KSN SEOUL, KOREA 2023
April 27(Thu) - 30(Sun), 2023
Coex, Seoul, Korea

Submission No.: DNC1-9047
Session Title: Dialysis Nurse Course 1
Date & Time, Place: April 30 (Sun), 08:30 - 10:30, Room 1+2

소아 혈액투석 (Hemodialysis in Children)

Hyo Jin Kim
서울아산병원, Korea, Republic of

소아 혈액투석(hemodialysis in children)

1. Indication

1) Chronic
congenital anomalies of kidney and urinary tract (CAKUT), Glomerulonephritis/FSG
Systemic Lupus erythematosus, cystic kidney diseases, Pyelonephritis or Other
infection, Malignancy, Metabolic disorders, Congenital nephrotic syndrome, hemolytic uremic syndrome (HUS), Ischemic renal failure
2) Acute
Hyperkalemia, hyperammonemia, severe fluid overload, severe lactic acidosis, inborn error of metabolism, tumor lysis syndrome, Intoxications

2. Access

Native arteriovenous fistulas : Preferred chronic access if feasible
Synthetic arteriovenous grafts : Used whenever other access have failed
Central venous catheters (CVCs) : Used when temporary access is needed

3. Equipment

1) Dialysis machine
2) Dialyzer
3) Extracorporeal Circuit : available in infants/babies size, biocompatible material,
tolerate up to a maximum of 10 percent of his or her total blood volume
safe volume of the circuit is targeted at 8 percent of total blood volume of the child
4) Priming volume
In infants, if the amount of extracorporeal blood volume exceeds 10% of the patient's blood volume, there is a risk of complications, so red blood cells, or 5% albumin could be used to fill the line as priming

4. Prescription

1) Blood Flow rate : A blood flow rate of 3–5 ml/kg/min is adequate to achieve the proper solute removal with the hemodynamic stability
2) Dialysate flow : 500 mL/min is sufficient for children, at least 1.5 x blood flow
3) Fluid removal : 10ml/kg/hr
4) Length of dialysis and frequency of sessions
5) anticoagulation
6) Hemodialysis Adequacy

5. Complications

Catheter-related complications
increased risk of central vein thrombosis and stenosis
Central venous catheter infection
Hypotension
Muscle spasms
Dialysis dysequilibrium syndrome
Elimination of drugs and nutrients
Disequilibrium symptoms
Long-term complications
Hypertension, neurocognitive/neurodevelopmental delay, psychological stress, Mineral and bone disorder, Cardiovascular disease

6. Nursing
Execution of accurate Prescription
Monitoring
Safety
Good vascular access
Ethical issues during dialysis of infants
Optimal care is provided by multidisciplinary team