

Profile and Nursing Diagnoses in the Elderly Undergoing Surgical Treatment of Femoral Fractures

Perfil e Diagnósticos de Enfermagem em Idosos Submetidos ao Tratamento Cirúrgico de Fratura de Fêmur

Perfil e Diagnóstico de enfermería en ancianos sometidos a tratamiento quirúrgico de fracturas femorales

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REVISA

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RESUMO

Objetivo: Descrever o perfil dos pacientes idosos submetidos ao tratamento cirúrgico para correção de fratura de fêmur, bem como identificar os principais diagnósticos de enfermagem. **Método:** trata-se de estudo retrospectivo, com abordagem quantitativa, por meio de análise de 20 prontuários dos pacientes. **Resultados:** predominou as cirurgias no sexo feminino (65%), com comorbidade de hipertensão associada (60%) e diabetes mellitus (20%). A queda foi o principal fator de fratura do fêmur (55%). Observou-se predominância dos seguintes diagnósticos de enfermagem em 100% dos pacientes: deambulação prejudicada, risco de infecção no sítio cirúrgico, risco de queda, dor aguda e integridade tissular prejudicada. **Conclusão:** A análise dos prontuários permitiu a identificação de nove diferentes diagnósticos de enfermagem, sendo que o papel da enfermagem fica evidenciado desde a prevenção até aspectos relativos ao tratamento e reabilitação.

Descritores: Idosos; Cuidados de enfermagem; Tratamento cirúrgico; Fratura do fêmur.

ABSTRACT

Objective: To describe the profile of elderly patients undergoing surgical treatment to correct femoral fractures, as well as to identify the main nursing diagnoses. **Method:** this is a retrospective study, with a quantitative approach, through the analysis of 20 patient records. **Results:** female surgeries predominated (65%), with associated hypertension comorbidity (60%) and diabetes mellitus (20%). The fall was the main factor of fracture of the femur (55%). There was a predominance of the following nursing diagnoses in 100% of patients: impaired walking, risk of infection at the surgical site, risk of falling, acute pain and impaired tissue integrity. **Conclusion:** The analysis of medical records allowed the identification of nine different nursing diagnoses, with the role of nursing being evident from prevention to aspects related to treatment and rehabilitation.

Descriptors: Elderly; Nursing care; Surgical treatment; Fracture of the femur.

RESUMEN

Objetivo: Describir el perfil de pacientes de edad avanzada sometidos a tratamiento quirúrgico para corregir fracturas femorales, así como identificar los principales diagnósticos de enfermería. **Método:** este es un estudio retrospectivo, con un enfoque cuantitativo, a través del análisis de 20 registros de pacientes. **Resultados:** predominaron las cirugías femeninas (65%), con comorbilidad de hipertensión asociada (60%) y diabetes mellitus (20%). La caída fue el principal factor de fractura del fémur (55%). Hubo un predominio de los siguientes diagnósticos de enfermería en el 100% de los pacientes: dificultad para caminar, riesgo de infección en el sitio quirúrgico, riesgo de caídas, dolor agudo e integridad tisular deteriorada. **Conclusión:** El análisis de los registros médicos permitió la identificación de nueve diagnósticos de enfermería diferentes, siendo evidente el papel de la enfermería desde la prevención hasta los aspectos relacionados con el tratamiento y la rehabilitación.

Descriptor: Ancianos; Cuidado de enfermera; Tratamiento quirúrgico; Fractura del fémur.

ORIGINAL

Introduction

The Federal District (DF) has approximately 2 million inhabitants, 7.7% of whom are elderly, that is, almost 200 thousand people over 60 years of age. According to the Institute of Traumatology and Orthopedics, it is estimated that there is a drop in one in three individuals over 65, related to disorders of gait, balance, vertigo and confusion.¹

Associated with falls, the occurrence of femur fractures in the elderly is related to the imbalance of nutritional status, loss of bone mineral density and calcium deficiency - the prophylactic use of calcium associated with vitamin D is recommended, especially in this age group due to all its changes physiological.²

The surgical proposal for the treatment of femoral neck fractures is osteosynthesis or arthroplasty performed within 48 hours after the incident. According to the Brazilian Guidelines for the Treatment of Femoral Neck Fractures in the Elderly, the combination of nerve block and regional anesthesia are the most suitable for postoperative pain control.²

In addition, the patient may have some complications, local and / or systemic such as surgical wound dehiscence, atelectasis, pneumonia, deep vein thrombosis, pulmonary embolism, decreased renal function and cardiopulmonary changes that represent 60% of mortality in emergency surgeries. It is noteworthy that postoperative complications increase the hospitalization period and, consequently, burden health costs.³

In the postoperative period, patients must have early physical therapy within a maximum interval of 48 hours, to encourage mobility and maintain the independence of the elderly.² In addition, the care of nursing professionals is essential in this period, and the Systematization of Nursing Assistance (SAE) is a means for achieving better results, since they outline strategies and allow individualization of care. The nurse as a member of the health team works in all phases of the perioperative period.⁴

According to the Resolution of the Federal Nursing Council (Cofen) No. 358/2009, which provides for the SAE, the nursing process must be carried out in a deliberate and systematic manner comprising five stages: data collection, nursing diagnoses, planning, implementation and evaluation.⁵

The nursing diagnosis is a clinical judgment about the responses of the individual, family or community to health problems, real or potential, based on scientific principles.⁶ The literature describes that some diagnoses are common in most surgical procedures, covering domains related to elimination and exchange; activity and rest; roles and relationships; security and protection; risk of injury from perioperative positioning; risk of infection; risk of falls; ineffective airway clearance; impaired skin integrity; and impaired tissue integrity.⁷ However, the identification of the main nursing diagnoses of a given group is justified by the knowledge of human responses altered prior to the care plan.⁸

This study aims to describe the profile of elderly patients undergoing surgical treatment to correct femoral fractures, as well as to identify the main nursing diagnoses.

Method

This is a retrospective and exploratory study, with a quantitative approach. The sample consisted of twenty medical records of elderly patients who underwent surgical treatment for femoral fractures seen at a public hospital in the Federal District. Patients over 60 years of age who underwent treatment for a femur fracture from January to December 2019 were included, with at least one medical and nursing evolution in the immediate postoperative period (recorded in an electronic medical record). The exclusion occurred in the medical records of those patients who underwent surgery for other diseases in the femur.

Data collection was made operational through access to the electronic medical record system of the State Department of Health of the Federal District - Trackare. The medical records were analyzed for the following aspects: age, sex, diagnosis, associated diseases, type of fracture, complaints and symptoms described in medical and / or nursing evolution. Regarding the analysis of medical and nursing developments, complaints and symptoms manifested by patients were organized by nursing diagnoses, according to the taxonomy of the International Nurses Diagnoses 2018-2020.

The benefits of this research will be indirect, due to the possible future contribution to the planning of individualized nursing care, since the nursing diagnoses provide specific conducts that will guide the practice of the nursing team. As in all research involving human beings, it cannot be said that since it is a medical record analysis, there will be no risks, but we tried to minimize them. Thus, measures that prevented the identification of the medical records by anyone outside this research and the confidentiality of the information found to preserve patients' privacy were guaranteed.

This study was approved by the Research Ethics Committee of FEPECS / SES-DF, according to opinion No. 3,685,575 and CAAE: 22051019.8.0000.5533. The researchers followed the recommendations of Resolution 466/2012 of the National Research Ethics Commission - CONEP / CNS / MS.

Results

After analyzing the medical records (n.20), it was observed from Table 1 that 65% were elderly women and 35% male. The ages varied between 60 and 94 years, with 50% between 60 and 70 years; 15% between 71 and 80; 25% between 81 and 90 years old; and 10% between 91 and 94 years old.

Table 1- Profile of the elderly with fractures in the femur (n = 20).

Characteristics		n	%
Sex	Men	7	35%
	Women	13	65%
Age	60-70 years	10	50%
	71 - 80 years	3	15%
	81-90 years	5	25%
	91-94 years	2	10%

Comorbidities	SAH	12	60%
	Diabetes	4	20%
	Others	4	20%
Fracture	Transstrochanteric	5	25%
	Femoral neck	11	55%
	Diaphyseal	2	20%
Causes of Fractures	Fall from own height	11	55%
	Furniture falls	7	35%
	Motorcycle accidents	2	10%

Most of the femur fractures recorded were in the femoral neck, with 55% of the cases, followed by the transtrochanteric region, with 25%, and diaphyseal 20% of the cases. As for the main reason for the fracture, falling from height, affecting 55% of the elderly, followed by falling furniture, 35%; and accidents involving motorcycles, 10%.

Among the surgical possibilities for correcting femur fractures, 45% of patients underwent hip arthroplasty; 25%, placement of dynamic hip screw (DHS); 20%, placement of dynamic condylar screw; and 10%, other surgical techniques. Regarding the degree of urgency of the procedures, 65% were classified as elective surgeries and 35% as emergencies. The predominant type of anesthesia was spinal anesthesia associated with sedation, in 90% of cases; and the remainder submitted to the combination of general anesthesia with some regional block.

Among the reported comorbidities, 60% had systemic arterial hypertension (SAH), 20% diabetes mellitus and 20% other comorbidities. Regarding the need for intensive care in the immediate postoperative period (POI), 40% of the patients were followed up in the intensive care unit (ICU), with a length of stay of approximately three days.

Regarding the Nursing Diagnoses according to NANDA Taxonomy II of 2018-2020, five real diagnoses and four risk diagnoses were identified, which totaled nine diagnoses related to the problems - listed in Table 2:

Table 2- Nursing Diagnosis (NANDA, 2018).

Diagnostic category	Frequency	Related Factors (Problems)	Defining Characteristics	Associated Conditions
Delayed surgical recovery	30% (n.6)	Pain, age extremes	Impaired mobility, needs help with self-care	Diabetes Prolonged surgical procedure
Impaired walking	100% (n.20)	Pain	Impaired walking uphill and downhill, climbing stairs	Impaired balance, musculoskeletal impairment

Risk of infection at the surgical site	100% (n.20)	Alcoholism, obesity, smoking	—	Diabetes, duration of surgery, SAH, use of implants and / or prostheses.
Risk of falling	100% (n.20)	Difficulty walking	—	Lower limb prosthesis, proprioceptive deficit
Acute pain	100% (n.20)	Harmful physical agent	Self-report, position for pain relief	Fracture
Impaired tissue integrity	100% (n.20)	Imbalanced nutritional status	Surgical procedure, tissue damage	Impaired mobility
Constipation	20% (n.4)	Change in eating habits, decreased gastrointestinal motility	Inability to defecate	Postoperative intestinal obstruction
Risk of pressure injury	100% (n.20)	Extended period of immobility	—	Reduced tissue perfusion, physical immobilization, hip fracture
Risk of perioperative positioning injury	100% (n.20)	Surgical time *	—	Immobilization, sensory / perceptual disorders resulting from anesthesia

As noted, the nursing diagnoses "impaired walking", "risk of infection at the surgical site", "risk of falling", "acute pain", "impaired tissue integrity", and "risk of pressure injury and perioperative positioning" were frequently described in 100% of the analyzed medical records. Thus, "impaired walking" appeared in the evolution and is associated with reports of mobility difficulties during hospitalization, with musculoskeletal damage resulting from the surgery. The "risk of infection at the surgical site" was an important aspect observed in surgeries using implants or prostheses. Regarding the "risk of falling", in addition to representing an important predictive factor for fracture of the femur, it remains present in the postoperative period due to reports of gait difficulties and the use of prosthesis in the lower limb. "Acute pain" is also a factor related to other diagnoses, and is frequently observed in nursing developments due to the use of analgesics and the presence of pain. "Impaired tissue integrity" has, among related factors, unbalanced nutritional status, characterized by surgical procedure and tissue damage that can be associated with impaired mobility. In addition, the "risk of injury due to pressure and perioperative positioning" has a prolonged period of immobility and surgical time as a related factor, and being a risk diagnosis does not have defining characteristics, but has associated conditions such as physical immobilization, fracture hip and sensory and / or perceptual disorders resulting from anesthesia.

The diagnosis "delayed surgical recovery" occurred in 30% of the cases and was related to the presence of pain, extremes of age, comorbidities, and prolonged treatment time. Regarding the diagnosis "constipation", present in 20% of cases, its factors are related to dietary changes and the inability to defecate associated with postoperative intestinal obstruction.

Discussion

The clinical profile of the patients analyzed consists mainly of the female sex, aged between 60 and 70 years and related comorbidities - SAH and Diabetes. A study with the elderly describes similar results, with the majority of femur fractures affecting female patients, mainly due to falling from their own height and the treatment of choice for hip arthroplasty.⁹ It is noteworthy that because this group undergoes physiological changes, such as decreased bone mass, it is more prone to musculoskeletal injuries due to falls.¹⁰

Femoral fracture is a frequent event in the elderly and implies complications that cause physical limitation and consequent loss of independence. Any age group is at risk of falling, but in the elderly population this event implies a risk of death or physical disabilities that generate high costs with treatment and rehabilitation.² In addition, a study reports that femoral fractures correspond to 90% of surgical fractures in the elderly, with a chance of recovery of around 50%, and a death rate of approximately 30%. The prognosis depends on several factors such as: type of fracture, length of stay, medication used, clinical conditions of the individual and associated comorbidities.¹¹

Regarding nursing diagnoses, few recent studies on the subject were observed, however, among the results identified, the diagnosis "acute pain" is present in most surgical patients, especially in major surgeries.¹² Said diagnosis belonging to the comfort domain, being defined as an unpleasant sensory and / or emotional experience associated with tissue damage that is evidenced by the intensity self-report when using a standardized scale for its measurement.⁶ As nursing care, pain registration can be cited as the 5th vital sign, seeking to reassure the patient, assessing pain using an intensity scale, and administering prescribed analgesia.¹³

Another diagnosis that gains importance in orthopedic patients is the "risk of falling". The risk factors related to the diagnosis are impaired health, impaired mobility, history of falls, age over 65 years; among conditions such as post-operative recovery period, lower limb prosthesis, and use of several pharmaceutical agents⁶, such as beta-blockers, benzodiazepines, antidepressants, diuretics and opioids.¹⁴ Among nursing care is the identification of cognitive deficits, identification of behaviors and factors that affect the risk of falls, reviewing a history of falls, various guidelines such as locking the wheels of the chair and stretchers, guiding you to ask for help, using elevated side rails, among others.¹³

Regarding the diagnosis "delayed surgical recovery", a study reveals that when patients are operated in the interval of less than 24 hours between the incident and the treatment, the hospitalization time is shorter.¹⁴ However, in this study, patients waited more than 24 hours to receive surgical treatment.

As for the diagnosis "risk of infection at the surgical site" (SSI), it consists of the risk of developing an inflammatory and / or infectious process in the surgical wound, constituting an important indicator of health-related

infections. SSI can occur up to one year after surgical procedures involving prosthetic implants¹⁵, strongly associated with comorbidities such as diabetes and SAH; as well as the duration of surgery, use of prostheses in the POI, invasive procedures and the primary defense of the organism.⁶

Associated with the previous diagnosis, the "impaired skin integrity" is intentionally related to the destruction of the skin layers during surgery. It is directly related to the patient's clinical conditions, such as nutritional status and nutrient deficiencies.¹⁶ Among the predominant nursing care is dressing, observation of signs of infection, observation of bleeding, evaluation of suture conditions, among others.¹³

The diagnosis "risk of injury due to perioperative positioning" requires preventive measures, especially in the intraoperative period, through the use of protective equipment and preventive interventions for the prolonged time of the procedures. As nursing care we can include the use of safety cushions, protection of bony prominences and use of protective bands in surgical positioning.¹² In addition, care is taken to determine the patient's range of motion, joint stability, use of auxiliary equipment for immobilization, locking of the operating table wheels, protection of venous access lines, catheters and respiratory circuits, monitoring of the patient's position during surgery - avoid fixed hyperemia.¹³

Finally, in relation to the "constipation" diagnosis, defined as the decrease in the normal evacuation frequency, accompanied by difficult or incomplete stool elimination - defining characteristics: inability to defecate, change in the intestinal pattern, postoperative intestinal obstruction.⁶ Among the care is to monitor the signs and symptoms, evaluate the peristaltic movements and bowel sounds, evaluate the consumption recorded in relation to the nutritional content.¹³

Conclusion

In this study, elderly patients between 60 and 70 years old, with associated comorbidities, with fractures in the neck of the femur due to falling from their own height, submitted to spinal anesthesia and total hip arthroplasty predominated.

The analysis of the medical records allowed the identification of nine nursing diagnoses, namely: acute pain, impaired ambulation, risk of pressure injury, impaired tissue integrity, risk of infection at the surgical site, delayed surgical recovery, constipation, risk of falling, and risk of pressure injury.

Traumas that affect the musculoskeletal system cause pain, loss of limb function and deformities, which affects the performance of activities of daily living (ADLs) and their representation before society. For this reason, mainly in the elderly, we seek to improve the quality of life with educational and preventive measures for injuries. In this sense, from the analyzed nursing developments, the role of nursing is evident in the entire therapeutic process, from prevention to aspects related to treatment and rehabilitation.

The professional improvement of the team must be maintained so that strategies are used to allow the physiological changes inherent to the surgical procedure to be known, with the objective of detecting any changes early and, thus, avoiding complications and increasing the length of hospital stay.

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