

Treatment of acute renal failure

Treatment of acute kidney failure takes place in the nephrology department / ICU. During treatment, it is important to ensure and monitor basic vital functions; fluid balancing with accurate urine collection and hydration status monitoring.

Postrenal ASL: recovery of urine drainage mechanically can take place naturally (urinary catheter, stent) or outside of natural pathways (percutaneous epicystostomy, puncture nephrostomy); then remove your own obstacle at the appropriate time.

Prerenal ASL: restoration of renal perfusion pressure → **mean arterial pressure (MAP) 75-80 mm Hg:** replenishment of circulating volume in true hypovolemia according to the nature of losses (electrolyte solutions, plasma, blood), improvement of the effective plasma volume in false hypovolemia (plasma expanders, albumin, plasma or blood); **MAP < 70 mm Hg:** volume adjustment + vasopressor drugs.

Other cases + renal ASL: treatment according to the cause.

Restoration of diuresis in oligoanuria:

- ensuring normovolemia – furosemide in a maximum dose of up to 500 mg i.v. within 30 min,
- 20% mannitol 100–250 ml for crush syndrome + myoglobinuria,
- continuous administration of dopamine at 1.5–2.5 µg/kg/min → vasodilation in the kidneys.

Hyperkalemia: restriction of potassium intake → in case of acute threat:

- acute hemodialysis (most effective),
- 10% calcium gluconicum 10–30 ml i.v. / NaCl 10–30 ml i.v. (inhibition of membrane effect K),
- 40% Glc 250 ml + 24 IU Ins / 8.4% NaHCO₃ > 100 ml in 30 min infusion (support of K utilization in the cell),
- ion exchangers Resonium A / Calcium Resonium 1–2 scoops after 2–4 p.o. with lactulose / in a rectal enema.

Hypokalemia (threatened in the polyuric phase of ASL, the onset of anabolism and adjustment MAC): K supplementation (potassium chloride).

Therapeutic nutrition: daily energy intake 160–200 kJ/kg; proteins 0.8–1.2 g/kg, carbohydrates 6–8 g/kg, fats up to 1 g/kg.

Renal function is replaced by extracorporeal purification methods, including intermittent hemodialysis + hemodiafiltration / continuous hemofiltration + hemodiafiltration).

Links

References

- DÍTĚ, P.. *Vnitřní lékařství*. 2. edition. 2007. ISBN 978-80-7262-496-6.

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