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Postoperative Complication and Depression: A Literature Review

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A B S T R A C T

Surgical procedure is a significant factor for patients and is associated with depression. This literature review aimed to identify depressive conditions in patients with a history of postoperative hospitalization. Depressive conditions, anesthesia, and surgery can lead to a high increase in patient morbidity and mortality. Major depressive disorder is a common complication leading to increased morbidity and mortality. Depressive disorders can cause patients to develop certain diseases that occur postoperatively, especially in patients who have malignant tumors or carcinomas that will undergo surgery. Depression is associated with cognitive impairment, which is exacerbated by postoperative events. There is evidence that postoperative pain is seriously depressing, and depression causes pain to worsen. Depression is also a strong predictor and correlates with persistent postoperative pain. In conclusion, depression can also occur in patients admitted to the intensive care unit, associated with high morbidity and mortality rates, thereby increasing the possibility of additional hospitalization costs.

1. Introduction

Depression is an affective disorder that occurs in the United States with an incidence rate of 16.6% with major depression at least once in their lives.[1] The disease suffered can cause mental, emotional, social, or psychological side effects, and these effects are apparent when the patient undergoes treatment in a surgical clinic. Surgery is a trauma factor for patients associated with anxiety or depression.[2,3] Several physiological systems of the body, such as the central nervous system, endocrine, can trigger stress.[4] As a result, there can be long wound healing, frequent requests for pain medication, the risk of postoperative complications, and length of hospital stay, ultimately increasing mortality and morbidity. Gender and age factors and other clinical factors, such as the degree of surgical wound injury, affect the surgical recovery time associated with the incidence of depression.[5] Tissue injury after surgery is immune-related, where the condition is associated with the risk of infectious disease complications.[6,7] This literature review aimed to identify depressive conditions in patients with a history of postoperative hospitalization.

Depression and cognitive impairment in postoperative patients

A sign of depression is usually following the occurrence of cognitive impairment.[8] Cognitive impairment occurs due to episodic memory impairment, characterized by poor concentration conditions, and shows a continuous decline in visuospatial skills. Depression can progress to mild cognitive impairment (MCI). Symptoms of depression are a predictor for the incidence of Alzheimer's

dementia.[9,10] Postoperative cognitive dysfunction (POCD) syndrome is a reasonably severe complication after anesthesia for major surgery that often occurs in elderly patients, usually over 60 years of age. Cognitive impairment usually occurs in the early postoperative weeks, where the rate is around 30-50%.[11] The decreased function can occur continuously up to 10-20% at three months postoperatively. Factors that occur in vascular disorders are often associated with POCD and depression. Further studies are needed, such as randomized and controlled study designs.

Postoperative pain and depression

Pain is a multidimensional activity with affective, motivational, and sensory elements. An experience occurs in the quality and intensity of the noxious stimulus, the perception of location, and the emotional dimensions, then the stimulus discomfort or affective salience. When these feelings occur together, they will worsen, and depression will happen in the patient. Incidence of acute pain that occurs after necessary surgery. Symptoms often felt in postoperative patients are usually moderate to severe, although, in some conditions, they can be overcome by giving anti-pain.[12]

Continuous pain is often associated with decreased patient happiness, chronic postoperative pain, and increased pulmonary and cardiac complications accompanied by limited postoperative ambulation, affecting morbidity and mortality rates. Several studies mention the relationship between psychological morbidity and the incidence of acute postoperative pain.[13,14] A study showed that depression before surgery was significantly associated with the incidence of postoperative pain and the drugs used. A previous study stated that patients with depression would have a greater pain intensity after surgery and its relationship with the use of tramadol as an anti-pain.[15] Several studies explain that the relationship between the use of analgesics and the incidence of pain can reduce postoperative pain.[10-12] Previous research showed that the therapeutic effect of analgesia, especially the use of a thoracic epidural, was high compared to intravenous analgesia, which was monitored for three days in CABG surgery.[8]

Postoperative depression occurs because the pain generated during surgery is more likely to cause a higher incidence of pain, affecting depression.[9,11] This is also related to postoperative infection conditions, where if an infection occurs, it affects the pain threshold and the incidence of postoperative pain, such as the presence of malignant tumors, poor quality of life, poor health conditions with a history of comorbidities, and the occurrence of other postoperative complications. A multimodal study was conducted on postoperative depression patients. Observational objective presentation of the data is carried out after the patient recovers from the effects of anesthesia. In the future, we hope that there will be applications or tools that can be used to predict high-risk patients to prevent postoperative pain.

2. Conclusion

Depression can also occur in patients admitted to the intensive care unit, which is associated with high morbidity and mortality rates, thereby increasing the possibility of additional hospitalization costs.

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