

## The Nursing Care of a Chinese Suicidal Patient with an Internal Jugular Vein Catheterization with Hemodialysis

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**Abstract.** Purposes: Summarize the experience of nursing care on a suicidal patient with an internal jugular vein catheterization with hemodialysis. Prevention of such adverse events, improving adherence of patient to hemodialysis. Method: According to the patient's condition, implement emergency care when in a coma and observe closely to give treatment promptly in order to rescue the patient's life. Focus on prevention of a second suicide attempt when the patient is awake. Through timely psychological counseling and health education, instruct the patient's family to identify the various symptoms of a threatened suicide and take prompt interventions, thereby to reduce the incidence of suicidal behavior. Result: Through emergency nursing care treatment, Patient was in a stable condition and cooperated with the treatment. Patient's family knew how to deal with kinds of complication of hemodialysis simply. Conclusion: Generally, several factors will result in suicide behavior of diabetic nephropathy patients in hemodialysis. It is to find patient's unhealthy feelings timely, to take effective measures including aggressive symptomatic treatment, psychological counseling, and to ask help from patient's family that will avoid adverse events and improve patient's quality of life consequently.

### Introduction

Hemodialysis is a protracted process; patients undergo long-term torture of mental and illness. It reduces the quality of the patient's life, thus concurrent with varying degrees of depression and anxiety [1], and even suicidal behavior. But suicide rescue of hemodialysis patients rarely have been reported, we successfully rescued suicide within one case of diabetic nephropathy jugular vein catheter in hemodialysis patients due to severe depression caused. I hope through this article, the majority of the care given to colleagues in hemodialysis to learn.

For those diabetic nephropathy patients with hemodialysis catheters, when they have depression emotion, it should be paid more attention to their condition, given more analysis of suicide factor. When the suicide occur, the families or nurse should rescue them as soon as possible to gain time for lives. Suicidal behavior in patients is

recurrence, so prevention is very important, Through close observation of the patient's behavior, more positive intervention to patients, suicide events can be avoid .

After the patient is in a stable condition, it is important to establish their confidence, at the same time nursing care and guidance of health care is very vital for hemodialysis patients; Hemodialysis treatment is durable, observed daily care of patients is very important. Therefore, on the premise of the patients' families understand the disease knowledge, they can deal with emergency incident in the shortest time, Further the patient's families eliminate patients negative emotions with love, then the patients can abandon the suicide emotion and cooperate with maintenance hemodialysis treatment.

## **Background**

Current research shows that the incidence of depression in maintenance hemodialysis patients was 38.5% [4]. Chinese scholar XiaoFeng ZHU used a questionnaire about End Stage Renal Disease (short as ESRD) patients involving maintenance of hemodialysis in order to investigate the effect of depression and the quality of patients' lives. This study used Kidney Disease Quality of Life Summary Tables in order to assess the quality of patients' lives and also the Zung Self-Rating Depression Scale to assess patients' depression status. It also collected patients' basic social situation information, dialysis status and laboratory index. Regression analysis showed that depression scores have independent effects on quality of life. To sum up the results obtained, depression is the main reason of decreasing quality of life of ESRD on maintenance HD patients. According to a survey conducted by the United States [2], there were 15.7 people committing suicide annually amongst 100,000 ESRD patients. While in general population the number is only 9.0 people ( $p < 0.001$ ). This showed that depression is also the main reason for suicidal behavior.

## **Method**

### **Case Presentation**

Female patient, age 69, middle school education, retired, city health insurance, lives with son. On February 4, 2014 she came to the emergency room by 120 ambulance. Measuring the fingertip, it showed low blood sugar (data not shown). Administered 40ml 25% glucose intravenous injection and 250ml 5% glucose intravenous infusion. The patient has 30 years history of hypertension, 12 years of diabetes. On December 23, 2013 the patient stayed in my department in the hospital, accepted internal jugular vein catheterization and hemodialysis. On January 6, the patient had arteriovenous internal fistula operation and internal fistula unobstructed. On January 22, 2014 the patient was discharged from the hospital and had outpatient hemodialysis treatment three times per week. On February 3rd the patient's family found the patient with recurrent sweating and conscious confusion. The patient admitted to taking 24 glibenclamide tablets, but family did not do any treatment or disposal. Emergency admission symptoms: patient with conscious confusion, no reply to calls, cold limbs, stool incontinence. Basic vital signs: T: 36.3°C, P: 89 beats / min, R: 19 beats / min,

BP: 190 / 90mmgh. Immediately gave patient oxygen, fluids, monitored blood glucose, monitored ECG blood pressure, hemoperfusion and other therapeutic measures. On February 6 the patient had recovered clear consciousness; cold limbs improved, and could go to toilet. Glucose fluctuations in between 2.3--16.4mmoL / L. On February 8th, a bottle of nifedipine film-coated tablets were found under patient's pillow during nursing rounds. After communication the patient admitted to the idea of drug overdosing again. We confiscated the drugs immediately. For the continued suicidal intent, we gave timely psychological counseling intervention, pointed out the error in judgment and adjusted the patient's cognitive structure. Finally the patient gave up suicidal behavior and actively accepted the treatments.

### **Cause Analysis**

The patient was advanced age, retired and had relative lower education of middle school, she was persecuted by diabetes and had to take medication of hypoglycemic for many years, what was more painful was that she had to accept hemodialysis treatment three times every week. Although the patient had no economical pressure and families living with him, but he felt his and his family's life quality declined, so he took advantage of excess hypoglycemic drugs to suicide, after he was rescued he hid danger drug, so he had suicide tendency exactly.

### **For This Patient, Nurse Care as Follows**

#### **First Aid Care**

Keep the ward quiet. Keep the bed clean and tidy. Observe and record the patient's stool color, quality, quantity and clean excretions on time. Turn over the body regularly to prevent pressure sores. Observe limb situation and keep warm. Prohibit lateral position to prevent patients from falling out of bed.

Monitor blood glucose changes because the patient has diabetic nephropathy and oral hypoglycemic agents in order to control blood sugar. Inject high-sugar solution on the basis of changes in condition and rescue needs. Nurse needs to contact the doctor according to glucose levels in order to adjust the treatment plan.

Continuous multi-parameter ECG, close observation of vital signs, altered consciousness and limbs situation, and keep warm. Observe patient's bleeding complications in hemoperfusion process, observe changes in vital signs and the patient's consciousness, observe the internal jugular vein and also make sure the convergence at the dialysis tubing connections are tight enough to prevent patient's conscious changing will lead the catheter off.

Protect fistula, monitor arteriovenous fistula noise regularly and maintain fistula blood flow. Place the fistula limbs in functional position and prohibit forceful pulling of the internal fistula side when moving.

#### **Nursing Care after the Patient is Awake**

Suicide Prevention: Check patient's self-medication or household items, increase nurse inspection times and focus on patient's abnormal behavior.

Psychological counseling: The patient is depressed and refuses to communicate with people when awake. Let the patient's children spend more time with the patient, lead the patient to speak out his thoughts under the affection of family love. Nurse shows attention and care in order to enlighten the patient. Because the patient receives hemodialysis in a short time and does not know much about the treatment, the weekly visits to the hospital seem cumbersome. Warmly treat the dialysis patient and ask whether there is any uncomfortable feeling. Closely observe, encourage and communicate with the dialysis patient in order to deliver a positive example. This encourages the patient to adhere to long-term treatment and confidence. Encourage the patient to do their favorite activities on non-dialysis days, such as growing flowers, etc., in order to maintain their optimistic attitude.

Internal jugular vein catheter care: Explain to the patient that the internal jugular vein is the lifeblood of hemodialysis patients before the use of arteriovenous fistula. Instruct the patient to pay attention to skin health, keep the dressing dry and clean. And also get the disinfection and replacement dressing in a timely matter. Prohibit to tract catheter when it's using, give immediate suture if it's open or off. Using wire or four-wire suture can reduce the chance of a fixed line break. Also, if the tube is not comfortable, inform the patient and the families to avoid removal of the catheter when sleeping. Press the puncture site to prevent bleeding and hematoma formation if the catheter tip has been completely prolapse extravascular.

Exercise after arteriovenous fistula: After the arteriovenous fistula surgery, explain to the patient the importance of arteriovenous fistulas to hemodialysis. Inform the patient to forbid blood pressure, infusion, blood and other treatment on the operation side. Guide the patient to perform daily grip ball training, to expand the fistula and promote its maturation.

Dietary guidance: Instruct the patient to have regular meals. If meals are reduced, the dose of the drug should be reduced relatively; If meal cannot be taken on time, patient should eat fruit and cookies. Eat more fresh vegetables and grains. During hemodialysis process patient can eat some high-calorie food like cookies in order to prevent hypoglycemia. Control the water intake to prevent dehydration during dialysis so as to cause low blood sugar reactions.

Inform the patient and families about disease knowledge. Pompili M. etc. reveal that dialysis patients' suicide behavior is related to their mental state [5], and the reason resulting in elderly depression is very complex, such as disease and changes of lifestyle ,and so on [6]; Merrill et al demonstrated that diabetes and chronic renal failure raise the risk of death, although its effect fade away with age. To summarize [3] the patient in this case intentionally overdose antidiabetic drugs and cause her own life in danger, active and effective treatment is necessary in case of patient's death.

At the dialysis beginning stage of diabetic nephropathy patients with chronic kidney disease, patients are prone to have heart and cerebrovascular complications, these will reduce the quality of life of the patients; The high cost of hemodialysis increase the patients economic burden; To a certain extent hemodialysis treatment of weekly increase families' encumbrance; The most important aspect is that the patient have no confidence of recovery. In summary the patient is easy to have negative

emotions, even want to escape from the reality through remorse, self injury and even suicide. Taking care of diabetic nephropathy in hemodialysis patients, it is significant to pay attention to their emotion changes, rebuilding their confidence, thus the patients may abandon suicide notion. At the same time their families should learn more knowledge about low blood sugar and first aid methods, it is good to the patients rehabilitation.

## **Conclusion**

Diabetic nephropathy patients in hemodialysis attempt to kill themselves due to serious depression. The consequences are serious if the patients don't receive proper treatment. Depression state of hemodialysis patients could be changed by nursing care, explaining this special treatment and communicate between hemodialysis patients. Thus they can establish a positive and optimistic attitude, and receive hemodialysis treatment. At the same time their families should learn more knowledge about low blood sugar and first aid methods, it is good to the patients rehabilitation.

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