

Nursing Care Approach Towards an Alcoholic Patient Bearing the Wernicke-Korsakoff Syndrome: Case Study

Cuidados de Enfermagem a um Paciente Alcoolista Portador Da Síndrome de Wernicke-Korsakoff: Estudo de Caso

Cuidados de Enfermería a Paciente Alcohólico con Síndrome de Wernicke-Korsakoff: Presentación de um Caso

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ABSTRACT

Introduction: Wernicke-Korsakoff Syndrome (WKS) is one of the most serious consequences of alcohol abuse. The cognitive impact of the pathology is derived from alcoholic neurotoxicity and thiamine deficiency, which can progress to stupor, coma and death. **Objective:** Performing a case study regarding an alcoholic patient bearing the WKS, and also designing a nursing care plan. **Methods:** It is a case study with a qualitative approach that assesses an alcoholic patient bearing the WKS. The study was performed at the *Hospital Universitário Oswaldo Cruz (HUOC)* in Recife, Brazil, over the period from February to March 2016. **Results:** We were able to identify 14 nursing diagnoses, as follows: chronic confusion/memory deficit/disturbed thought processes/impaired verbal communication; impaired walking/risk of tumble down; self-care deficit; nutrition smaller than the needs/fatigue; excessive fluid volume/impaired tissue integrity; bleeding risk; impaired skin integrity; ineffective tissue perfusion. **Conclusion:** The nursing professionals have singular importance with regards to both the execution of health education actions as well as the alcoholics' treatment, thus preventing the complications of the disease.

Descriptors: Alcoholism, Nursing Care, Wernicke Encephalopathy, Korsakoff Syndrome.

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RESUMO

Introdução: A síndrome de Wernicke-Korsakoff (SWK) é uma das mais graves consequências do abuso de álcool. O impacto cognitivo da patologia é derivado da neurotoxicidade alcoólica e deficiência de tiamina, podendo progredir para estupor, coma e morte. **Objetivo:** Realizar um estudo de caso de paciente alcoolista portador de SWK e construir um plano de assistência de enfermagem. **Métodos:** Estudo de caso com abordagem qualitativa. O estudo foi realizado no Hospital Universitário Oswaldo Cruz (HUOC), em Recife, Brasil, fevereiro a março de 2016. **Resultados:** Identificamos 14 diagnósticos de enfermagem: confusão crônica/memória prejudicada/processos do pensamento perturbados/comunicação verbal prejudicada; deambulação prejudicada/risco de quedas; déficit no autocuidado; nutrição desequilibrada menor que as necessidades/fadiga; volume excessivo de líquido/integridade tissular prejudicada; risco de sangramento; integridade da pele prejudicada; perfusão tissular ineficaz. **Conclusão:** A enfermagem tem especial importância na execução das ações de educação em saúde e tratamento de alcoolistas prevenindo as complicações da doença. .

Descritores: Alcoolismo, Cuidados de Enfermagem, Encefalopatia de Wernicke, Síndrome de Korsakoff.

RESUMEN

Introducción: El síndrome de Wernicke-Korsakoff (WKS) es una de las más graves consecuencias del abuso del alcohol. El impacto de trastorno cognitivo se deriva de la neurotoxicidad alcohólica y la deficiencia de tiamina, que puede progresar a estupor, coma y muerte. **Objetivo:** Realizar un estudio de caso de un paciente con SWK alcohólica y construir un plan de atención de enfermería. **Métodos:** Un estudio de caso con enfoque cualitativo. El estudio se realizó en el Hospital Universitario Oswaldo Cruz (HUOC) en Recife, Brasil, entre febrero y marzo de 2016. **Resultados:** Se identificaron 14 diagnósticos de enfermería: confusión crónica/deterioro de la memoria/procesos de pensamiento perturbados/alteración de la comunicación verbal; alteración de la deambulación/riesgo de caídas; déficit de autocuidado; la nutrición desequilibrada menos necesita/fatiga; volumen excesivo de líquido/ la integridad del tejido deteriorado; riesgo de sangrado; alteración de la integridad de la piel; la perfusión tisular ineficaz. **Conclusión:** La enfermería tiene especial importancia en la implementación de las iniciativas de educación en la salud y el tratamiento de alcohólicos prevención de las complicaciones de la enfermedad.

Descriptores: Alcoolismo, Cuidados de Enfermería, Encefalopatía de Wernicke, Síndrome de Korsakoff.

INTRODUCTION

The World Health Organization (WHO) defines the alcoholic as an individual who consumes alcohol excessively, whose dependence on this substance is accompanied by mental disorders, with changes in physical health, the relationship with the other and social and economic behavior. Since the mid-1970s, WHO has identified alcohol dependence as a recurrent chronic disease, which if left untreated may be fatal. Alcohol use is often associated with several complications that reflect both on health and social relationships, and the prevalence of this habit depends on individual vulnerability, the environment, and genetics.¹

The damage caused by excessive intake of alcoholic beverages goes beyond the dependence developed on the individual. Excessive alcohol intake contributes to

poor eating habits, especially among chronic alcoholics. There may also be micronutrient deficiency, regardless of the reduction of energy intake, due to the addition of alcohol to the daily intake. In this way, alcohol can cause both primary malnutrition, dislocation of many nutrients from the diet, and secondary malnutrition, by triggering malabsorption and cellular aggression due to its direct cytotoxicity and impaired liver function.²

Nutritional impairment represents a very explicit public health problem, especially in developing countries, but its significance is not restricted to these countries, since its expression in developed countries is also very relevant. Alcoholism and nutritional deficiency may be triggering factors for neurological disorders, including Wernicke-Korsakoff Syndrome (WKS), which results from a nutritional deficiency of vitamin B1 (thiamine) identified at the end of the last century.³

At first the syndrome is characterized by a wide range of neuropsychiatric signs and symptoms that currently consists of two distinct phases of the same pathological process: Wernicke's encephalopathy (acute phase) characterized by mental confusion, ataxia, nystagmus and ophthalmoplegia first appears. With the progression of the pathological process, encephalopathy can progress to a chronic state, defining Korsakoff syndrome that is marked by the appearance of anterograde amnesia and conspiracy. If the identification and therapeutic approach of this syndrome are late, stupor, coma and, eventually, death might occur.^{3,4}

WKS is one of the most serious consequences of alcoholism. The diagnosis of this syndrome is very difficult, since its clinical findings can be confused with the effects of acute alcohol intoxication, justified by the proportion of cases confirmed in autopsy of Wernicke's encephalopathy (0.8% - 2.8%) or higher to estimated in the clinical diagnosis (0.04% - 0.13%). Nonetheless, it presents a low mortality rate of 17%, being more prevalent in men than in women. Considering the individuals with encephalopathy who survive (estimated 80%) end up developing Korsakoff syndrome. This conclusion is unfortunate since the progression of the disease can be treated early with the administration of parenteral thiamine.⁵

The alcohol intake during long periods causes liver damage in such a way that it alters the functioning of the liver and consequently favors the malabsorption of nutrients, which is aggravated by the little food intake, because according to the literature, severe alcoholics replace the meals by the consumption of more alcoholic beverages accompanied by few nutritious snacks, aggravating their nutritional picture.⁶

Such factors may lead to deficits in enzymatic and vitamin supplements, among which the marked deficiency of thiamine, which is one of the essential vitamins of the B complex, plays a key role in the catabolism of carbohydrates and in the constitution of neurotransmitters,

participating in the reactions of glycolysis and the Krebs cycle to adenosine triphosphate (ATP) formation, being present in practically all the cells of the human body, especially the cardiac and nervous cells.⁷

The human body has about 30-50 mg in thiamine reserves, which is estimated to have a deficit in 2 to 3 weeks. On the other hand, thiamine needs increase with alcohol abuse and increased carbohydrate intake, since the former is catabolized in a manner similar to a glycogen. Consequently, it is understood that the combination of an unbalanced diet, as well as a deficit of gastrointestinal absorption, hepatic storage and cerebral utilization of thiamine compromised, as it happens in chronic alcoholism, potentiates the development of WKS.⁸

Treatment of WKS consists of immediate intravenous or intramuscular parenteral thiamine (500 mg, 2 to 3 times per day over 3 days), followed by daily oral supplementation, which may allow a gradual reversal of encephalopathy signs. Nevertheless, a prolonged deficiency of thiamine causes the therapy to become ineffective. Therefore, the most important message is that one should not wait for confirmation of the diagnosis to start treatment.³

Considering the alcohol addiction a recurrent chronic disease, whose dependence is accompanied by mental disorders, with alterations in physical health, the relationship with the other and social and economic behavior, the present study had the goal of carrying out a case study of a WKS bearing patient, aiming to establish diagnoses and nursing care, and also offering support for the elaboration of interventionist actions that aim at the integral attention and improvement of the patients' life quality and their relatives.

METHODS

It is a descriptive case study with a qualitative approach that was carried out at the *Hospital Universitário Oswaldo Cruz (HUOC)* in Recife, Brazil, over the period from February to March 2016. The individual was chosen according to criteria of interest in the clinical discussion of the case, being selected an inpatient alcoholic patient with diagnosis of WKS who presented mental confusion, retrograde amnesia, ataxic gait, weight loss and history of seizures after alcoholic withdrawal.

Data collection was performed through anamnesis, physical examination, chart analysis and literary research on the subject, using Horta's nursing history as the guiding tool.⁹ Subsequently, the problems presented by the patient were identified and a bibliographical research was carried out to correlate the with available scientific output. For the selection of articles, we used the following keywords: "Alcoholism, Nursing Care, Wernicke's Encephalopathy, Neurological Disorders, Korsakoff's Syndrome" in the indexed studies databases, such as the Lilacs (Latin American and Caribbean Literature in Health Science) and

the electronic journal Scielo (Scientific Electronic Library Online). After the analysis and interpretation of the data, the diagnoses were formulated according to the North American Nursing Diagnosis Association (NANDA),¹⁰ the interventions proposed according to the Nursing Interventions Classification (NIC)¹¹ and the expected results for the patient.

The study was conducted according to the Resolution No. 466/2012 of the National Health Council from the Health Ministry, and approved by the Research Ethics Committee from the HUOC, Legal Opinion No. 1.378.156, under the *Certificado de Apresentação para Apreciação Ética (CAAE)* [Certificate of Presentation for Ethical Appraisal] No. 50764815.8.0000.5192. The person in charge of the patient was guided by the research objective, consented to the study and signed the Free and Informed Consent Term. The study presented minimal risk of patient embarrassment during the interview and physical examination being guaranteed the privacy of the same. The identity of the patient was kept confidential, and the anonymity of the information was guaranteed through the signature by the researchers of the term of confidentiality.

RESULTS AND DISCUSSION

Case presentation

JLMC, 29 years old, male, white, single, illiterate, farmer, born and resident in *Carnaíba* city- in the interior of *Pernambuco* State, was admitted to the medical clinic unit of HUOC-Recife on August 19th, 2015, with neurological impairment, weight loss, ascites and edema in the lower limbs, with a diagnostic hypothesis of the consumption syndrome.

According to information collected from his brother, his companion and responsible, since the age of 18 years old the patient used to ingest a large volume of alcoholic beverage and fed inadequately. In 2014, he began to present with massive ascites and lower limb edema. Due to the worsening of his clinical condition, he was admitted to the *Hospital Agamenon Magalhães-Recife*, where he presented seizures due to alcohol withdrawal, remaining hospitalized until January 2015. During this period, he entered a coma, and when he recovered, he presented anterograde amnesia. In July 2015, he was referred to the HUOC for specialized treatment. Anamnesis and physical examination revealed progressive weight loss (around 25 kg) in the last 5 years. The brother referred to a lack of knowledge about the patient's diagnosis, denied a family history of cancer, and reported that his parent was a chronic alcoholic. J.L.M.C had no prior history of tobacco or other drug use.

Physical examination

Conscious. Disoriented in time and space. Apathetic, non-contacting. Eyes deep, still and expressionless,

isochorean and photoreagents pupils. Dyspnea (R=16 ipm) with presence of intercostal circulation in both hemithorax. No fever was present (T=36 °C), normotensive (BP=110 x 60 mmHg). Normocardial (80 bpm), normofonéticas and rhythmic heart sounds in 2 times. Acianótico. Anicteric. Skin and mucosa hypocorate and dehydrated (3+/4+). Cachectic (height: 1.60/weight: 38 kg/BMI: 13.6 kg/m² - severe malnutrition). Pterygia in the left eye and tumor with phlogistic signs in the right upper eyelid. Lymph nodes not palpable. Flat and symmetrical thorax. Globular ascitic abdomen, presence of collateral circulation, hyperemia, epidermal desquamation, hydroaeric (+) noise, painless to palpation. Discrete edema in lower limbs (2+/4+). Ataxic movements, walking with assistance due to lack of motor coordination and balance. Oral feeding and with good acceptance. Eliminations and evacuations were present and performed in diapers. Consent images from the patient - **Figure 1.**



Figure 1 – Patient’s pictures: (A) Before the disease. (B) After the disease.

Serologies were performed for HIV 1 and 2, HCV, Anti-HBs and VDRL, all of which were non-reactive. Imaging examinations of funduscopy revealed ocular lesions of maculopathy and excavation of 0.4 cm in the optic nerve of the right eye and 0.2 cm in the left eye. Magnetic Resonance Imaging (MRI) of the brain was performed for a differential diagnosis that showed hypersignal in T2.

MRI of the brain with its high sensitivity to the presence of water in the interstitial space makes possible a better visualization of the radiological signs of the underlying neuropathology. In some sequences, edematous lesions are revealed as hypersignal, as these have high water content. While the sensitivity of MRI in the detection of encephalopathy is only 53%, its specificity is 93%, which allows its findings to be suggestive of the presence of pathology.

Laboratory tests showed anemia, thrombocytopenia; elevations in serum levels of vitamin B12, sodium, altered hepatic enzymes (TGP) and glucose; and low in albumin, transferrin and amylase, as described in **Table 1.**

J.L.M.C. has received the clinical diagnosis of Korsakoff encephalopathy, cirrhosis of the liver and type II diabetes mellitus.

Table 1 – Laboratory tests of J.L.M.C.

TEST	VALUES FROM THE PATIENT	REFERENCE VALUES
Hematocrit	22.1%	37 to 49
Hemoglobin	7.3 g/100 mL	13.0 to 16.0
Leukocytes	5,510 mm ³	4,000 to 10,000
Thrombocytes	81,000 mm ³	150,000 to 450,000
Vitamin B12	1,839 pg/mL	200 to 900
Iron	58.46 µg/dL	37.0 to 158.0
Transferrin	1.11 µg/dL	2.0 to 2.6
Albumin	2.86 g/dL	3.4 to 4.8
Glucose	390.73 mg/dL	70.0 to 99.0
Sodium	132.9 mmol/L	135.0 to 148.0
Potassium	4.07 mmol/L	3.5 to 5.10
Amylase	18.2 U/L	28.0 to 100.0
TGO	44.4 U/L	10.0 to 50.0
TGP	143.8 U/L	10.0 to 50.0

NURSING CARE PLAN AND INTERVENTIONS

A. Identified Problems: Alcoholism, Confusion, Disorientation in time and space, Amnesia, Difficulty of communication - not communicating.

Nursing Diagnostics:

1. Chronic confusion related to Korsakoff’s psychosis evidenced by deterioration of the intellect and personality manifested by disturbances of memory and behavior.

2. Processes of disturbed thinking evidenced by memory deficit.

3. Impaired memory related to neurological disorder evidenced by an inability to remember events, to learn new skills.

4. Impaired verbal communication related to change in the Central Nervous System (CNS) evidenced by difficulty in understanding and maintaining the usual communication pattern.

Proposed Interventions

- Using either touch or gesture to encourage communication, and if well accepted.
- Encouraging communication through speech in a moderate tone and in visual contact, in the expectation of understanding the patient. Encourage verbal responses.
 - Adapting the communication to the level of understanding of the patient.
 - Speak clearly, slowly and using short sentences. Guide family members so that only one person speaks to the patient at a time.
 - Orienting the patient in relation to time and space daily.
 - Promoting socialization during group activities in the ward.
 - Instructing family members about coping methods.
 - Consulting a speech therapist, psychologist, and occupational therapist to implement an interdisciplinary therapeutic approach

- **Expected Results:** Improvement in communication and social interaction.

B. Identified Problems: Alcoholism, Walking difficulties. Atropic movements. Loss of motor coordination and balance.

Nursing Diagnostics:

1. Impaired walking related to alcohol-induced CNS degeneration, evidenced by ataxic movements.
2. Risk of tumbling down, which is related to impaired balance and neuropathy.

• **Proposed Interventions**

- Stimulating walking with assistance at least 2 times a day.
- Using a wheelchair when necessary.
- Educating the companion about the risks of tumbling down, and the use of protective grids in the bed.
- Referring to the physiotherapist for evaluation.
- **Expected Results:** Patient should show improvement of ambulation and not fall, avoiding possible lesions.

C. Identified Problems: Difficulty feeding, bathing/hygiene and dressing/dressing up.

Nursing Diagnostics:

1. Self-care deficits for feeding, for bathing/hygiene and dressing/dressing up.

• **Proposed Interventions**

- Stimulating, guiding and assisting in self-care activities: food, clothing and body hygiene. Guide family members in self-care.
- Establishing a routine for self-care activities.
- Stimulating independence and participation. Teach and stimulate the accomplishment of tasks, teaching step by step, one at a time.
- Evaluating the capacity to participate in each activity.
- **Expected Results:** Patient should be physically or verbally involved in routine care.

D. Identified Problems: Severe malnutrition, epidermal desquamation. Absorption of nutrients, Hyperglycemia. Anemia.

Nursing Diagnostics:

1. Unbalanced nutrition lower than bodily needs related to impaired ability to absorb food, evidenced by weight loss (BMI: 13.6 kg / m²).
2. Fatigue related to anemia (Hb 7.3), malnutrition and impaired physical condition.

• **Proposed Interventions**

- Consulting the nutritionist at the sector to implement an interdisciplinary therapeutic approach. Provide a hyposodic, hypercaloric, hyperproteic and hypoglycemic diet, according to nutritional orientation.
- Performing HGT every 4/4 hours. Report results greater than 500 mg/dL. Administer insulin as prescribed.

- Administering oral or intravenous iron, as prescribed.

- Administering prescribed red cell concentrate, monitor blood transfusion to avoid transfusion reaction and circulatory overload.

- **Expected Results:** Present progressive weight gain and muscle mass. Reduction or absence of anemia. Control of hyperglycemia. The patient reports having more energy; participating in the desired activities according to their physical capacity.

E. Identified Problems: Loss of fluid for interstitial space, Ascites and edema in lower limbs.

Nursing Diagnostics:

1. Excessive volume of fluid related to compromised regulatory mechanisms evidenced by ascites, edemas, and elevated serum sodium.

2. Impaired tissue integrity.

• **Proposed Interventions**

- Weighing daily under fasting at 6 o'clock. Measure abdominal circumference for ascites monitoring.
- Performing water balance every 12/12h. Maintain strict control of venous hydration, install venoclysis by infusion pump (s/n).
- Administering intravenous human albumin as prescribed. Elevate lower limbs for better venous return and decreased edema.
- Monitoring serum sodium, creatinine, and urea levels.
- **Expected Results:** Blood volume stabilization. Reduction of edema.

F. Identified Problems: Thrombocytopenia, Hepatic and Renal Injury.

Nursing Diagnostics:

1. Risk of bleeding related to thrombocytopenia and cirrhosis of the liver.

• **Proposed Interventions**

- Monitoring platelet levels and bleeding.
- Administering prescribed platelet concentrate and monitor infusion to avoid transfusion reaction
- **Expected Results:** Bleeding absence.

G. Identified Problems: Tumoration with phlogistic signs on right upper eyelid.

Nursing Diagnostics:

1. Impaired skin integrity related to nutritional status and altered fluids (cachexia, edemas).

• **Proposed Interventions**

- Applying antibiotic eye drops and 4/4h cold saline compresses.
- Monitoring clinical signs of infection
- Keeping the skin lubricated (chapped skin eliminates the physical barrier against infections).
- Guiding the patient to avoid scratching the injuries.

- **Expected Results:** Infections absence.

H. Identified Problems: Collateral circulation and portal hypertension.

Nursing Diagnostics:

1. Ineffective tissue perfusion: a) Gastrointestinal evidenced by abdominal collateral circulation; B) Renal: elevation of blood urea/creatinine rates; C) Cardiopulmonary: the presence of intercostal circulation in both hemithorax and dyspnea.

- **Proposed Interventions**

- Listening to respiratory sounds and detect areas of reduction of the vesicular murmur or presence of adventitious sounds and tremors.

- Installing pulse oximeter and record ventilatory parameters of 6/6h.

- Installing oxygen therapy s/n.

- Guiding the adoption of left lateral decubitus to prevent stasis and improve venous and lymphatic return.

- Monitoring blood urea/creatinine rates.

- Measuring diuresis every 12/12h.

- **Expected Results:** The patient presented improvement of ventilation and oxygenation; Presents oxygen saturation results within the acceptable range.

In today's society, the use of alcohol has a differentiated connotation of other drugs. It has legal character, low cost and easy access which provides social acceptance, making it difficult to cope against. Its use is stimulated by the industry, making it difficult to understand it as a public health problem. It ranks first in the world in terms of consumption in relation to psychoactive substances.¹²

A recent report from the WHO presents evidence on alcohol abuse in more than 100 countries. Abuse of this substance is associated with approximately 4% of deaths and disabilities in the world. Harmful alcohol consumption is still one of the four most common risk factors for a variety of noncommunicable diseases such as cardiovascular disease, chronic lung disease, cancer and diabetes.¹

Data from the II Household Survey about the Use of Psychotropic Drugs in Brazil, which was carried out in the 108 largest cities in the country, reveal that 75% of the population make or use alcohol at any time in their lives and in 12% there is a prevalence of dependence. Given this data, there is a high consumption of alcohol and a significant prevalence of dependence in the Brazilian population.¹³

Because it is a public health drama, due to the difficulty of its treatment, as well as the challenge of identifying the initial cases and, sometimes, even the most advanced ones, it is important in clinical practice to investigate problems related to alcohol use, the levels of risk and severity, as well as its evolution to WKS, being essential the diagnosis and the early treatment in order to interrupt the advance of the disease.¹⁴

The nursing process of the study patient was a challenge

for the authors and the caregiver, considering that the WKS is a serious, degenerative and rare chronic disease. We have observed that the use of a conceptual framework as a theoretical reference of the assistance we wanted to offer allowed us to organize our thoughts, observations and interpretations. This was also a systematic and logical structure for our interventions on the health of the patient in the hospital environment, then directing us towards the solutions of the problems recognized.

According to the literature, the neurological disorders evidenced by the patient are due to the thiamine deficiency in the body that causes brain lesions and changes in mental state. Still, these changes affect only 10% of the cases, but with immediate thiamine treatment, the condition may be reversed and the patient regains his alert status.⁸ We have also verified the state of severe malnutrition caused by excessive weight loss estimated in 25 kg in five years due to severe alcoholism and not enough food intake for weeks, informed by his healer brother who assumed full responsibility for the patient, for refusal of the mother.

Hence, we have verified the patient's high degree of commitment specifically when we observed his or her youthful photos, in relation to their current state, justified by the delay in the search for medical care (around 10 years), and alcoholism started at 18 years old, associated with the emotional, psychological (genitor era chronic), social and educational factors that contributed to the worsening of the condition permanently, identified in the radiological exams of the patient. We have also found memory deficit in the approach to the patient, in which lesions in the diencephalon prevent the formation of anterograde memories,³ demonstrating the severity of the suffered injuries.

Alcohol is considered a legalized drug because it is an inexpensive and easily accessible product; it is the most consumed of all drugs, usually occurring the initial contact at puberty, at which time the adolescent becomes more vulnerable to the substance, and then determining their tendency towards drinking. The use of alcohol in adolescence exposes the individual to a greater risk of chemical dependence in adulthood, in other words, the earlier the onset of use, the greater the risk of serious consequences. Alcohol is the most commonly consumed substance among young people, and the age at onset has been steadily decreasing and the harm associated with its use extends throughout life.¹⁵

J.L.M.C presented hepatic impairment, collateral circulation, ascites and marked decrease in albumin, an essential protein in the maintenance of intravascular volume, because it favors the passage of water into the capillaries by the action of colloidal osmotic pressure. With the decrease of this protein the water will be outside the capillaries with a volume that is larger than normal, resulting in the appearance of the edemas identified in the patient.

Similarly, a study carried out with patients from the

Alcoholic Assisting Program in Vitória city, Espírito Santo State, which aimed to find the profile and also to evaluate the difficulties encountered in the application of the nursing process, found that the main factors associated with alcohol abuse were early ingestion by external influences, escape, shyness, stress relief/self-assertion and heredity. The problems detected in the application of the nursing process were alcoholism, anxiety, loneliness, low self-esteem, disease denial and hydration/elimination deficits, followed by alterations in physical examination such as poor hygiene, dermatological/gastrointestinal/hepatic alterations and in the examination of mental state as disturbances in the psychic functions of affection, memory and sense-perception.¹⁶

We also verified that J.L.M.C developed type II diabetes mellitus (DM-II) probably due to the thiamine deficiency that exerts the coenzyme function acting on the active transfer of aldehyde and is thus used in the oxidative decarboxylation of pyruvate that occurs shortly after the degradation of a molecule of glucose in two molecules of pyruvate, in this way it becomes necessary that the pyruvate turns into acetylCoA so that the Krebs cycle occurs. This clinical condition exacerbates the symptoms of WKS, because glucose metabolism does not occur, resulting in an overload of glucose in the bloodstream. Weight loss may also be associated with DM-II as a consequence of decreased protein synthesis and increased catabolism, thus leading to significant loss of muscle mass.¹⁷

In relation to the ocular abnormalities presented by the patient, these consist of paralysis of the external rectus muscles. In the funduscopy examination, the findings were maculopathy and optic nerve excavation. Understanding the various clinical presentations is essential to identify the impairment as well as the location of the lesion in the oculomorphoc nerve. Ophthalmoparesis is associated with damage of the subnuclei affected, and its extension classifies this injury in partial or complete. It is added to the signaled diseases, such as diplopia and convergent strabismus, and in the advanced stages of the disease, miosis and non-pupillary reactivity may occur.¹⁸

The WKS diagnosis was closed taking into account the report of alcohol abuse since the age of 18 years old; clinical characteristic of confusion, disorientation in time and space, anterograde amnesia, communication difficulty and ataxic movements; as a result of magnetic resonance imaging, and to rule out possible neurological and neoplastic infections due to serologies and other laboratory tests being negative.

After 27 days of hospitalization, J.L.M.C. was discharged with evident clinical improvement, and with the following treatment: Citoneurin® 5,000 IU (vitamins B1, B6 and B12) 1 intramuscular ampulla/month, indeterminate time, and Benerva® (Vitamin B1) 300 mg/day; Insulin NPH 30 IU morning/20 IU late; it has been also scheduled medical appointment after 15 days, and follow up at Family Health Unit in his hometown.

CONCLUSIONS

Alcohol abuse is one of the most serious public health problems, and Wernicke-Korsakoff syndrome is one of the most serious consequences of alcoholism. This pathology is infrequently diagnosed in its less obvious presentations, which is why an appropriate diagnostic approach is an important step in its treatment. The nursing process used showed both relevant data and information that were brought to the attention of the multiprofessional team, such as the beginning of the disease, the family history and the patient's lifestyle. Those findings were particularly important in this case, considering that at the beginning of hospitalization the medical diagnosis was being directed to either neurological or neoplastic infectious disease.

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