

POST-OPERATIVE NURSING CARE FOR ENDOVASCULAR CORRECTION OF DESCENDING AORTIC AORTIC ANEURYSM IN AN INTENSIVE CARE UNIT

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Abstract: Introduction: The role of nurses in post-operative care after major surgery must follow well-established routines, as interdisciplinary communication is essential, directing care and minimizing the risk of adverse events, providing quality and safe care for the patient. **Objectives:** To deepen knowledge about nursing care in the postoperative period after descending thoracic aortic aneurysm repair. **Methodology:** Descriptive narrative research work, of a qualitative nature. The information contained in this work was obtained through a literature review. **Results:** Surgical treatment of descending thoracic aortic aneurysm has a high morbidity and mortality rate, endovascular treatment aims to exclude the aneurysm from circulation. The approach is performed percutaneously, generally via femoral access. After carrying out the procedure, the patient requires intensive care in the immediate post-operative period. For this surgery, specific care in the ICU is essential, mainly continuous monitoring of vital signs; monitoring the puncture site, monitoring bleeding; monitoring of lower limb ischemia; monitor lower limb mobility; monitor blood pressure signals, maintaining a target MAP of 80-100mmhg. **Conclusion:** It is understood that one of the main objectives of post-operative care for complex procedures is to prevent the occurrence of complications, thus requiring the nurse to have specific knowledge about the various surgeries, thus being able to interfere in the recovery, identify their main complications and act effectively to promote patient recovery.

Keywords: Intensive therapy. Nursing. Surgery.

INTRODUCTION

Cardiovascular diseases are the main cause of death not only in Brazil, but throughout the world (MINISTÉRIO DA SAÚDE, 2023).

Coronary artery disease (CAD),

cerebrovascular disease, arterial hypertension (AH), peripheral arterial disease (PAD), rheumatic heart disease, congenital heart disease and heart failure are members of the group of cardiovascular diseases. The main risk factors for vascular disease are high blood pressure, smoking, diabetes mellitus and dyslipidemia (RIBEIRO, et al; 2017).

An aneurysm can be defined as a localized and/or diffuse dilation caused by an increase in diameter 50% greater than expected for a blood vessel. The main etiology is atherosclerotic disease, and may also be secondary to blunt chest trauma, infection or connective tissue diseases. Aneurysms can form in any artery in the body, however they most commonly develop in the aorta artery, in the abdominal portion. The prevalence of abdominal aortic aneurysm (AAA) can vary depending on factors such as age, gender and other risk factors. According to epidemiological studies, the prevalence of AAA in men over 65 years of age can vary from 4% to 8%, depending on the population studied and demographic characteristics. (GUIRGUIS-BLAKE, et al., 2014).

Descending thoracic aortic aneurysm is the most common cause of thoracic aortic disease that affects the circulatory system and requires surgical intervention. The relevance of aortic aneurysm is based on the high mortality rate that occurs when it ruptures and the low fatality rate described with elective surgical correction in specialized services. The risk of aneurysm rupture is associated with the diameter of the aneurysm and its location. Thoracic aortic aneurysms (TAA) have an incidence of around 10/100 thousand individuals/year, the majority (95%) are asymptomatic and the main etiology is degenerative (MINISTRY OF HEALTH / CONITEC, 2018).

The treatment of an aortic aneurysm will depend on the size and whether it is causing

symptoms or not. Small aneurysms may not be indicated for surgery and require only clinical monitoring. Larger, symptomatic aneurysms must be treated with intervention.

There are two types of intervention for treatment, conventional or open surgery and endovascular surgery performed by puncture of the inguinal artery, placement of a sheath and introduction of a guided catheter to locate the aneurysm and insertion of the endoprosthesis.

Endovascular treatment is currently one of the most used forms of surgical treatment, which has revolutionized the treatment of this disease. Today, most cases can be treated using this, avoiding major open surgeries. The procedure is performed in hemodynamics because it allows visualization of the arteries through equipment resources that allow visualization with the use of contrast. The main advantage of this type of treatment is the visualization of the affected area, which is difficult to access through high technology, being minimally invasive, consequently also generating a shorter hospital stay. The disadvantages include the high cost of technology and a qualified multidisciplinary team.

Endovascular treatment, currently, emerges as one of the most preponderant surgical approaches, triggering a notable revolution in the management of complex vascular diseases. One of its most notable facets is its ability to envision and intervene in anatomically challenging locations, using cutting-edge technologies. This therapeutic modality, characterized by its minimally invasive nature, not only leads to a significant reduction in hospital stays, but also offers a more pleasant surgical experience for patients.

However, it is imperative to consider the challenge represented by the high cost of the technology involved in this type of treatment, as well as the demand for a highly qualified multidisciplinary team, which plays a crucial

role in obtaining successful clinical results.

Endovascular repair of descending aortic aneurysms is a complex and highly specialized surgical procedure that has become increasingly common in recent years due to technological advances and the search for less invasive alternatives in vascular surgery. This procedure involves implanting a vascular stent graft into the aorta to repair the aneurysm, avoiding the need for open surgery.

The role of nurses in post-operative care after major surgery must follow well-established routines, as interdisciplinary communication is essential, directing care and minimizing the risk of adverse events, providing quality and safe care for the patient.

METHODOLOGY

This research work was based on a qualitative descriptive narrative approach based on literature review, being a valuable approach to explore and analyze a specific topic in depth, without the need to collect primary data. This type of research focuses on a detailed understanding and contextualized description of the topic in question, using bibliographic sources and published materials.

RESULT

endovascular treatment aims to exclude the aneurysm from circulation. The approach is performed percutaneously, generally via femoral access. After carrying out the procedure, the patient is sent to the Intensive Treatment Center, where they require intensive care in the immediate post-operative period, remaining under observation until they are able to be transferred to the common hospitalization unit.

Surgical treatment of a descending thoracic aortic aneurysm is considered a high-risk procedure due to the complexities involved and potential complications, including morbidity and mortality. In this context, endovascular

treatment stands out as a significant alternative approach. This approach aims to exclude the aneurysm from the blood circulation through a minimally invasive intervention. In this procedure, a stent Endovascular (also known as stent graft) is implanted inside the aorta to cover the area of the aneurysm, strengthening the aortic wall and preventing the risk of rupture. This technique offers several advantages over open surgery, including shorter hospital stays, faster recovery and a lower morbidity and mortality rate. However, it is important to highlight that endovascular treatment also presents challenges, such as the need for adequate vascular access, careful patient selection and long-term follow-up to monitor the behavior of the endoprosthesis. The choice between open surgical treatment and endovascular treatment depends on the individual assessment of the patient, the characteristics of the aneurysm and the experience of the medical team.

Endovascular treatment plays a key role in the management of descending thoracic aortic aneurysms, offering a less invasive and potentially safer option compared to traditional surgery, especially in patients at high surgical risk. The decision on the appropriate therapeutic approach must be made after a complete assessment of the patient and considering the specific characteristics of the aneurysm. (CZERNY, M., et al., 2020).

Nursing care in the postoperative period following endovascular repair of a descending aortic aneurysm in an intensive care unit (ICU) is essential for the patient's safe and successful recovery. The following presents evidence-based care, with incorporated bibliographic references, to support best nursing practices:

Cardiovascular and Respiratory Monitoring: It is essential to carry out strict monitoring of the patient's cardiovascular and respiratory parameters. This includes measuring blood pressure, heart rate,

respiratory rate and oxygen saturation (SaO₂) at regular intervals (Kumar, Abbas, & Aster, 2020).

Pain Management: Postoperative pain must be assessed continuously using appropriate scales to determine pain intensity. Painkillers, such as opioids, may be administered as needed to ensure patient comfort.

Neurological Monitoring: Neurological assessment is crucial to detect any changes in the state of consciousness, motor function or sensitivity (Perry et al., 2014).

Vascular Monitoring: Checking the distal pulse and perfusion in the lower extremities is essential to ensure adequate blood flow after the procedure (Ignatavicius, Workman, Rebar, & Heimgartner, 2017).

Hemorrhage and Hematoma Monitoring: It is important to observe signs of bleeding or hematoma formation at the incision site or at the insertion sites of endovascular catheters (Ignatavicius et al., 2017).

Fluid and Electrolyte Control: Maintaining fluid and electrolyte balance is essential to prevent fluid overload or imbalances (Ackley, Ladwig, Makic, & Martinez-Kratz, 2019).

Prevention of Pulmonary Complications: Early mobilization, deep breathing exercises, and removal of lung secretions help prevent pulmonary complications (Ackley et al., 2019).

Vital Signs Monitoring: Vital signs, including temperature, must be monitored regularly to identify possible signs of infection (Ignatavicius et al., 2017).

Prevention of Deep Vein Thrombosis (DVT): Measures to prevent DVT include wearing compression stockings and administering blood thinners as prescribed.

Catheter Care: If an arterial or central venous catheter has been inserted, it must be monitored for patency, infections or

complications.

Psychological Support and Patient Education: Providing psychological support to the patient and family, as well as educating them about post-operative care, warning signs and expected recovery, is an essential part of care (Ackley et al., 2019).

This nursing care is based on evidence and clinical practice guidelines, ensuring the quality and safety of patient care in the postoperative period of endovascular repair of descending aortic aneurysm in the ICU.

Remembering that nursing practice can evolve over time, therefore, it is important to consult updated guidelines and institutional health care policies when implementing this care in the current clinical context.

For this surgery, specific care is essential in the ICU in order to cope with and prevent complications resulting from the vascular surgery to which the patient underwent. Complications mainly continuous vital sign monitoring; monitoring the puncture site, monitoring bleeding; monitoring of lower limb ischemia; monitor lower limb mobility; monitor blood pressure signals, maintaining a target MAP of 80-100mmhg.

CONCLUSION

It is understood that one of the main objectives of post-operative care for complex procedures is to prevent the occurrence of complications, thus requiring the nurse to have specific knowledge about the various surgeries, thus being able to interfere in the recovery, identify their main complications and act effectively to promote patient recovery.

One of the main objectives of postoperative nursing care, especially after complex surgical procedures, is to prevent the occurrence of complications and promote a safe and effective recovery for the patient. To achieve this goal, nurses need to have specific knowledge about surgical procedures, as well as the potential

complications associated with them.

Here are some reasons why this knowledge is critical for nurses:

Early Identification of Complications: With a solid knowledge of surgical procedures, nurses can identify early signs and symptoms of postoperative complications, allowing for immediate interventions and reducing the impact of complications.

Personalization of Care: Understanding the particularities of a specific surgical procedure helps nurses adapt nursing care to the patient's individual needs.

Patient Education: Nurses can provide clear, relevant information to patients about what to expect after surgery, including possible complications, warning signs, and follow-up care.

Infection Prevention: Knowing which surgical procedures have the highest risk of infection allows nurses to take specific preventive measures, such as appropriate administration of antibiotics.

Promoting Recovery: With specific knowledge, nurses can implement care strategies that promote faster and more effective recovery, including early mobilization, wound care, and pain management.

Interprofessional Collaboration: Detailed knowledge of surgical procedures allows for effective communication with other members of the healthcare team, including surgeons, anesthesiologists, and physical therapists, to ensure a comprehensive care approach.

It is important to highlight that continuing education and career-long learning are essential for nurses to keep their knowledge up to date, as surgical techniques and healthcare practices can evolve over time. Interdisciplinary teamwork also plays a crucial role in promoting a successful recovery

for patients undergoing complex surgical procedures.

Nursing care in the postoperative period of complex procedures, with the aim of preventing the occurrence of complications, is an essential pillar of perioperative nursing practice. In this article, we explore this critical goal in detail and highlight the importance of a comprehensive, patient-centered approach to achieving it.

When reviewing the literature, we were able to observe that the prevention of postoperative complications is a central concern shared by nurses, surgeons and other health professionals. Through constant vigilance, acquiring detailed knowledge about surgical procedures, implementing evidence-based care protocols, and patient education, nurses play a central role in preventing complications and promoting a safe and effective recovery.

As we advance the field of perioperative nursing, it is crucial that we continue to prioritize preventing complications as a major goal of our practice. This not only improves clinical outcomes for patients, but also contributes to the efficiency of healthcare systems and the quality of life for individuals undergoing complex surgical procedures.

In conclusion, nursing care in the postoperative period of complex procedures is an inextricable part of the overall surgical process. By focusing on preventing complications, nurses play a critical role in promoting positive patient outcomes. This ongoing commitment to excellence in care is fundamental to the practice of perioperative nursing and must be maintained and improved as we advance in the field of healthcare and patient care.

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