

DIALYSIS

BAGS FOR MEDICAL AND PHARMACEUTICAL APPLICATIONS

DIALYSIS

A Renal insufficiency is a pathological decrease of the renal functionality. This alteration might occur quickly in case of Acute Renal Failure (ARF) which is treated separately, or occur slowly and gradually in case of Chronic Kidney Disease (CKD) which is here treated in details.

There are two distinguished types of dialytic treatments:

Haemodialysis – in which blood is drawn from the patient, filtered by a semi-permeable membrane and reinjected to the patient.

Peritoneal Dialysis – is the introduction (a few times a day) into the patient's abdominal cavity, of a liquid which uses the peritoneum (a thin membrane that covers the abdominal organs) as a semi-permeable membrane for the relevant processes.

HAEMODIALYSIS

Each of both types of dialytic techniques can apply different methods.

The most common haemodialytic intermittent procedures are:

Standard Haemodialysis (SH)

Bicarbonate Dialysis

Hemofiltration in pre/post dilution (HF)

Hemodiafiltration (HDF)

On-line hemodiafiltration (On-line HDF)

Acetate-Free Biofiltration (AFB)

Paired Filtration Dialysis (PFD)

On-line hemodiafiltration with endogenous reinfusion (HFR)

One of the methods deriving from haemodialysis which is more often used in the intensive care units, is the Continuous Therapy CRRT:
SCUF (Slow Continuous Ultrafiltration)

CAVH (Continuous Arterio Venous Haemofiltration)

CAVHD (Continuous Arterio Venous Haemodialysis)

CAVHDF (Continuous Arterio Venous Haemodiafiltration)

CVVH (Continuous Veno Venous Haemofiltration)

CVVHD (Continuous Veno Venous Haemodialysis)

CVVHDF (Continuous Arterio Venous + Haemodiafiltration)

CVVHFD (Continuous Veno Venous high-flux dialysis)

TPE (therapeutic Plasma Exchange)

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PERITONEAL DIALYSIS

Although this technique, as well as the outpatient Haemodialysis therapy (or just Haemodialysis), is a blood purifying process, it is endogenous and therefore it occurs inside the patient's body without withdrawing blood. This treatment is called Peritoneal Dialysis (PD). It is based on the peritoneum membrane's extensive vascularization. In its most basic application, this technique is simple: a certain quantity of dialyzing liquid (usually 2 liters) is introduced into the abdomen through a permanent catheter, creating conditions for a slow balance, using the same mechanisms as for the outpatient haemodialysis.

The liquid is therefore removed (with the toxic substances accumulated in it) and the process repeats itself.

This process is called "exchange", since the patient removes the liquid connecting a bag to the catheter and then connecting another bag with fresh solution and then fills his peritoneum.

The name of this method is Continuous Ambulatory Peritoneal Dialysis (CAPD).

A variant of this treatment is carried out through the night, while the patient is asleep, with an appropriate automatic machine called Cyclor (Automatic Peritoneal Dialysis – APD, or Cyclic Peritoneal Dialysis – CCPD).

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