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side effect of hemodialysis

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Abstract: Hemodialysis can help your body control blood pressure and maintain the proper balance of fluid and various minerals — such as potassium and sodium — in your body. Normally, hemodialysis begins well before your kidneys have shut down to the point of causing life-threatening complications.

Introduction: Hemodialysis often involves fluid removal (through ultrafiltration), because most patients with renal failure pass little or no urine. Side effects caused by removing too much fluid and/or removing fluid too rapidly include low blood pressure, fatigue, chest pains, leg-cramps, nausea and headaches. These symptoms can occur during the treatment and can persist post treatment; they are sometimes collectively referred to as the dialysis hangover or dialysis washout. The severity of these symptoms is usually proportionate to the amount and speed of fluid removal. However, the impact of a given amount or rate of fluid removal can vary greatly from person to person and day to day. These side effects can be avoided and/or their severity lessened by limiting fluid intake between treatments or increasing the dose of dialysis e.g. dialyzing more often or longer per treatment than the standard three times a week, 3–4 hours per treatment schedule.

Disccusion Muscle cramps. Although the cause is not clear, muscle cramps during hemodialysis are common. Sometimes the cramps can be eased by adjusting the hemodialysis prescription. Adjusting fluid and sodium intake between hemodialysis treatments also may help prevent symptoms during treatments.

tching. Many people who undergo hemodialysis have itchy skin, which is often worse during or just after the procedure

Sleep problems. People receiving hemodialysis often have trouble sleeping, sometimes because of breaks in breathing during sleep (sleep apnea) or because of aching, uncomfortable or restless legs.

Anemia. Not having enough red blood cells in your blood (anemia) is a common complication of kidney failure and hemodialysis. Failing kidneys reduce production of a hormone called erythropoietin (uh-rith-roe-POI-uh-tin), which stimulates formation of red blood cells. Diet restrictions, poor absorption of iron, frequent blood tests, or removal of iron and vitamins by hemodialysis also can contribute to anemia.

Bone diseases. If your damaged kidneys are no longer able to process vitamin D, which helps you absorb calcium, your bones may weaken. In addition, overproduction of parathyroid hormone — a common complication of kidney failure — can release calcium from your bones.

High blood pressure (hypertension). If you consume too much salt or drink too much fluid, your high blood pressure is likely to get worse and lead to heart problems or strokes.

Fluid overload. Since fluid is removed from your body during hemodialysis, drinking more fluids than recommended between hemodialysis treatments may cause life-

threatening complications, such as heart failure or fluid accumulation in your lungs (pulmonary edema).

Inflammation of the membrane surrounding the heart (pericarditis). Insufficient hemodialysis can lead to inflammation of the membrane surrounding your heart, which can interfere with your heart's ability to pump blood to the rest of your body.

High potassium levels (hyperkalemia). Potassium is a mineral that is normally removed from your body by your kidneys. If you consume more potassium than recommended, your potassium level may become too high. In severe cases, too much potassium can cause your heart to stop.

Access site complications. Potentially dangerous complications — such as infection, narrowing or ballooning of the blood vessel wall (aneurysm), or blockage — can impact the quality of your hemodialysis. Follow your dialysis team's instructions on how to check for changes in your access site that may indicate a problem.

Amyloidosis. Dialysis-related amyloidosis develops when proteins in blood are deposited on joints and tendons, causing pain, stiffness and fluid in the joints. The condition is more common in people who have undergone hemodialysis for more than five years.

Depression. Changes in mood are common in people with kidney failure. If you experience depression or anxiety after starting hemodialysis, talk with your health care team about effective treatment options.

Study1: A 54-year-old Greek male chronic haemodialysis patient presented with a 5-month history of recurrent episodes of fever. At presentation, he had a temperature of 38.4°C and a pulse rate of 105/min, arterial blood pressure was within normal limits and pulse oximetry showed oxygen saturation of 98% while breathing ambient air. Clinical examination was remarkable for decreased breath sounds over the right lung basis, a palpable, mildly enlarged, non-tender spleen, and a left forearm arteriovenous fistula for dialysis access without any signs of infection.

During the past 5 months, the patient had developed recurrent episodes of fever reaching 38.5°C, lasting up to 4 days. They occurred twice or thrice a month, without distinctive periodicity or association with the dialysis sessions, and were accompanied by malaise, chills,

night sweats, and non-productive cough, without rigours, nausea, vomiting, diarrhoea, dysuria, rash, enanthema, arthritis, abdominal pain, back-pain, myalgia, uveitis or weight loss.[1]

Study 2: American man 60 years old suffering from kidney failure, and it matches the first study in terms of consequences[2]

Conclusion: Most people can remain on dialysis for many years, although the treatment can only partially compensate for the loss of kidney function and having kidneys that don't work properly can place a significant strain on the body. Sadly, this means that people can die while on dialysis if they don't have a kidney transplan

References:

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