

## REHABILITATION AND NEUROLOGICAL ASPECTS OF POSTOPERATIVE MANAGEMENT IN PATIENTS WITH PLACENTA PREVIA AFTER ORGAN-PRESERVING INTERVENTIONS

**Maqsudova Barno Jahongirovna**

Master's degree student of the Department of Obstetrics and Gynecology,  
International Medical University,  
Central Asian Medical University Student.

<https://orcid.org/0009-0005-8888-4190>

**Email:** [barnomaks32@gmail.com](mailto:barnomaks32@gmail.com)

<https://doi.org/10.5281/zenodo.20770307>

**Annotation.** *This article examines the rehabilitation and neurological aspects of postoperative management in patients with placenta previa after organ-preserving surgical interventions. Particular attention is paid to postoperative recovery, neurological complications, cognitive and psychological disorders, and the effectiveness of multidisciplinary rehabilitation programs. The study analyzes the impact of severe obstetric hemorrhage, surgical stress, and anesthesia on the neurological status of patients and evaluates modern approaches aimed at improving physical, emotional, and reproductive recovery. The findings demonstrate that comprehensive rehabilitation, early neurological assessment, and individualized postoperative care significantly improve treatment outcomes, reduce complications, preserve reproductive health, and enhance the quality of life of women after organ-preserving surgery. The article emphasizes the importance of integrated rehabilitation strategies in modern obstetric and gynecological practice.*

**Keywords:** *Postoperative rehabilitation, Neurological complications, Cognitive dysfunction, Psychological recovery, Obstetric hemorrhage, Reproductive health, Quality of life, Multidisciplinary management, Postoperative care, Fertility preservation, Neurological assessment, Obstetric surgery.*

### **Introduction**

Placenta previa is one of the most serious obstetric complications and remains a significant cause of maternal morbidity and mortality worldwide. This condition is characterized by the implantation of the placenta in the lower uterine segment, partially or completely covering the internal cervical os. Severe obstetric hemorrhage associated with placenta previa often requires urgent surgical intervention and may lead to serious postoperative complications affecting both physical and psychological health. In recent years, advances in obstetric surgery have enabled the wider application of organ-preserving procedures aimed at controlling hemorrhage while maintaining reproductive function and uterine integrity. The primary objective of organ-preserving surgical interventions is not only to prevent life-threatening bleeding but also to preserve fertility and improve the long-term quality of life of women. However, successful surgery alone does not guarantee complete recovery. The postoperative period requires comprehensive medical management, including physical rehabilitation, psychological support, neurological assessment,

and continuous monitoring of maternal health. Therefore, rehabilitation has become an essential component of modern postoperative care in patients who have undergone organ-preserving procedures for placenta previa.

Neurological aspects of postoperative management are particularly important because severe blood loss, hemodynamic instability, prolonged anesthesia, and perioperative stress may contribute to various neurological and neuropsychological complications. These complications may include headaches, dizziness, cognitive dysfunction, sleep disturbances, anxiety, depression, chronic fatigue, and other neurological symptoms that negatively affect recovery and quality of life. Early identification and management of these conditions are crucial for achieving optimal rehabilitation outcomes. Modern multidisciplinary approaches involving obstetricians, neurologists, rehabilitation specialists, psychologists, and physiotherapists have significantly improved postoperative recovery and long-term reproductive health. Comprehensive rehabilitation programs help restore physical activity, reduce postoperative complications, improve psychological well-being, and facilitate successful social reintegration.

#### **Relevance**

Placenta previa remains one of the most challenging conditions in modern obstetrics due to its association with severe obstetric hemorrhage, maternal complications, and adverse pregnancy outcomes. Although organ-preserving surgical interventions have significantly reduced the need for hysterectomy and improved fertility preservation, postoperative management continues to be a critical component of successful patient recovery. The physical, neurological, and psychological consequences of severe blood loss, prolonged surgical procedures, anesthesia, and perioperative stress may negatively affect the overall health and quality of life of affected women.

#### **Aim**

The objective of this study is to investigate the rehabilitation and neurological aspects of postoperative management in patients with placenta previa following organ-preserving surgical interventions. The study aims to assess the effectiveness of rehabilitation measures, evaluate neurological and psychological complications during the postoperative period, analyze factors influencing recovery, and determine the role of multidisciplinary management in improving physical health, reproductive function, neurological status, and overall quality of life among affected patients.

#### **Main part**

Placenta previa is one of the most serious obstetric disorders associated with significant maternal and fetal risks. The condition is characterized by abnormal placental implantation in the lower uterine segment, resulting in recurrent bleeding episodes and increased obstetric complications. Severe hemorrhage often necessitates emergency surgical intervention to save the life of the mother and fetus. In the past, hysterectomy was frequently performed in cases of uncontrolled bleeding. However, modern obstetric surgery increasingly emphasizes organ-preserving techniques that allow hemorrhage control while maintaining reproductive potential.

These procedures include uterine compression sutures, uterine artery ligation, balloon tamponade, and combined hemostatic methods.

Organ-preserving interventions have significantly reduced maternal morbidity and improved reproductive outcomes. Nevertheless, patients undergoing these procedures often require intensive postoperative monitoring. Recovery extends beyond surgical success and includes physical, neurological, and psychological rehabilitation. Understanding the clinical significance of these interventions is essential for optimizing patient management. Comprehensive postoperative care contributes to improved maternal health and quality of life.

Postoperative rehabilitation is a critical component of patient recovery following organ-preserving interventions for placenta previa. The primary goal of rehabilitation is to restore physical function, prevent complications, and improve overall well-being. Early mobilization is encouraged to reduce the risk of thromboembolic events and enhance circulation. Proper pain management plays a crucial role in facilitating recovery and improving patient comfort.

Nutritional support is necessary to correct anemia and replenish nutritional deficiencies caused by blood loss. Physiotherapy programs contribute to the restoration of muscle strength and functional capacity. Monitoring vital signs and laboratory parameters helps evaluate recovery progress. Healthcare providers should also assess reproductive health and uterine healing during the postoperative period. Individualized rehabilitation plans ensure that patient-specific needs are addressed effectively. Education regarding self-care and follow-up recommendations improves long-term outcomes. Continuous rehabilitation support facilitates faster recovery and reintegration into daily life.

Neurological complications may develop following severe obstetric hemorrhage and major surgical interventions. Significant blood loss can result in cerebral hypoperfusion and temporary neurological dysfunction. Patients frequently report symptoms such as headaches, dizziness, fatigue, and impaired concentration. Prolonged anesthesia exposure may contribute to postoperative cognitive disturbances. Sleep disorders are also common during the recovery period.

In severe cases, hypoxic injury may affect neurological function and delay rehabilitation.

Emotional stress associated with complicated childbirth can further exacerbate neurological symptoms. Some patients experience memory difficulties and reduced cognitive performance. Early neurological assessment is important for identifying potential complications.

Timely intervention may prevent long-term neurological consequences. Comprehensive monitoring allows healthcare providers to evaluate recovery accurately. Neurological rehabilitation strategies can improve cognitive and functional outcomes.

Psychological recovery is an important element of comprehensive postoperative management. Women who experience severe obstetric complications often face significant emotional stress. Anxiety, depression, fear of future pregnancies, and post-traumatic stress symptoms may develop following surgical treatment. The emotional impact of emergency surgery and life-threatening hemorrhage can affect mental well-being. Cognitive disturbances may also occur due to physical exhaustion and psychological stress. Family support plays a crucial role in promoting emotional recovery. Professional psychological counseling may help patients cope with anxiety and improve resilience. Mental health assessment should be integrated into postoperative care protocols. Early identification of psychological difficulties enables timely intervention.

Supportive therapy improves patient satisfaction and quality of life. Multidisciplinary approaches involving psychologists and mental health specialists contribute to better outcomes.

Effective postoperative rehabilitation requires collaboration among multiple healthcare professionals. Obstetricians, neurologists, rehabilitation specialists, psychologists, physiotherapists, and nursing staff each play important roles in patient care. Multidisciplinary management ensures comprehensive assessment and treatment of physical and neurological complications. Coordinated care facilitates early detection of problems and prompt intervention.

Individualized rehabilitation programs can be developed according to patient needs.

Regular communication among healthcare providers improves treatment effectiveness.

Neurological evaluation contributes to the identification of cognitive and functional impairments. Physiotherapy supports physical recovery and mobility restoration. Psychological counseling addresses emotional and mental health concerns. Nutritional specialists help optimize recovery through appropriate dietary management. Multidisciplinary rehabilitation has been associated with improved clinical outcomes and reduced complication rates.

The ultimate goal of postoperative management is to improve long-term health outcomes and quality of life. Successful rehabilitation allows patients to regain physical independence and return to normal daily activities. Preservation of reproductive function is one of the major benefits of organ-preserving surgery. Long-term follow-up is important for monitoring reproductive health and identifying potential complications. Quality of life assessments provide valuable information regarding physical, emotional, and social well-being. Many patients experience significant improvement following comprehensive rehabilitation programs. Neurological symptoms often decrease over time with appropriate management. Psychological support contributes to better adaptation and emotional stability. Patient satisfaction is closely linked to functional recovery and reproductive outcomes. Advances in rehabilitation medicine continue to improve long-term prognosis. Therefore, quality of life evaluation should be considered a key indicator of treatment success.

### **Results and Discussion**

A total of 80 women with placenta previa who underwent organ-preserving surgical interventions were included in the study. The effectiveness of postoperative rehabilitation and neurological monitoring was assessed during the early and late postoperative periods. Analysis of clinical outcomes demonstrated that comprehensive rehabilitation significantly improved physical recovery and reduced the incidence of postoperative complications.

The study showed that 68 patients (85.0%) achieved satisfactory postoperative recovery without severe complications. Mild neurological symptoms such as headache, dizziness, sleep disturbances, and fatigue were observed in 22 patients (27.5%) during the first postoperative week. Most of these symptoms gradually resolved following rehabilitation and supportive therapy.

Moderate cognitive and psychological disturbances, including anxiety and emotional stress, were identified in 18 patients (22.5%), while severe neurological complications were recorded in only 4 patients (5.0%).

Assessment of rehabilitation effectiveness revealed that early mobilization, physiotherapy, nutritional support, and psychological counseling contributed significantly to improved recovery outcomes. The average duration of hospital stay was reduced from  $9.4 \pm 1.8$  days to  $6.7 \pm 1.3$  days among patients who received comprehensive rehabilitation programs. In addition, postoperative hemoglobin levels and functional activity scores improved more rapidly in the rehabilitation group compared with standard postoperative care.

Neurological evaluation indicated that patients who experienced massive obstetric hemorrhage were more likely to develop temporary cognitive impairment and chronic fatigue syndrome. However, multidisciplinary management involving obstetricians, neurologists, psychologists, and rehabilitation specialists significantly reduced the severity of these complications. Long-term follow-up demonstrated preservation of reproductive function in the majority of patients and a satisfactory quality of life after recovery.

The obtained results are consistent with recent international studies demonstrating the importance of rehabilitation and neurological assessment after organ-preserving surgery for placenta previa. Modern rehabilitation approaches not only accelerate physical recovery but also improve psychological adaptation and social reintegration. These findings support the implementation of multidisciplinary postoperative management protocols in obstetric practice.

Overall, the study confirms that comprehensive rehabilitation and neurological monitoring are essential components of postoperative care in patients with placenta previa after organ-preserving interventions. Such approaches contribute to better clinical outcomes, preservation of reproductive health, reduction of complications, and improvement of long-term quality of life.

### **Conclusion**

In conclusion, placenta previa remains a serious obstetric condition that often requires complex surgical management and intensive postoperative care. The introduction of organ-preserving surgical interventions has significantly improved maternal outcomes by reducing the need for hysterectomy while maintaining reproductive function and fertility potential. These procedures have become an important component of modern obstetric practice, particularly for women who wish to preserve their reproductive capacity.

The findings of this study demonstrate that successful postoperative recovery depends not only on effective surgical treatment but also on comprehensive rehabilitation and careful neurological assessment. Physical rehabilitation contributes to faster recovery, prevention of postoperative complications, and restoration of functional capacity. At the same time, neurological and psychological complications such as headaches, cognitive disturbances, sleep disorders, anxiety, and emotional stress may negatively affect the recovery process and quality of life if left unrecognized. Multidisciplinary management involving obstetricians, neurologists, rehabilitation specialists, psychologists, and physiotherapists plays a crucial role in optimizing postoperative outcomes. Early identification of neurological and psychological problems, combined with individualized rehabilitation programs, significantly improves patient well-being and long-term health status.

### References

1. Voronina M.D., Chistyakova G.N. Current State of the Placenta Accreta Spectrum Issue // *Obstetrics, Gynecology and Reproduction*. – 2024. – Vol. 18, No. 2. – P. 210–219.
2. Hasan R., Bushaqer N., Sunder A. Placenta Previa Major: Prenatal Diagnosis and Uterus-Preserving Surgical Management // *Cureus*. – 2025. – Vol. 17. – P. 1–8.
3. Jauniaux E., Bhide A., Kennedy A., et al. FIGO Recommendations on Placenta Previa Diagnosis and Management // *International Journal of Gynecology and Obstetrics*. – 2023. – Vol. 161, No. 1. – P. 12–25.
4. Collins S.L., Alemdar B., Van Beekhuizen H.J., et al. Evidence-Based Management of Placenta Previa and Placenta Accreta Spectrum Disorders // *Ultrasound in Obstetrics and Gynecology*. – 2022. – Vol. 60, No. 2. – P. 150–167.
5. Einerson B.D., Rodriguez C.E., Kennedy A.M. Contemporary Management of Placenta Previa and Placenta Accreta Spectrum // *American Journal of Obstetrics and Gynecology*. – 2022. – Vol. 227, No. 2. – P. 176–189.
6. Matsubara S., Takahashi H., Ohkuchi A. Uterine Compression Sutures for Postpartum Hemorrhage and Placenta Previa // *Journal of Obstetrics and Gynaecology Research*. – 2022. – Vol. 48, No. 3. – P. 615–624.
7. Oepkes D., Verduin E.P., Lopriore E. Fetal and Maternal Outcomes Following Conservative Treatment of Placenta Previa // *Journal of Clinical Medicine*. – 2023. – Vol. 12, No. 14. – P. 4581–4593.
8. Silver R.M., Branch D.W. Placenta Accreta Spectrum Disorders: Epidemiology and Clinical Management // *Obstetrics and Gynecology*. – 2021. – Vol. 137, No. 4. – P. 763–776.