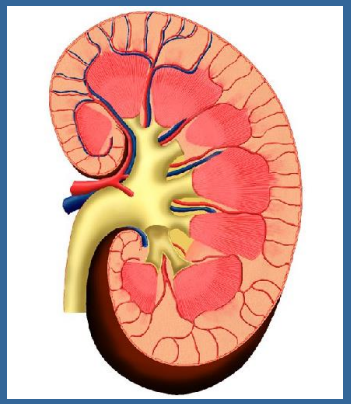
Nursing Considerations



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Considerations

- Access
- Infection control
- Monitoring
- Temperature Control
- Nutrition
- Anticoagulation
- Fluid management
- Air Embolus

Access

- Venousvenous
- Double lumen vascath (11.5 -13.5 Frg) placed in a central vein : internal jugular (15 -20cm) femoral vein (20cm).
- Blood is withdrawn from the proximal lumen (arterial side) and returned through the distal lumen (venous side)
- **Complications:** Infection, abcess, arterial puncture, bleeding and vessel thrombosis, pneumoyhorax & Haemothorax

RECIRCULATION

Infection

- Patients with AKI have an increased susceptibility to infection
- Infection is cited as the principle cause of death in CKD patients requiring haemodialysis
- CVC's have been identified as the principle cause of infection.

Surgical- ANTT

Main Critical Aseptic Field

Sterilized Gloves

Desirable are…

Micro Critical Aseptic Fields

NTT

St George's Healthcare NHS
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DO NOT FILL ABOVE THE LINE
DANGER

Infection

- Appropriate choice of cleansing solution & dressing
- Non Touch technique
- Transparent film dressings : able to visualise and monitor site for inflammation / bleeding.
- Preparation, application, management and discontinuation of haemofiltration have numerous infection risks
- This includes the safe management of sharps and the disposal of the corporeal circuit

Monitoring

- Haemodynamic monitoring; continuos temp monitoring
- Filter observation Chart
- Clotting (Anti-coag)
- Biochemistry
- Fluid Balance

Temperature Control

- Lower body temperature by as much as 4C due to heat loss via extracorporeal circuit – 110 -200ml blood outside the body at any time.
- Hypothermia: disruption of clotting, dysrhythmias
- Replacement fluids warmed via filter.
- Use warming blanket if insufficient response.
- Domino Effect
- Masks signs of temperature

Nutrition

- Haemofiltration is known to cause loss of proteins and should always be combined with nutritional support
- The demand for protein has been shown to rise in renal failure
- Normally protein intake is restricted to prevent accumulation of waste products with haemofiltration supplementary protein can be given

Anticoagulation

- AIM: To prevent clotting of extracorporeal circuit without harming the patient
- WHY? Clotting processes begin as soon as the blood hits the circuit.
- HOW??
  - Prime filter circuit with saline containing heparin if patient has normal clotting profile.
  - Heparin infusion admistered via filter.
  - Clotting deranged? – Check with Docs

- APTT
- HITS *(epoprostenol, danaperoid)*

Fluid Management

- Most patients undergoing CRRT are oliguric, anuric or volume overloaded.
- Fluid management typically involves calculation of patients intake (infusions, feed etc) + fluid loss via filter. (Also – insensible losses – e.g. loss of circuit, sweating, GI losses.)
- Fluid loss and Fluid balance aims should be stated explicitly and monitored hourly.

Air Embolus

- Can occur if a patient receives air in the blood returned
- In built air detectors – even microbubbles
- If the systems safety mechanisms are bypassed a patient can recieve an air embolus
- Air can also occur if the access cannot provide the blood flow programmed: the blood pump will run but a vacuum is created causing air to move through the circuit
- Continually assess the circuit tubing for the presence of air

?