



Improving Hemodialysis in People With Kidney Disease in the Population

1. Iskandarova Shakhnoza

2. Aminova Asalya

Received 5th May 2022,
Accepted 6th Jun 2022,
Online 16th July 2022

¹ Scientific Adviser, Professor of the Department of Public Health, Healthcare Management of the Tashkent Pediatric medical institute (Uzbekistan)

² 3th year students of the Medical and Pedagogical faculty of the Tashkent Pediatric medical institute (Uzbekistan)

Annotation: Hemodialysis is one of the modern types of renal replacement therapy, intended for the treatment of patients suffering from end-stage chronic kidney disease. Improving the concept of hemodialysis, its effectiveness and education of the population in the question "who needs it?" significantly improve the prognosis of kidney disease. Kidney hemodialysis is the purification of blood from toxic substances, produced artificially. During the procedure, the blood leaves the body for a short time in order to return to it purified.

Key words: hemodialysis, vascular access, daily water intake.

The kidneys are vital organs and perform excretory and secretory functions. Persistently reduced kidney function is called chronic renal failure. With a decrease in kidney function, the formation of urine is disrupted and its constituents, for example, water and waste products, accumulate in the body, which leads to uremia. Dialysis is a method of partial replacement of kidney function, during which the blood is cleansed of waste products, excess salt and fluids are removed, and blood pressure and the balance of electrolytes such as potassium, sodium, chlorides, etc. are maintained. The study of propaganda, explanation of hemodialysis among the population, as a type of treatment, during which, with the help of a surgeon, an arteriovenous fistula is formed, through which the blood moves to the dialysis machine, undergoes purification and is safely returned back to the patient's body. Special equipment is used to purify the blood. In the process of hemodialysis, blood is purified outside the body using a special filter called a dialyzer, and then returned to the patient's circulatory system purified. A dialyzer is a device in which a semi-permeable membrane separates the patient's blood to be purified from the cleansing (dialysing) solution.

The dialyzer has two main parts: one part is for blood and the second part is for dialysate. Both of these parts are separated from each other by the dialyzer membrane. Blood and dialysate never mix and always remain isolated from each other. Red blood cells, proteins and other essential components remain in the blood because they are too large to pass through the membrane. Smaller waste products such as urea, sodium and potassium, as well as excess fluid, pass through the membrane and are

removed. The dialysate fluid can be modified according to the specific needs of the patient. These changes are determined by the appointment for dialysis.

In the dialyzer, blood passes through hundreds of small tubes. These tubes are made of special membranes with thousands of small holes that allow certain toxins and chemicals to pass through and be removed from the blood. These chemicals and toxins are then removed by the dialysis machine. At the other end of the tubes is specially treated water called dialysate. This is very pure water that has undergone a special purification process in the dialysis center, that is, the removal of all chemicals from it that could harm your body during the procedure. After purification, this water is mixed according to a special formula with the dialysate concentrate in the dialysis machine and only then passes through the dialyzer.

Dialysis fluid is a mixture of highly purified water and electrolytes used in dialysis to meet the needs of the body. There are different types of dialysis fluid, including those with added glucose. Dialysis fluid usually contains sodium, magnesium, potassium, calcium, chloride, and bicarbonate. During dialysis, the waste products contained in the blood pass into the dialysis solution through the semi-permeable membrane of the dialyzer.

Arteriovenous fistula is the most common type of vascular access in dialysis. A fistula is a minor operation that connects an artery and vein, usually in the forearm.

Blood begins to flow into the vein under arterial pressure, which ensures sufficient blood flow through the vein. In addition, due to the same blood pressure, the vein gradually expands, sometimes several times, its wall thickens, and it is fixed in the surrounding tissues. It is also often called a native fistula.

Good vascular access is critical to complete dialysis therapy. Since AVF puncture is an intervention in the body and, in fact, a small operation, the usual preoperative hygiene measures should be followed. This is closely monitored by doctors and nurses. Dialysis patients should also pay close attention to vascular access hygiene, as they are particularly vulnerable as a result of their illness and reduced body resistance. Before starting a dialysis session, the arm with the AV fistula should be washed with soap and water and dried with disposable wipes. Medical personnel use medical gloves while working with any vascular access, the procedure is carried out in accordance with strict infection control rules. During the hemodialysis procedure, the patient, as a rule, does not experience discomfort. As a rule, the dialysis regimen is three hemodialysis sessions per week, each of which lasts approximately 4-5 hours. Sometimes an increase in the frequency or duration of dialysis is required. More frequent or shorter dialysis procedures can adversely affect the patient's well-being and general condition of his body. The time needed for dialysis depends on:

- how well your kidneys are working
- how much fluid you gain between treatments
- how many waste products are in your body
- how much do you weigh
- What type of dialyzer (artificial kidney) is being used.

Some patients may experience some discomfort when inserting needles into a fistula or shunt, but most patients have no other problems. A correct explanation of all problems will avoid undesirable consequences and gives patients confidence in doctors. The dialysis procedure itself is painless. However, some patients may experience a drop in blood pressure. In this case, you may feel nauseous, vomit, have a headache, or have seizures. Training on the rules, free time in the days between dialysis treatments, no need to worry about doing the procedure yourself; thanks to modern technology, blood purification is easy and efficient; the procedure is usually done in a dialysis center. The fluid rate for

each patient is calculated based on the volume of urine excreted plus 500 ml per day. Approximately 500 ml is due to fluid loss through the skin and lungs. Weight gain between dialysis sessions should not exceed 1-1.5 kg in one day and 1.5-2.5 kg in 2-3 days. The smaller you are, the less weight you should gain. If you have to remove large amounts of water during dialysis, you may feel sick. Your blood pressure may drop and you may feel dizzy and lightheaded. Too high blood pressure increases the risk of myocardial infarction and an attack of angina pectoris, acute cerebrovascular accident. Arterial hypertension must be under control. A lot in the control of hypertension depends on the patient receiving dialysis treatment: it is necessary to learn how to control the amount of fluid consumed (interdialysis increase can be 3% of the "dry" weight and should never exceed 5% of the "dry" weight), limit the intake of salt and containing salt seasonings, as well as canned foods. If necessary, the doctor will prescribe drugs to lower blood pressure (antihypertensive drugs). However, it must be remembered that no medicine can help if excess fluid and salt accumulate in the body.

Spread out your fluid intake throughout the day using small cups to combat your thirst. You can also gargle with ice water, suck on ice cubes (containing no more than 10-15 ml of liquid per cube), or chew gum. Avoid salt and salty foods like chips, bacon, and soup as they will increase your thirst. Remember to be careful with hidden liquids, such as pill water, gravy, custards, and milk in oatmeal. If your body's water content reaches high levels, the accumulated fluid will cause swelling of the body, primarily due to gravity, usually at the ankles, and then it will spread higher up the body. If left untreated, excess fluid will accumulate in the lungs, causing a life-threatening condition called pulmonary edema. One of the main symptoms of this condition is difficulty breathing. A few such cases will harm the heart. You can try to remove excess fluid during dialysis, but if you continue to drink too much fluid, over time the damage will become irreversible and you will have chronic breathing and heart problems.

To improve hemodialysis, to familiarize the population with it, it is necessary to increase accessibility and conduct webinars on this topic. Without accessibility it is not possible to achieve this goal.

References

1. Narva AS. Reducing the burden of chronic kidney disease among American Indians. 2008
2. Rutkowski M, Mann W, Derosé S, et al. Implementing KDOQI CKD definition and staging guidelines in Southern California Kaiser Permanente. *Am J Kidney Dis.* 2009;
3. Saran R, Robinson B, Abbott KC, et al. US Renal Data System 2016 annual data report: epidemiology of kidney disease in the United States. *Am J Kidney Dis.* 2017;
4. Renal BC. Kidney services. 2017
5. Andrusev A. M., Kim I. G., Bikbov B. T., Tomilina N. A. Comparative analysis of the effectiveness of different types of renal replacement therapy in terms of long-term results. *Nephrology and dialysis.* 2009:
6. Akhmetzyanova E.Kh., Altynbaeva G.R., Akhmetzyanov A.S., Latyshev Yu.M. Daily blood pressure profile, myocardial hypertrophy in patients with nephrogenic arterial hypertension. 2007.