Acute In-patient Management of Hyperkalaemia

Treatment of Acute Hyperkalaemia in Adults. October 2023. UK Kidney Association. Flowchart adapted with permission.

- Assess patient using ABCDE approach.
- 12-lead ECG and monitor cardiac rhythm if serum potassium ≥6mmol/L
- Exclude spurious hyperkalaemia
- Give empirical treatment for dysrhythmia if hyperkalaemia suspected
- Consider administering salbutamol nebules in severe hyperkalaemia whilst preparing medication

MILD

K^+ 5.5-5.9mmol/L

Consider cause and need for treatment

MODERATE

K^+ 6.0-6.4mmol/L

Treatment guided by clinical condition, ECG & rate of rise

SEVERE

K^+ ≥6.5mmol/L

Emergency treatment indicated. **Inform senior**

ECG changes?

Peaked T waves | Broad QRS | Bradycardia

Flat/absent P waves | Sine waves | VT

NO

YES - Seek senior help

Calcium Gluconate 10% IV 30ml over 10 minutes[1]

Can be irritant, ensure reliable IV access

Insulin-Glucose IV infusion

(check blood glucose before starting infusion)

Give 8units soluble insulin (Actrapid®) in 100ml IV glucose 20% vial over 15-30 minutes

If pre-treatment blood glucose < 7mmol/L then follow with

10% glucose at 50ml/hour for 5 hours

with

Salbutamol 10-20mg nebulised

Seek senior / expert advice

Consider sodium bicarbonate[2] IV. Can be irritant, ensure reliable IV access.

Sodium zirconium cyclosilicate (Lokelma®)[3] oral 10g three times daily for up to 72 hours

(use in acute life-threatening hyperkalaemia)

K^+ ≥6.5mmol/L despite medical therapy

Consider dialysis, discuss with the On-call Renal Registrar

Monitor serum K^+ and blood glucose[4&5]

Consider cause and prevent further rise or recurrence

Notes

If the patient is oliguric, contact the On-call Renal Registrar for advice.

[1]In some clinical areas only calcium chloride may be stocked and used (check before prescribing). This is the preferred calcium salt for cardiac arrest or peri-arrest. The equivalent dose (6.8mmol of calcium) is: **calcium chloride 10% IV 10ml over 5 minutes**. This can be irritant, ensure reliable IV access.

[2]Sodium bicarbonate IV may be required if the patient is acidotic (blood gas bicarbonate <17mmol/L, H+ >60nmol/L), seek urgent senior advice.

[3] Sodium zirconium cyclosilicate (Lokelma®) is restricted for the treatment of acute, life-threatening hyperkalaemia.

[4]Serum K^+: in mild hyperkalaemia check level after 24 hours and adjust monitoring frequency based on the result. In moderate or severe hyperkalaemia, check at 1 hour, 4 hours, 6 hours and 24 hours following treatment.

[5]Capillary blood glucose: check before insulin-glucose infusion and after infusion at 30 mins, 60 mins, 90 mins, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 8 hours and 12 hours.