

# Medical fitness in cases of renal disease

## Preoperative assessments :

### **Clinical assessment :**

- 1- The **routinely** fitness as any other patients (see general guide)
- 2- then in the **relevant** assessment , must assess for : volume status , uremic manifestation , electrolyte /acid base disorders, anemia , infection, bleeding tendencies, hypertension ,and nutritional status

### **Paraclinical assessment :**

- 1- routine tests (see general guide) including CXR
- 2- relevant tests : renal panel(BUN,s.Cr, Na,K,Cl, Ca,HCO<sub>3</sub>) VBG( if bicarbonate <18 mmol/L) ,bleeding time , abd.US , and repeat renal panel 2-3hrs before operation

### **Consultation :**

***Ped.Nephrologist*** consultation with direct communication with **operation team**(local anesthesia or spinal usually first recommended) and appropriate **ASA classification**

## Preoperative preparation : Strategies to reduce surgical risk

in addition to the **general** pre.op preparations (see general guide), the following aspect need to be concern :

1. treat thr **high BP** according the severity classification (emergencies, urgencies or Chronic Htn) acceptable pre op. BP is ..... ? and when possible shift oral anti Htn to lv route and hold lasix (unless necessary as in CHF) 2-3day pre.op .
2. Correct the **electrolytes** preoperative (and postoperative) in renal patient potassium is the important you should be care about it and this done by ; Anti hyperkalemic drugs and send patient to hemodialysis (accepted s.K ≤ 5.5mmol/L).
3. If the patient is to be **fasting** the day of surgery it will recommended D5W infusion to avoid fasting hyperkalemia.
4. Correct the **acidosis** (s.HCO<sub>3</sub>≥22mmol/L) especially in local anesthesia operation.
5. Many patients with renal disease especially CKD receive **prophylactic ABs** (ideally 1<sup>st</sup> generation cephalosporin in renal adjusted dose )for surgical procedures particularly dialysis graft procedures .
6. **Anemia** is corrected **by** blood transfusion if rapid correction is needed (accepted level pre.op is Hct of 20-26%) or **by** erythropoietin(± iron) If the surgery is elective.

7. If the patient **oliguric or anuric** should be mentioned and ask the anesthetist not to insert Foley's catheter because it is valueless here and delivers infection to the bladder.
8. Patient should be in his **dry weight** (euvolemic) and dry weight should be *written* in the note .
9. Send patient to **dialysis** in the morning same day of surgery and recommended surgery at afternoon or 2.5 hrs before procedure without heparin.
10. The **goals of dialysis** therapy for renal patients are to achieve euvolemic (or dry weight) , normalize serum potassium level and increase serum bicarbonate levels to attenuate metabolic or respiratory acidosis.
11. Patients who are **chronically under dialyzed** and hypervolemic may benefit from **daily** dialysis for few days preceding elective surgery.
12. Avoid **ACE inhibitors** pre & post surgery unless it is usage vital like CHF and good control of hypertension.

### **Operative care :**

- 1- You would ask anesthetist to supervise **transfer** of the patient to and from the table as they could suffer from fractures.
- 2- Avoid **hypotension** during operation( keep patient euvolemic) , therefore Avoid over ultra filtration because the surgery especially prolonged one can cause volume depletion and also a sudden drop in BP is harmful to the AVF .
- 3- You would state **the site of AVF** put large piece of tape on the arm with fistula stating DO NOT USE THIS ARM AND TREAT WITH CARE.
- 4- Try to avoid **nephrotoxic drugs** & **adjust** the important medications.

### **Post operative care :**

- 1- re-evaluate the pt with special attention to fluid-electrolyte status , and other relevant aspect mentioned already in pre-op and operative care .
- 2- if post-op analgesia needed ; try to avoid use of meperidine (risk of seizure in CKD)

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