

## Clinical effectiveness to use of peritoneal dialysis in children with ARF after surgical correction of congenital heart defects

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### Abstract:

The purpose of research - determine the clinical efficacy of peritoneal dialysis (PD) in children with acute renal failure after correction of complex congenital heart disease (CHD).

Methods - examined 52 patients aged 1 month. up to 4 years on the background with ARF after cardiac surgical correction of CHD, who were selected in 2 groups: group 1 - 30 children without PD, 2nd group - 28 children with PD. Children with oligoanuria in both groups conducted diagnostic tests of blood levels of urea and creatinine determination of creatinine clearance and urea clearance, echocardiography-control study to determine the hemodynamic status, determining the gas composition, and acid-base balance of blood electrolytes before and after intensive therapy (group 1), using PD (group 2).

Results: In group 1, the level of azotemia (creatinine clearance and urea clearance) persisted for more than 7 days, while in group 2, normalization of urea and creatinine clearance was observed even on the 4th day. Improvement of hemodynamic parameters (heart preload reduction by 22%) was observed in group 2. Improved gas exchange in lung function observed in the 2nd group.

### Findings

1. Peritoneal dialysis can be used as a method of continuous renal replacement therapy makes it possible to control the level of azotemia in the postoperative period in patients with oligoanuria.
2. Indications for use of PD in patients with CHD are low weight patients (less than 10 kg), long IR (120 min) and the development of postoperative ARF.
3. Application PD in complex intensive therapy of children with ARF after surgical correction of complex CHD reduces cardiac preload level of 22%, which reduces the amount cardiovascular support.

### Biography:

Mekenbaeva R.T is a MD, professor at National Research Medical Center Nursultan, Kazakhstan.

### Recent Publications:

1. "Comparative evaluation of some methods renal replace-



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2. "Significance of biochemical criteria in the diagnosis of acute renal failure in the postoperative period of cardiac surgery patients." Second annual session of NC MHS them. AN Bakuleva RAMS Russian Conference of Young Scientists, Moscow, May 1998, p. 91 (al. Mikhailova IL, Golenishtchev II, Yarustovsky MB, Grigor'yants RG)
3. "Peritoneal dialysis in children with the syndrome of hydration after correction of complex congenital heart disease." Second annual session of NC MHS them. AN Bakuleva RAMS Russian Conference of Young Scientists, Moscow, May 1998, p. 156 (al. Golenishtchev II)
4. "First experience of a permanent replacement therapy (CRRT) in neonates after radical correction of congenital heart disease." VI All-Russian Congress of Anesthesiologists and Resuscitation. Moscow, October 1998. P. 16. (Al. Yarustovsky Mikhail Ilyin VN Grigor'yants RG)
5. Zverev DV etc. The choice of the method of renal replacement therapy in acute renal failure in children // Pediatrics. 2007. № 6. With 45-51.
6. Chugunova OL etc. Treatment of renal failure in infants and children during the first months of life // Pediatrics. 2007. № 6. Pp. 40-45.
7. Stetsyuk EA Basics hemodialysis / Ed. prof. EB Mazo. M. GEOTAR-MED 2001.

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