

# Cerebrovascular accident report sample

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## **Introduction**

Cerebrovascular accident refers to stroke in which the blood flow to the brain is interrupted due to a rupture of an artery to the brain or blockage, resulting in oxygen deprivation and consequent death of brain cells. Our brain needs a steady oxygen supply to have blood pumped throughout the body effectively. The blood flowing through the arteries to the brain carries the oxygen. In the case of a cerebrovascular accident, one or few of these arteries get ruptured or blocked, thereby interrupting the flow of the oxygen-rich blood to the oxygen. Within 60-90 seconds of oxygen deprivation, the brain cells in the affected area die leading to irreversible damage (Wilde, 2003). Cerebrovascular accidents are of two types; ischemic cerebrovascular accident and hemorrhagic cerebrovascular accident. Ischemic cerebrovascular accident takes place when one or few arteries to the brain get blocked and a hemorrhagic cerebrovascular accident takes place when one or few blood vessels to the brain rupture or leak (Singh et al., 2014). Worldwide, Cerebrovascular accidents are the leading cause of death; while as per the CDC report it is the leading cause of death in the USA, killing about 130, 000 Americans every year. Typical clinical signs of cerebrovascular accident include hemiparesis or paralysis in leg or arm or one side of the body, abnormal sensations, ataxia, aphasia, and incontinence (Singh et al., 2014). If the cerebrovascular accident is of severe nature, then it can lead to even coma. The defect of the brain manifests as clinical sign on the opposite side to the affected area of the brain. For example, if the stroke takes place in the left side of the brain, then the right side of the body will get affected and vice versa. Diagnosis of stroke is established using the

imaging techniques such as MRI and CT scan (Wilde, 2003). This paper will discuss the causes of cerebrovascular accident, treatment and specific nursing interventions.

## **Causes of Cerebrovascular Accident**

There are mainly three causes of cerebrovascular accidents, including cerebral thrombosis, cerebral hemorrhage, and cerebral embolism (Wilde, 2003).

### **Cerebral Thrombosis**

A cerebrovascular accident triggered by cerebral thrombosis is a result of the condition called atherosclerosis in which plaque forms inside the blood vessels that carry oxygen to different parts of the body, including heart and the brain (Wilde, 2003). The plaque, consisting of cholesterol, fat, calcium and other substances found in the blood, narrows the brain arteries and over time limits the supply of oxygen to the brain tissues. Thus, when arteries are narrowed by atherosclerosis, a blood clot forms totally blocking the blood supply to a particular area of the brain, leading to stroke (NIH, 2014). The causes of atherosclerosis are attributed to sedentary lifestyle, unhealthy diet, smoking and drinking. Patients with diabetes, high cholesterol and hypertension have higher risks of atherosclerosis.

## **Arteries with and without plaque (NIH, 2014)**

### **Cerebral Hemorrhage**

A cerebrovascular accident triggered by cerebral hemorrhage occurs when one or few arteries to the brain rupture or leak blood in the surrounding brain tissues. This hemorrhage that may take place inside the brain, between the

membranes covering the brain and the brain, and between the brain covering and the skull kills brain cells. The cerebral hemorrhage can be caused by a head trauma or injury, hypertension, aneurysm, amyloid angiopathy and so on (Wilde, 2003).

## **Cerebral Embolism**

A cerebrovascular accident triggered by a cerebral embolism takes place when a clot formed in any other organ of the body travels to the brain artery through the bloodstream, thereby blocking the blood supply to the brain. This blockage can be created by fat, plaque or air that finds its way into the blood circulation (Wilde, 2003). Cerebral embolism is the most frequent cause of cerebrovascular accident and transient ischemic stroke.

## **Treatment**

The treatment process of cerebrovascular accident involves a multi-pronged approach. First of all, preventive care to reduce the risks of cerebrovascular accident or the recurrence of cerebrovascular accidents is taken. The preventive measures include regular medical checkup for any sign of risks. Also, factors such as smoking, obesity, high cholesterol, hypertension, diabetes, and excessive consumption of alcohol are also addressed (Roychoudhury, 2003). Secondly, the treatment involves the administration of oxygen to increase the amount of oxygen to the brain to reduce effect of stroke. Thirdly, the treatment of cerebrovascular accident requires monitoring and stabilizing the vital signs through CPR, intravenous medications, and advanced life support system. Mechanical ventilation system may be installed to support breathing (Wilde, 2003). Cardiac

movement is also monitored and treated, if required. Fourthly, In the case of ischemic stroke, medications called thrombolytic drugs are administered to dissolve the clot. These medications are administered intravenously. Anticoagulants such as heparin or aspirin are also used (Roychoudhury, 2003). Thrombolytic and Anticoagulants and thrombolytic drugs are, however, not used for hemorrhagic stroke as these may trigger further bleeding into the brain tissues. Finally, for some patients especially those with atherosclerosis, a surgical procedure is performed to remove the fatty deposit or plaque from the arteries and increase the blood flow to the brain (Wilde, 2003). Some hemorrhagic strokes triggered by a brain aneurysm can also be treated by a surgical procedure to treat the brain aneurysm and lessen the pressure on the brain (Wilde, 2003).

## **Nursing Interventions**

Nurses play an important role in the treatment procedures of cerebrovascular accident, especially as they are assigned with the duty of administering drugs, monitoring the diet of the patients, taking care of them through the extended period of care and treatment and helping the patients to rehabilitate. In the case of patients' death also, nurses play a crucial role to take care of the body of the patients and help the family members sail through the difficult period. Some of the important nursing interventions of stroke are discussed below:

## **Medications**

One important nursing intervention is to administer medications to the patients of stroke. Since in the case of stroke, each moment passed is crucial

for the life of the patient, a timely administration of medication can ensure the safety of patients. For instance, if thrombolytic drugs to dissolve the blood clot are administered to the patients within 3 hours of the manifestation of clinical signs, then 30% patients are likely to recover fully with small or no disability (McCormack and Reay, 2013). Besides, as thrombolytic drugs are administered intravenously, a slight oversight can cause a big damage to the patients, and therefore, nurses need to be expert in administering these drugs in right dosage.

## **Diet**

In reducing the chances of another stroke, diet plays an important role and it is the nurses' duty to accustom patients to a healthy diet plan when they are admitted in the hospital. The healthy diet plan involves low fat, low cholesterol and low potassium food that may contribute to the risk factors. Besides, dysphagia, which refers to an abnormality in swallowing, is a common condition experienced by at least 45% patients after a stroke (McCormack and Reay, 2013). Dysphagia causes difficulty in chewing and swallowing solid food. Nurses play a role in identifying, assessing, and managing dysphagia and ensuring that patients with dysphagia follow a diet of adequate nutrition and hydration.

## **Rehabilitation**

In helping stroke patients through the rehabilitation process, nurses play a crucial role. Since stroke leads to damages such as impaired speech and partial paralysis, it is the nurses' duty to help stroke patients maximize their functional abilities. The rehabilitation process may involve giving speech

therapy to the patients to help them relearn swallowing and talking, occupational therapy to gain mobility in the legs, hands, and arms, and physical therapy in restoring strength to keep balance while standing or walking (O'Connor, 2000). The main purpose of the rehabilitation process is to ensure that patients can resume as many functional activities as possible.

## **Extended Care and Death**

Many stroke patients need to remain under constant medical care for a prolonged period due to the development of various disabilities. Many a time, a stroke patient goes into coma and needs to be placed on the life support system. During the whole time the patient needs the extended care, it is the nurses who play an important role in monitoring the vital signs of the patient, administering medications on time, bathing and feeding the patient, and doing other required services (O'Connor, 2000). Even when the patient dies, the nurses need to take the physical care of the patient's body and help the patient's friends and family pass through the bereavement process.

## **Conclusion**

Cerebrovascular accident refers to stroke that occurs when the blood flow to the brain is interrupted by a blockage or rupture of the artery to the brain, leading to oxygen deprivation and consequent death of brain cells. Some of the clinical signs of cerebrovascular accident are paralysis in leg or arm or one side of the body, abnormal sensations, ataxia, and aphasia. In severe cases, the patient can even go into coma. The three main causes of stroke are cerebral thrombosis, cerebral hemorrhage, and cerebral embolism. The treatment procedure of stroke involves a multi-pronged approach, including

preventive care, administration of oxygen and medications, monitoring and stabilizing the vital signs, and surgical procedure. Nurses are a crucial part of the whole treatment procedure of cerebrovascular accident as they are the ones assigned with the duty to administer medications to the patients, monitor their diet, rehabilitate them and provide care to them for an extended period, even after death. Therefore, without nursing interventions, the recovery of stroke patients is nearly impossible.

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