led to the sequelae ischemia.
2. To apply nursing interventions in an ischemic cerebrovascular event, focusing on the administration and monitoring of pharmacological therapies, as well as on the continuous evaluation of the nursing care provided, highlighting the surveillance of possible complications, and the promotion of neurological recovery.
3. Evaluate the individualized care provided by nursing staff, considering the specific needs of the geriatric patient and tailoring interventions according to their state of health and neurological well-being.

1.1. Patient's medical history.

A 72-year-old female patient, who went to the emergency area of the Hospital on May 4, 2023. Who presented a series of previous medical conditions that require specific attention and care. The patient's primary diagnosis included a number of medical conditions that are critical to her comprehensive care. She was diagnosed with bronchopneumonia, acute respiratory failure due to bronchoaspiration, and ischemic cerebrovascular disease. In addition, he had a history of insulin-dependent diabetes mellitus and hypertension. These pre-medical conditions were essential to understanding his situation and guiding his treatment. She was admitted in a wheelchair in the company of her family member because she presented a 2-day clinical picture with left brachio-crural hemiparesis in addition to decay and decreased appetite.

Regarding the initial assessment, the patient was alert and conscious, hemodynamically stable, which facilitated the communication and evaluation of his health status. Cardiac auscultation showed a sinus rhythm with a normal axis and absence of cardiac arrhythmias or conduction disorders, and signs of left ventricular hypertrophy were noted in the evaluation. Mild edema in the left lower limb. Peripheral pulse synchronized and in accordance with the heart rhythm. Low-pitched heart sounds, murmurs do not impress, globally diminished vesicular murmur, crackling wet rales are auscultated in both lung fields, hemodynamically stable patient with blood pressure figures 130/70; heart rate 83 bpm; respiratory rate 20 rpm; oxygen saturation 98%; temperature 36ºC, genitourinary urinating through a bladder catheter with a water balance of 800 patients, urine 200 ml, positive water balance of 600 ml, no drug allergies. In addition, the orotracheal tube was removed a little since it impresses selectively ventilating towards the right lung.

According to their complementary examinations, azo urea was reported in 67; creatinine at 1.30, in the rest of the laboratory tests the most relevant that was reported to us: White blood cells 21.99, Red blood cells 2.52, Hemoglobin 7.3, Hematocrit 22.5, platelets 366, neutrophils 93.6, lymphocytes 2.6, monocytes 3.2,

glucose 220, urea 67, creatinine 1.30, TGP 54, TGO 71, LDH 365, GGT 11. Sdra moderate. Mortality 32%.

During the placement of the nasogastric tube, a respiratory event was performed where reflux was observed in the airway and decompensated, reaching 66% cyanotic saturation, performing severe bronchospasm with respiratory arrest, for which advanced life support was performed with endotracheal intubation and CPR, during the procedure an epinephrine ampoule was placed, lasting approximately 8 minutes the resuscitation of the patient. Subsequently, she was sedated with midazolam 6ml/h and fentanyl 8ml/h without the requirement of inotropic support, coupled to a mechanical ventilation machine, volume-controlled assisted mode.

Patients were transferred to the intensive care unit where an evaluation was performed, sedation (Midazolam) was paused, and doses of analgesia (fentanyl) were continued with the aim of achieving a neurological window and observing a neuromotor response, but no response was

observed. Although the patient was without sedation for 24 hours, she was still maintained with a Glasgow of 3, analgesia was suspended, stable and she was kept under mechanical ventilatory assistance.

With the novelty that the patient was awake and maintained a glasgow of 6 due to spontaneous ocular opening. The patient was prepared for a possible tracheostomy intervention authorized by the relatives, abundant yellowish secretions continued to be aspirated through the tube and oropharynx. The patient was extubated from the morning hours, maintaining a glasgow of 11 being awake, calm and very cooperative with good mechanical ventilation and with saturation of 98%, no signs of respiratory distress were observed. The patient was maintained with a high-flow cannula and enteral diet, hydro-aerial sounds were present, received intravenous ulcer protection, fluid balance in 24 hours - 563, uresis: 1640ml.

Respiratory event with saturations of 66%, secondary to severe bronchospasm, the patient was kept with orotracheal intubation by mechanical ventilator. Tendency to bradycardia and arterial hypotension that did not improve with inotropic support at a dose of 10 MCG/KG/MIN, due to this norepinephrine vasopressor support was administered for the improvement of blood pressure that was found at 70/50 mmHg. She presented anuria in the last hours and whose renal function has deteriorated even more due to her current clinical condition, for which a transfer to a hospital of greater complexity was requested due to the need for dialysis treatment, however, relatives indicated that they do not want referral to a more complex unit for hemodialysis, with probabilities of high death Letalis in the short term.

Remifentanil sedation-analgesia was found with a rass -2, spontaneous hemodynamically unstable ocular opening with a prescribed antihypertensive scheme, hypertensive peaks plus bradycardia, reaching 45 bpm, need to admit dobutamine, current vital signs: blood pressure; 150/70mmHg, heart rate; 45 bpm, respiratory rate; 14 rpm, oxygen saturation; 98% coupled to mechanical ventilation in volume-controlled mode.

Afebrile complying with antibiotic regimen with piperacillin plus tazobactam day 4 due to bronchoaspirative pneumonia, result of culture of tracheal aspirate gram-negative bacillus klebsiella pneumoniae. Laboratory tests reported today white blood cells (WBC) 8000, hemoglobin (Hgb) 10.7, hematocrit (Hct) 32.5, platelets 325.0, prothrombin time (tp) 11, partial thromboplastin time (TTP) 38, fasting glucose 69, urea 76, creatinine 1.60, TGP 38, TGO 59. Subacute cerebral patient in recovery phase and cardiology that performed echocardiogram, concentric hypertrophy of competent heart valves, not dilatation of chambers.

Oliguric patient. Diuresis of 100 ml in the last 24 hours. A bladder catheter was reviewed, which was found to be permeable and functional. Bladder balloon was ruled out. He presented with exacerbated chronic renal failure. A stat dose of furosemide was administered and a diuretic pump was programmed. We will titrate doses for your target greater than 1 ml Kg hour. He had 8 hours of post-extubation.

Patient in critical condition with worsening of his condition undergoing neuropathy, under this context it has not been possible to progress in mechanical ventilation maintains signs of uncontrolled sepsis, outgoing guard indicated that relatives did not give consent for referral to a more complex unit for hemodialysis.

Patient is taken to the operating room area where a tracheostomy was performed, after a few hours he came out without apparent complications, so he returned to the ICU area again. At 6 hours and 40 minutes on May 23, 2023, he suddenly presented bleeding through tracheostomy, obstructing the airway, abundant airway clots were aspirated, as well as bright red blood secretions, he was supported by mechanical ventilation with a mask bag, bronchodilators, salbutamol and salmeterol were administered, evidencing the absence of a pulse and advanced resuscitation maneuvers were initiated without achieving a return to spontaneous circulation, resulting in his He died at 7 hours and 6 minutes of the same day.

COMPREHENSIVE NURSING ASSESSMENT.

The comprehensive nursing assessment was presented according to the different functional patterns according to Marjory Gordon. In this assessment, it was evident that in the first pattern of perception and management of health, the patient had experienced marked asthenia, presented

knowledge of her current disease, but was unaware of the different activities for the maintenance of well-being and health in general. His health was not in good condition and despite this he was worried, forcing him to seek professional help in order to improve his health.

Regarding the nutritional and metabolic pattern, the patient weighed 75 kg and had a considerable height of 150 cm, so her body mass index is

33.3 and according to the nutritional scale, the patient showed type 1 obesity, in addition to a decrease in appetite presenting an inability to eat food, so the doctor placed a nasogastric tube, for this reason it was indicated that the pattern was altered.

In the pattern of elimination due to renal failure, the patient experienced difficulty urinating normally, a bladder catheter was placed and the fluid balance was monitored where it could be observed that she has eliminated 100ml in 24 hours. Also due to the admission he has changed his bowel pattern, unable to go to the bathroom due to his hemiparesis.

In the activity and exercise pattern, the patient's respiratory rate before admission to the ICU was 35 rpm, followed by her oxygen saturation, which was 66%, producing cyanosis, which is why orotracheal intubation was performed coupled to a mechanical ventilation machine, volume-controlled assisted mode, according to circulatory activity, her blood pressure was 149/75 mmHg. On admission, a peripheral venous catheter was present in the right upper limb. Subsequently, placement of a central venous catheter in the right jugular, which was placed on 06-05-2023. At the time of her admission, the patient arrived in a wheelchair in the company of a family member, the limitation of her mobility is a consequence of the hemiparesis that she presented on the left side, causing difficulty in performing activities of daily living on a regular basis.

The sleep-rest pattern was altered because the patient was induced to deep sedation to obtain adequate ventilatory support and maintain good oxygenation.

The following cognitive-perceptual pattern was altered because the patient on admission remained awake and oriented in time and space, which facilitated the interview with the doctor, but at the time of transfer to the intensive care unit the patient remained unconscious presenting a score of 0 minus 5 points and according to the RASS scale it is an indicator that she presented a phase of very deep sedation, that is, No responses to physical or verbal stimulation were obtained by maintaining a Glasgow scale of 3.

In the Self-perception – Self-concept pattern, it was not altered since the patient did not manifest problems with herself and her body image is not affected, as well as her identity.

In the Role-Relationships pattern, she had a good interpersonal relationship and maintained a positive and close bond with her family, exclusively with her son, who was the person who accompanied her during her hospital stay.

Below, we present the pattern sexuality – reproduction due to the age of the patient who stated that she was not sexually active, but despite this she denies having problems associated with her sexuality. In his medical history we also did not find any disorder or alteration that indicates that this pattern was altered.

In the penultimate pattern, adaptation, tolerance to stress due to deep sedation, in which the patient was found, this indicator was not altered.

With respect to the last pattern to be assessed, we have the values and beliefs of the patient where she was able to state that she was Catholic and that she had the faith that her health would improve with the care of the health personnel and that she would soon return to her family, it is for this reason that the pattern was not altered.

NURSING CARE PLAN.

This detailed clinical presentation lays the foundations for the planning of nursing care in geriatric patients with sequelae ischemia, allowing the assessment of physical and metabolic aspects of their health condition. Therefore, it is essential to carry out a complete analysis using functional patterns of Marjory Gordon in a comprehensive way that ensured adequate nursing care and justified in detail which patterns were found to be altered.

It was possible to identify some nursing diagnoses that require a certain intervention. This study highlights crucial aspects in the health of the individual, highlighting the need to address each of the diagnoses in a personalized way to ensure comprehensive and effective care that favors the

general well-being of the patient, which are shown below:
In relation to the prioritization of nursing diagnoses and according to the NANDA taxonomy that contains the diagnosis of impaired spontaneous ventilation (00033), related to acute respiratory failure and manifested by decreased arterial oxygen saturation (SaO2), so in the results NOC respiratory status (0415), respiratory rate, oxygen saturation. respiratory status: permeability of the airways (0410), ability to eliminate secretions, are severely compromised. And through nursing CIN interventions, the patient was able to breathe on her own and without the help of mechanical ventilation. The nursing NIC intervention was developed: Intubating and stabilizing the airway through activities: performing the handwashing procedure, use of personal protective equipment "masks, gloves, goggles" as necessary. Choose the correct type and size of oropharyngeal or nasopharyngeal airway. In the same way, we insert the oro/nasopharyngeal airway, making sure that it can reach the base of the tongue, in addition to placing the tongue in a forward position. The gold/nasopharyngeal airway was fixed with tape. Of course, we must inform the patient and their relatives of the intubation technique. The chest after intubation is auscultated. Monitoring of oxygen saturation (SPO2) through non-invasive pulse oximetry.
The second choice contains the diagnosis risk of pressure ulcers (00249) related to increased time of immobility on hard surface, pressure on bone prominence and manifested by a history of cerebrovascular disease, so it is desired in the NOC results: consequences of physical immobility (0204), pressure ulcers, constipation and decreased muscle tone. Tissue integrity: skin and mucous membranes (1101), skin integrity, skin temperature and skin lesions, are considered to be slightly compromised, and in a specific time to achieve that their skin returns to its normal state, the NIC nursing intervention was performed for the care of the bedridden patient (0740), through the following activities: placement of the patient on the ideal therapeutic mattress for the patient. Prevent the use of sheets with rough textures. Bed placement with a footrest base. Raise the railings. Help with activities of daily living. Help with hygiene measures. In addition, other activities for the prevention of pressure ulcers are added, which are the following: Prevention of pressure ulcers (3540), use of risk assessment tools created to assess risk factors for the individual - Braden scale-, Recording of the condition of the skin at the time of admission and then daily. Removal of exaggerated moisture in the skin that is caused by perspiration, and drainage of wounds. Application of protective barriers, i.e. absorbent creams and compresses for excessive moisture removal. Turning continuously for 1 to 2 hours.
The third contains the diagnosis of acute confusion (00128) related to a history of stroke and manifested by the alteration of the level of consciousness, so in the results NOC cognition (0900), attends, is oriented and processes the information, it was observed seriously compromised, the NIC intervention of neurological monitoring nursing (2620) was executed, through the following activities: checking size, shape and symmetry, as well as their willingness to elicit pupil responses, monitoring the degree of consciousness, checking orientation status, paying attention to trends in the Glasgow coma scale, observing response to medications and monitoring of vital signs, temperature, blood pressure, pulse and respirations.
The fourth contains the diagnosis of impairment of physical mobility (00085) related to its decrease in strength, decreased muscle control and a loss of physical condition in addition to manifesting itself by the alteration of gait and difficulty in turning and postural instability, so that in the result NOC attention to the affected side (0918) that the stimulation of the strength and dexterity of the affected limb as well as the performance of activities of daily living with the affected side were seriously compromised, in a period of 6 weeks it was possible to maintain on a slight scale, the NIC interventions of nursing help with self-care (1800) were executed, through the following activities: provide help until the patient manages to reach his capacity to assume his self-care. To encourage the patient to perform normal activities in daily life that will be adjusted according to the degree of aptitude. Provide useful personal items for daily hygiene such as: deodorants, toothbrushes, as well as bath soap. Environmental Management: security (6486), use of instruments for protection, railings, as well as closed doors and fences, with the aim of physically limiting mobility or permission to risky situations. Identification of safety needs, naturally related to the patient's physical, cognitive and behavioral history. Eliminate hazard factors from the environment. Help the

patient build a safe environment.
The fifth contains the nursing diagnosis, fluid volume deficit (00027) related to fluid insufficiency and manifested by the decrease in urine output, in the NOC renal function result (0504), diuresis, skin turgor and urine color, in addition to the urinary elimination result (0503) that the amount of urine and elimination pattern which were seriously compromised, The NIC nursing interventions were carried out on fluid management (4120), through the following activities: make an accurate record of entries and exits. Administer prescribed diuretics, perform bladder catheterization. Apply prescribed replacement of medications by nasogastric route in capacity of their outlets and monitor the state of hydration (mucous membranes, adequate pulse and orthostatic blood pressure) as the case may be.

EVALUATION.

Regarding the evolution, the female patient spent 19 days in the hospital, presenting an unfavorable evolution, according to the diagnosis of deterioration of spontaneous ventilation where the nursing interventions were intubation and stabilization of the airway. Monitoring of oxygen saturation, in addition to monitoring ventilatory support. And in the PAE table on the Likert scale where it was expected to obtain a score of 4, that is, that the patient manages to maintain a saturation of 98% and that she can sustain spontaneous ventilation, despite complying, the patient performed respiratory events on several occasions causing her oxygen saturation to drop to 66% and due to its severity she died so that the proposed objective was not achieved (Noc).
Therefore, in the diagnosis acute confusion where the activities were, checking the size of the shape and symmetry, in addition to the response of the pupils, monitoring the degree of consciousness, and checking the degree of orientation, observing the trends of Glasgow coma scale, responses to medications. And according to the PAE table on the Likert scale, it was expected to obtain a score of 5, that is, that the patient is awake, oriented in time and space, in addition to maintaining good communication with the health personnel and her family, but due to the deep sedation in which she was and despite the fact that the doctors suspended the sedation in order to achieve a neurological window and to observe neuromotor response, no response to what was expected was observed, maintaining a Glasgow scale of 3, which is why it was not possible to achieve the Noc objective proposed.
In the diagnosis of pressure ulcer risk, the following activities were carried out, which were: placing the patient on a therapeutic bed or mattress, helping with hygiene measures, using tools to assess the established risk in addition to an assessment of the patient's risk factors, recording the skin condition at the time of admission and subsequently performing it daily. Remove moisture from the skin caused by perspiration, applying barriers to protect such as: creams, absorbent compresses, eliminating a excess humidity, making continuous position changes every 1-2 hours. According to the PAE table and according to the Likert scale, it was expected to obtain a score of 4, that is, that the patient can maintain her skin intact without presenting symptoms of burning or redness or in turn damage to the integrity of her skin causing ulcers that can be very uncomfortable for the patient. But due to his death, the Noc objective was not achieved.
In the same way, in the diagnosis of deterioration of physical mobility, various nursing interventions were carried out, providing help until the patient is able to assume her self-care, encouraging the patient to perform exercises that are normal in daily life adjusted to the degree of ability, providing necessary objects of personal use ranging from a deodorant, toothbrush to a bath soap. While in the PAE table and according to the Likert scale it was expected to obtain a score of 5, that means that the patient is able to move without help and that she can perform her daily activities without inconveniences. But due to the seriousness of the case, the patient died, so it was not possible to achieve the Noc objective set.
We present the diagnosis of fluid volume deficit where nursing activities were carried out, which were as follows: make an accurate record of entries and exits, apply a prescribed replacement of medications administered nasogastric according to the function of outputs, monitor the hydration status (mucous membranes, adequate pulse and orthostatic blood pressure) as the case may be. While in the PAE table and according to the Likert scale, it was expected to obtain a score of 5, that is, to achieve that the patient can eliminate the correct amount of urine in a time of 24 hours,

presenting a diuresis of 100 ml in 24 hours. In addition, he presented kidney failure. Stat doses of furosemide were administered, but despite this, the patient continued to oliguriate with increased azote, requiring dialysis, but relatives did not give consent to transfer her to a more complex unit. For this reason, the Noc objective was not met.

DISCUSSION OF THE CASE STUDY

Timely rehabilitation of Stroke should begin at the time of hospitalization, as quickly as its diagnosis is demonstrated and its problems may expose a danger to the patient's life. The need for physiotherapy intervention is carried out with the aim of avoiding complications – venous thrombosis, infections as well as pain – facilitating timely mobilization (13).

The importance of the use of mechanical ventilation has been one of the main factors in ICU (intensive care unit) admissions. Patients need a type of vital help due to a need for oxygenation. Additionally, Javier Hernández & Rocío Gómez (14) agree that the patient's discomfort may be due to a desynchrony in ventilation, and as a result endanger the patient's correct oxygenation. These authors state that it is essential to accompany mechanical ventilation together with the administration of sedation and analgesia that adapts to the needs of the patient in order to achieve effective ventilation by reducing respiratory work and desynchrony with the ventilator.

In intensive care areas, quite a few patients are given sedatives and analgesics together. Therefore, as mentioned in the work entitled "Management of the critical patient with sedation-analgesia in mechanical ventilation" by Lourdes Rodríguez (15), it is highlighted that sedation-analgesia allows the patient to tolerate and reduce trauma by being dependent on ventilatory support for a short or prolonged time, according to the author, greater comfort should be provided to the patient because she is subjected to uncomfortable procedures that can be painful.

According to the work of Esteban Montiel (16) and Alonso Fernández (17), both authors agree that, if the patient is not properly sedated, problems such as decoupling from the mechanical ventilator can be evidenced, experiencing situations in which the patient removes the tube, which can cause injuries at the level of the glottis, high risk of aspiration, being potentially fatal for the patient.

The main coincidence between the study by Matías Alet (18) and the patient's case is that both cases involve patients with ischemic stroke, however, there are also differences that differ significantly in terms of the clinical presentation and severity of the comorbidities. Regarding the final result, it was observed that in Matías Alet's study the patient responded satisfactorily to the treatment presenting an improvement in his health, however, in the current case of the 72-year-old female patient with a history of insulin-dependent diabetes mellitus and hypertension who was admitted to the hospital unit due to presenting a clinical picture of left brachio-crural hemiparesis, In addition to decay and decreased appetite, she experienced a series of serious complications including: renal failure, loss of consciousness and respiratory complications, despite the efforts of health personnel to achieve an optimal recovery in the patient, due to its severity it resulted in her death as a result of a fatal episode of bleeding through the tracheostomy. The results of both cases illustrate the importance of thorough evaluation, early intervention, and personalized care to improve outcomes in patients with ischemic stroke. In addition, they highlight the importance of primary and secondary prevention to reduce the risk of cerebrovascular events and improve long-term outcomes.

The etiology of stroke affects both prognosis and outcomes; that is, ischemic stroke can be initiated by a blood clot that separates somewhere in the body through the bloodstream, traveling to the brain and from there presenting obstruction in arteries of small vessels and interrupting blood flow, causing necrosis and neuronal death; The sequelae and prognosis of the patient will depend a lot on the part of the brain that is affected (19).

CONCLUSIONS

The patient's medical history was reviewed in detail, where it was observed that she had a history of insulin-dependent diabetes mellitus and hypertension. Renal failure, increased azotes, tendency to bradycardia, and arterial hypotension were found at 70/50 mmHg, which did not improve with inotropic support. Counting of falling neutrophils. Multi-organ failure. He presented bleeding through tracheostomy and obstruction in the airway, in addition to presenting absence of pulse.

Although unfortunately the patient died, all the nursing interventions that were performed during

the cerebrovascular event phase could be applied, the most important ones were highlighted, such as: management of respiratory complications, administration of medications, continuous monitoring of vital signs including the level of consciousness, changes in position and monitoring of renal function. Effective surveillance for possible complications was achieved.

Through the collection of data and reports, it was possible to evaluate in detail the clinical history of the female geriatric patient who experienced an ischemic cerebrovascular event and despite the fatal outcome, it was possible to identify and analyze the medical history, its risk factors and the characteristics that led to the sequelae ischemia.

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Annex 1. Relevant findings from the patient's medical history.

FINDINGS FROM THE PATIENT'S MEDICAL HISTORY		
GENERAL PATIENT DATA		
NAMES AND SURNAMES:		NNNNN
MEDICAL RECORD NUMBER:		09xxx915xx
DATE OF BIRTH:		18-09-1950
AGE:		72 years old
SEX:		Female
MARITAL STATUS:		Married woman
RELIGION:		Catholic
ETHNIC IDENTIFICATION:		Mestizo
LEVEL OF EDUCATION:		Bachelor
SOCIOECONOMIC LEVEL:		Middle
PLACE OF BIRTH:		Saint Helena
ANTHROPOMETRIC MEASUREMENTS		
WEIGHT:		75 kg
SIZE:		1.50 cm
BODY MASS INDEX (BMI):		33.3 Type 1 obesity
USE OF MEDICATIONS		
Name	**Dosage/route of administration**	**Frequency**
Omeprazole	40 mg – Intravenous	IDB
Atorvastatin	40 mg – Nasogastric tube	QD
Bicarbonate of sodium	10 mg – Intravenous	IDB
Gluconate of calcium	10 mg – Intravenous	TID
Furosemide	20 mg – Intravenous	GIST
Erythropoietin	4000 IU – Subcutaneous	Monday – Wednesday – Friday
Colistin	100 mg – Intravenous	QD
Meropenem	1 g – Intravenous	IDB
Fluconazole	200 mg – Intravenous	QD
EQUIVALENT TO FREQUENCY OF ADMINISTRATION		
QD	Once a day.	
IDB	Twice a day / every 12 hours.	
TID	Three times a day / every 8 hours.	
GIST	Four times a day / every 6 hours.	
OTHER	Specify.	

Annex 2. Lab tests.

3141749 - BIOMETRIA				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
GLOBULOS BLANCOS (WBC)	10.18	10^3/UL	4.50 - 11.00	mescalante
GLOBULOS ROJOS (RBC)	2.97	10^6/UL	4.50 - 5.00	mescalante
HEMOGLOBINA (HGB)	8.6	g/dL	12.0 - 16.0	mescalante
HEMATOCRITO (HCT)	26.8	%	37 - 54 %	mescalante
VOL. CORP. MEDIO (MCV)	90.20	fL	80.0 - 100.0	mescalante
HEMO. CORP. MEDIO (MCH)	29.00	pg	27.0 - 32.0	mescalante
CONC. HGB. CORP. MEDIO (MCHC)	32.10	g/dL	31.0 - 37.0	mescalante
DIST. GB ROJOS - SD	57.70	fL	37.0 - 51.0	mescalante
DIST. GB ROJOS - CV		%	11.0 - 15.0	
PLAQUETAS	224.0	10^3/UL	150 - 450	mescalante
VOL. PLAQUET. MEDIO (MPV)	11.10	fL	7.0 - 11.0	mescalante
RETICULOSITOS	---	%	0.5 - 2.5	mescalante
FORMULA LEUCOCITARIA				
NEUTROFILO	68.2	%	50.0 - 73.0	mescalante
LINFOCITO	8.5	%	30.0 - 38.0	mescalante
MONOCITO	8.2	%	0.0 - 12.0	mescalante
EOSINOFILO	12.8	%	0.0 - 3.0	mescalante
BASOFILO	0.4	%	0.0 - 1.0	mescalante
3141750 - TIEMPO DE PROTROMBINA (TP)				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
TIEMPO DE PROTROMBINA (TP)	---	seg	10.1-13.0 seg.	mescalante
3141751 - TIEMPO DE TROMBOPLASTINA PARCIAL (TTP)				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
TIEMPO DE TROMBOPLASTINA PARCIAL (TTP)	---	seg	20.1-27.6 seg.	mescalante
3141752 - GLUCOSA EN AYUNAS				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
GLUCOSA EN AYUNAS	64	mg/dL	70 - 106 mg/dl	mescalante
3141753 - UREA				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
UREA	176.0	mg/dL	10 - 45 mg/dL	mescalante
3141754 - CREATININA				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
CREATININA	4.45	mg/dL	0.5 - 0.9 mg/dl mujer 0.7 - 1.2 mg/dl hombre	mescalante
3141755 - BILIRRUBINA TOTAL				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
BILIRRUBINA TOTAL	0.14	mg/dL	5.0 mg/dl RN 12.0 mg/dl < 5 días 1.5 mg/dl < 1 mes 1.1 mg/dl adultos	mescalante
3141756 - BILIRRUBINA DIRECTA				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
BILIRRUBINA DIRECTA	0.08	mg/dL	Hasta 0.20 mg/dL	mescalante
3141757 - TGP				
VER RESULTADOS				
Nombre	**Valor**	**Unidad Factor**	**Valor Referencial**	**Usuario**
TRANSAMINASA PIRUVICA (ALT)	19	U/L	Hombres: hasta 41 U/L Mujeres: hasta 33 U/L	mescalante

Annex 3. *First nursing care plan.*

Dx NANDA: Impaired spontaneous ventilation. **Code:** 00033.			**Domain 4:** Activity/rest. **Class 4:** Cardiovascular responses/ Pulmonary. **Label:** Cardiopulmonary mechanisms that support activity and rest.			
R/c Acute respiratory failure.			**M/p** decrease in arterial oxygen saturation (SaO2).			
NOC Objectives		**Code**	**Indicators**	**Likert scale**		
Domain II: Physiological Health.				**Initial date:**	**Expected**	**Achieved date:**
Class E: Cardiopulmonary.				04-05-2023		23-05-2023
0415	Respiratory status.	041501	Respiratory rate.	2	5	3
		041508	Oxygen saturation.	1	5	2
NOC Objectives		**Code**	**Indicators**	**Likert scale**		
Domain II: Physiological Health.				**Initial Date:**	**Expected**	**Achieved date:**
Class C: Cardiopulmonary.				04-05-2023		23-05-2023
0410	Respiratory status: airway patency.	041012	Ability to eliminate secretions.	1	5	1
NIC Interventions		**Activities**				
Field 2: Complex Physiological.						
Class K: Respiratory Control.						
Code	**Label**					
3120	Airway intubation and stabilization.	Wash your hands.				
		Use appropriate personal protective equipment (gloves, goggles, and mask).				
		Insert the oro/nasopharyngeal airway, making sure it reaches the base of the tongue, placing the tongue in a forward position.				
		Tape the oro/nasopharyngeal airway in place.				
		Explain the intubation procedure to the patient and family.				
		Auscultate the chest after intubation.				
		Monitor oxygen saturation (SpO2) using non-invasive pulse oximetry and CO2 detection.				
NIC Interventions		**Activities**				
Field 2: Complex Physiological						
Class K: Respiratory Control						

Code	Label	
3300	Mechanical ventilation management	Manage conditions that indicate the need for ventilatory support (e.g., respiratory muscle fatigue, neurological dysfunction secondary to trauma, anesthesia, drug overdose, refractory respiratory acidosis).
		Administer appropriate muscle paralyzing agents, sedatives, and narcotic analgesics.
		Consult with other healthcare professionals for the selection of the ventilator mode (initial mode, usually volume control specifying the respiratory rate, FIO2 level and desired tidal volume
		Emptying condensate water from water collectors
		Use an antiseptic technique in all suction procedures, as appropriate
		Monitor the amount, color, and consistency of lung secretions and document the results periodically.
		Establish oral care routinely with moist soft gauze, antiseptic, and gentle suction.
		Perform thoracic physiotherapy, when appropriate.

***Likert scale**

Score	Denomination
1	Severe deviation from the normal range
2	Substantial deviation from the normal range
3	Moderate deviation from the normal range
4	Slight deviation from the normal range
5	No deviation from the normal range

Annex 4. Second nursing care plan.

<table>
<tr><td colspan="3">Dx NANDA Risk of pressure ulcer.
Code: 00249.</td><td colspan="4">Domain 11: Safety/Security. Class 2: Physical Injury.
Label: Bodily injury or wound.</td></tr>
<tr><td colspan="3">R/c increased immobility time on hard surface, pressure on bony prominence.</td><td colspan="4">M/p history of cerebrovascular disease.</td></tr>
<tr><td colspan="2">NOC Objectives</td><td rowspan="2">Code</td><td rowspan="2">Indicators</td><td colspan="3">Likert scale</td></tr>
<tr><td colspan="2">Domain II: Physiological Health.</td><td>Initial Date:</td><td>Expected</td><td>Achieved date:</td></tr>
<tr><td>Code</td><td>Label</td><td></td><td></td><td>4-05-2023</td><td></td><td>23-05-2023</td></tr>
<tr><td rowspan="3">1101</td><td rowspan="3">Tissue Integrity: Skin and Membranes Mucous.</td><td>110113</td><td>Skin integrity.</td><td>2</td><td>5</td><td>1</td></tr>
<tr><td>110101</td><td>Skin temperature.</td><td>1</td><td>5</td><td>2</td></tr>
<tr><td>110115</td><td>Skin lesions.</td><td>3</td><td>5</td><td>1</td></tr>
<tr><td colspan="2">NIC Interventions
Field 1: Basic Physiological.
Class C: Immobility control.</td><td colspan="5" rowspan="2">Activities</td></tr>
<tr><td>Code</td><td>Label</td></tr>
<tr><td rowspan="5">0740</td><td rowspan="5">Bedridden Care</td><td colspan="5">Place the patient on a suitable therapeutic bed or mattress.</td></tr>
<tr><td colspan="5">Avoid using bedding with rough textures.</td></tr>
<tr><td colspan="5">Place a footstand on the bed.</td></tr>
<tr><td colspan="5">Raise the railings, as appropriate.</td></tr>
<tr><td colspan="5">Helpwithhygienemeasures</td></tr>
<tr><td colspan="2">NIC Interventions
Field 2: Complex Physiological
Class L: Skin/wound control</td><td colspan="5" rowspan="2">Activities</td></tr>
<tr><td>Code</td><td>Label</td></tr>
<tr><td rowspan="5">3540</td><td rowspan="5">Prevention of pressure ulcers</td><td colspan="5">Use an established risk assessment tool to assess the individual's risk factors (Braden scale).</td></tr>
<tr><td colspan="5">Record the condition of the skin during admission and then daily.</td></tr>
<tr><td colspan="5">Removing excessive moisture in the skin caused by perspiration, wound drainage, and fecal urinary incontinence.</td></tr>
<tr><td colspan="5">Apply protective barriers, such as creams or absorbent compresses, to remove excess moisture, as appropriate.</td></tr>
<tr><td colspan="5">Turn over continuously every 1-2 hours, as appropriate.</td></tr>
</table>

***Likert scale**

Score	Denomination
1	Severe deviation from the normal range
2	Substantial deviation from the normal range
3	Moderate deviation from the normal range
4	Slight deviation from the normal range
5	No deviation from the normal range

Annex 5. Third nursing care plan.

<table>
<tr><td colspan="2">Dx NANDA
Code: 00128</td><td colspan="5">Domain 5: Perception/cognition. Class 4: Cognition.
Tag: Use of memory, learning, thinking, problem solving, abstraction, judgment, and language.</td></tr>
<tr><td colspan="3">R/c history of stroke.</td><td colspan="4">M/p alteration of the level of consciousness.</td></tr>
<tr><td colspan="2">NOC Objectives</td><td rowspan="3">Code</td><td rowspan="3">Indicators</td><td colspan="3">Likert scale</td></tr>
<tr><td colspan="2">Domain II: Physiological Health.</td><td rowspan="2">Initial date:
04-05-2023</td><td rowspan="2">Expected</td><td rowspan="2">Achieved date:
23-05-2023</td></tr>
<tr><td>Code</td><td>Label</td></tr>
<tr><td rowspan="3">0900</td><td rowspan="3">Cognition.</td><td>090003</td><td>Serves.</td><td>1</td><td>5</td><td>1</td></tr>
<tr><td>090005</td><td>It is oriented.</td><td>1</td><td>5</td><td>1</td></tr>
<tr><td>090009</td><td>Processesinformation.</td><td>1</td><td>5</td><td>1</td></tr>
<tr><td colspan="2">NIC Interventions
Field 2: Complex Physiological.
Class I: Neurological control.</td><td colspan="5" rowspan="2">Activities</td></tr>
<tr><td>Code</td><td>Label</td></tr>
<tr><td rowspan="4">2620</td><td rowspan="4">NeurologicalMonitoring.</td><td colspan="5">Check the size, shape, symmetry and responsiveness of the pupils.</td></tr>
<tr><td colspan="5">Monitor the level of consciousness.</td></tr>
<tr><td colspan="5">Checktheorientationlevel.</td></tr>
<tr><td colspan="5">Monitor trends in the Glasgow Coma Scale.</td></tr>
</table>

		Observe the response to medications.
		Monitor vital signs: temperature, blood pressure, pulse, and breathing.

***Likert scale**

Score	Denomination
1	Severe deviation from the normal range
2	Substantial deviation from the normal range
3	Moderate deviation from the normal range
4	Slight deviation from the normal range
5	No deviation from the normal range

Annex 6. Fourth nursing care plan.

Dx NANDA **Code:** 00085		**Domain 4:** Activity/Rest. **Class 2:** Activity/Exercise. **Etiquette:** Moving body parts (mobility), working, or performing actions often (though not always) against resistance.				
R/c decreased strength, decreased muscle control, loss of physical condition.			**M/p** gait impairment, difficulty turning and postural instability.			
NOC Objectives		**Code**	**Indicators**	**Likert scale**		
Domain 2: Physiological Health.				**Initial date:**		**Achieved date:**
Code	**Label**			04-05-2023	**Expected**	23-05-2023
0918	Attention to the affected side	091810	It stimulates the strength and dexterity of the affected limb.	2	5	1
		091806	Performs activities of daily living with the affected side.	2	5	1
NIC Interventions		**Activities**				
Field 1: Physiological						
Class F: Facilitating Self-Care						
Code	**Label**					
1800	Help with	Provide help until the patient is fully capable of assuming self-care.				

	self-care	Encourage the patient to perform normal activities of daily living adjusted to the level of ability.
		Provide the desired personal items (deodorant, toothbrush and bath soap).
NIC Interventions		**Activities**
Field 4: Security		
Class V: Risk Control		
Code	**Label**	
6486	Environmental Management: Safety	Use protective devices (physical restraint, guardrails, locked doors, fences, and gates) to physically limit the mobility or access to dangerous situations.
		Identify safety needs, based on the patient's physical and cognitive function and behavioral history.
		Remove hazards from the environment, when possible.
		Help the patient build a safer environment.

***Scaleof 08hni**

Score	Denomination
1	Severe deviation from the normal range
2	Substantial deviation from the normal range
3	Moderate deviation from the normal range
4	Slight deviation from the normal range
5	No deviation from the normal range

Annex 7. Fifth nursing care plan.

<table>
<tr><td colspan="3">Dx NANDA
Code: 00027</td><td colspan="5">Domain 2: Nutrition. Class 5: Hydration.
Label: incorporation and absorption of fluids and electrolytes.</td></tr>
<tr><td colspan="3">R/c fluid insufficiency.</td><td colspan="5">M/p decrease in urine output.</td></tr>
<tr><td colspan="2">NOC</td><td rowspan="2">Code</td><td rowspan="2">Indicators</td><td colspan="3">Likert scale</td></tr>
<tr><td colspan="2">Domain 2:</td><td>Initial date:</td><td rowspan="2">Expected</td><td>Achieved date:</td></tr>
<tr><td>Code</td><td>Label</td><td>04-05-2023</td><td>23-05-2023</td></tr>
<tr><td rowspan="3">0504</td><td rowspan="3">Renal Function</td><td>050424</td><td>Diuresis in 8 hours.</td><td>1</td><td>5</td><td>1</td></tr>
<tr><td>050425</td><td>Skin turgor.</td><td>2</td><td>5</td><td>2</td></tr>
<tr><td>050406</td><td>Color of</td><td>2</td><td>5</td><td>1</td></tr>
<tr><td colspan="2">NOC</td><td rowspan="2">Code</td><td rowspan="2">Indicators</td><td colspan="3">Likert scale</td></tr>
<tr><td colspan="2">Domain 2:
PhysiologicalHealth.</td><td>Initial date:</td><td rowspan="2">Expected</td><td>Achieved Date:</td></tr>
<tr><td colspan="2">Class F: Elimination.</td><td>04-05-2023</td><td>23-05-2023</td></tr>
<tr><td>Code</td><td>Label</td><td rowspan="2">0503 03</td><td rowspan="2">Amount of Urine.</td><td rowspan="2">1</td><td rowspan="2">5</td><td rowspan="2">2</td></tr>
<tr><td rowspan="2">0503</td><td rowspan="2">Urinary Elimination</td></tr>
<tr><td>050301</td><td>Elimination Pattern.</td><td>1</td><td>5</td><td>1</td></tr>
<tr><td colspan="2">NIC</td><td colspan="5" rowspan="3">ACTIVITIES</td></tr>
<tr><td colspan="2">Field 2: Complex
Class N: Tissue perfusion</td></tr>
<tr><td>Code</td><td>Label</td></tr>
<tr><td rowspan="5">4120</td><td rowspan="5">Liquid Handling</td><td colspan="5">Accurately record entries and exits.</td></tr>
<tr><td colspan="5">Administer prescribed diuretics, as appropriate.</td></tr>
<tr><td colspan="5">Perform bladder catheterization, if necessary.</td></tr>
<tr><td colspan="5">Administer the prescribed fluid replacement nasogastric route depending on the</td></tr>
<tr><td colspan="5">Monitor hydration status (moist mucous membranes, adequate pulse, and</td></tr>
</table>

***Likert scale**

Score	Denomination
1	Severe deviation from the normal range
2	Substantial deviation from the normal range
3	Moderate deviation from the normal range
4	Slight deviation from the normal range
5	No deviation from the normal range

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