STROKE: CASE-BASED CLINICAL OBSERVATION (STUDENT CLINICAL OBSERVATION REPORT)

https://doi.org/10.5281/zenodo.19797868

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Abstract: *This study presents a case-based clinical observation of stroke, integrating theoretical background with findings from student clinical practice. Stroke is a major cerebrovascular disorder associated with high morbidity and mortality, particularly among middle-aged and elderly populations. The paper outlines the main types and etiological factors of stroke, describes the clinical presentation observed in a specific patient, and discusses the nursing care and rehabilitation process. The aim of this study is to illustrate the application of theoretical knowledge in real clinical settings and to highlight the importance of comprehensive, patient-centered care in stroke rehabilitation.*

Keywords: *stroke, ischemic stroke, hemorrhagic stroke, cerebrovascular accident, case report, rehabilitation, nursing care, neurological disorders, psychological support.*

INTRODUCTION

Stroke remains one of the leading global public health challenges. According to the World Health Organization, approximately 12–15 million new cases occur annually worldwide. In the United States, around 750,000 cases are reported each year, while in Russia and Ukraine the figures are approximately 500,000 and 100,000 cases, respectively. In Uzbekistan, an estimated 60,000 new cases are recorded annually. Globally, ischemic heart disease ranks first among causes of death, followed by stroke, which accounts for approximately 6.6–7 million deaths each year.

The epidemiological burden of stroke is substantial. In some regions, mortality rates reach up to 175 per 100,000 population. Up to 50% of stroke survivors experience long-term or permanent disability, making stroke one of the leading causes of disability worldwide. The incidence is slightly higher in men, likely due to modifiable risk factors such as smoking, alcohol consumption, and chronic stress. However, women often experience worse outcomes, including higher mortality and disability rates, possibly due to older age at onset and biological factors influencing recovery.

An emerging concern is the increasing incidence of stroke among younger adults aged 18–45 years. This trend has been linked to metabolic syndrome, including obesity, physical inactivity, poor sleep patterns, and unhealthy dietary habits.

Ischemic stroke accounts for approximately 80–85% of all cases, whereas hemorrhagic stroke represents 15–20%. Stroke typically has an acute onset and often leads

to significant impairment in quality of life, including motor deficits, speech disorders, and cognitive decline. Therefore, early diagnosis, timely intervention, and comprehensive nursing care are essential for improving patient outcomes.

GENERAL INFORMATION ABOUT STROKE

Stroke is defined as an acute disruption of cerebral blood circulation resulting in brain tissue damage due to hypoxia and impaired nutrient supply. The two primary types of stroke are ischemic and hemorrhagic.

Ischemic stroke, also known as cerebral infarction, is the most common form, particularly in individuals over 45 years of age. Its main etiological factors include atherosclerosis of cerebral arteries, vascular inflammation, and hemodynamic disturbances. The underlying pathophysiological mechanism involves reduced cerebral perfusion due to vascular narrowing or occlusion, leading to ischemia and infarction of brain tissue. Thrombus formation may occur as a result of decreased blood flow velocity and alterations in coagulation processes.

Hemorrhagic stroke results from rupture of a cerebral blood vessel, leading to intracerebral hemorrhage. It is characterized by sudden onset and severe clinical manifestations, including loss of consciousness, vomiting, abnormal respiration, tachycardia, hyperthermia, and focal neurological deficits. The acute phase typically lasts one to three days. As consciousness returns, focal deficits such as hemiparesis and aphasia become evident. Partial recovery may occur with appropriate treatment and rehabilitation.

Common risk factors include arterial hypertension, cardiovascular disease, smoking, alcohol use, sedentary lifestyle, chronic stress, and poor diet. Embolic stroke, caused by a thrombus originating elsewhere in the body, often presents abruptly. In some cases, prodromal symptoms such as weakness and palpitations may be reported. Functional recovery depends on the severity of the event and timeliness of treatment.

Case Presentation

Patient History

The patient A., a 61-year-old male, residing in Tashkent, presented with a complex medical history. He had been diagnosed with HIV infection in 2013 and remained under regular follow-up at a specialized infectious disease clinic. In 2018, he experienced a myocardial infarction. He also had a long-standing history of arterial hypertension.

Family history was significant for cardiovascular and metabolic conditions, including hypertension, heart disease, and diabetes mellitus. This combination of comorbidities significantly increased his risk for cerebrovascular events.

Onset and Clinical Course

Initial symptoms appeared on April 3, 2025, and included dizziness, blurred vision, and elevated blood pressure (150/80 mmHg). The patient was admitted to hospital following a traffic accident and subsequently transferred to a neurology department for inpatient care. On April 5, 2025, he was transferred to the neurology department of

Emergency Hospital, where he received inpatient treatment until April 14 before being discharged home.

On April 15, the patient experienced a hypertensive episode (160/90 mmHg) accompanied by worsening neurological symptoms, prompting emergency medical intervention.

Emergency Care and Initial Management

Prior to hospital admission, first aid was provided by a trained caregiver. The patient received antihypertensive and supportive therapy. During this period, he developed right-sided hemiparesis, dysarthria, and peripheral facial nerve palsy. He was hospitalized and received inpatient treatment in neurology departments for approximately two weeks.

Rehabilitation and Nursing Care

Following discharge, the patient demonstrated significant motor and speech impairments. A structured rehabilitation program was initiated, including pharmacological therapy, physiotherapy, speech therapy, and supportive care interventions.

At approximately eleven months post-stroke, partial recovery was observed. The patient was able to ambulate with assistance, though gait disturbances persisted. Speech function improved partially, with the ability to produce simple words and short responses.

Vital signs were relatively stable at rest, although blood pressure increased under stress (it rises to 150–160/90 mmHg). The patient had discontinued smoking and alcohol consumption following the stroke.

STUDENT CLINICAL OBSERVATION AND REFLECTIONS

This clinical observation demonstrated that stroke has a profound impact not only on physical functioning but also on psychological well-being. The patient exhibited emotional lability, irritability, and episodes of unexplained crying, which are consistent with post-stroke neuropsychological changes.

Cognitive impairments, including reduced memory and attention, were also observed. These deficits negatively affected the patient’s confidence and overall emotional state.

Importantly, consistent and empathetic communication appeared to improve the patient’s engagement and psychological condition. Supportive interaction, even in response to minimal progress, played a significant role in maintaining motivation.

This experience highlights that psychological support is not secondary to medical treatment, but rather an integral component of comprehensive stroke care.

Discussion

This case highlights the complex interplay between physical, neurological, and psychological consequences of stroke. The patient’s multiple comorbidities significantly contributed to the development and progression of the condition.

The observed neurological impairments were consistent with typical stroke presentations. However, the psychological impact was equally significant and influenced the rehabilitation process.

The findings support existing evidence that multidisciplinary care, including psychological support, plays a critical role in improving recovery outcomes. Patient-centered communication and encouragement should be considered essential components of post-stroke management.

CONCLUSION

Stroke is a severe condition with long-term consequences affecting both physical and psychological health. This case demonstrates that successful rehabilitation requires not only medical and physical interventions but also sustained psychological support.

Early diagnosis, timely treatment, and a holistic approach to care are essential for optimizing recovery and improving quality of life.

RECOMMENDATIONS

Based on the observations made during this clinical practice, the following recommendations are offered for healthcare professionals, nurses, and family caregivers involved in stroke rehabilitation.

For Physicians

Treatment planning should consider both clinical and socioeconomic factors. Cost-effective therapeutic alternatives may be appropriate when financial limitations exist. A multidisciplinary approach involving neurologists, cardiologists, rehabilitation specialists, and psychologists is essential.

For Nurses

Nurses play a key role in monitoring vital signs, ensuring medication adherence, and supporting rehabilitation. Preventive care, including pressure ulcer prevention and regular patient communication, is essential.

For Family Members and Caregivers

Encouraging patient independence and providing emotional support are critical. Regular home-based rehabilitation exercises and social interaction contribute significantly to recovery.

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