

Hyperkalaemia in primary care

DEPARTMENT OF CLINICAL BIOCHEMISTRY



Severn Pathology

Version 12

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Qpulse reference: BS/CB/DCB/PROTOCOLS/40

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Serum potassium normal range is 3.5-5.3 mmol/L

Severity of hyperkalaemia	Retesting interval and immediate actions			ECG changes
	Clinically well (no AKI)	Unexpected result	Clinically unwell or AKI	
MILD 5.5 - 5.9 mmol/L	Repeat within 14 days	Repeat within 3 days	Consider if hospital referral is indicated	Likely none but not excluded
	Assess for cause (drugs, diet) and address in community			
MODERATE 6.0 - 6.4 mmol/L	Repeat within 1 working day	Repeat within 24 hours	Refer to hospital	Tall tented T waves, prolonged PR interval
	Assess for cause (drugs, diet) and address in community or hospital			
SEVERE ≥ 6.5 mmol/L	Refer to hospital for immediate assessment and treatment Assess for cause and address during hospital admission			Broadening QRS complex. As K+ goes to >7 peri-arrest arrhythmia possible

Differential Diagnosis

- Pseudohyperkalaemia (e.g. haemolysis, leukocytosis, thrombocytosis, transport delay, EDTA contamination)
- Drugs (see page 2)
- Intra-renal (AKI, CKD, aldosterone deficiency, interstitial nephritis)
- Cellular redistribution (e.g. DKA, rhabdomyolysis, tumour lysis syndrome)
- Excess intake/K+ containing laxatives

Initial investigations

- ECG essential in all those with K+ >6.0mmol/L to help assess severity
- Ensure full U&E done to assess change in renal function
- CK in those with suspected rhabdo
- Full blood count to rule out haematological disorders
- Repeat K+ as per above
- Cortisol if suspect addisons (High K, low Na)
- Paired Li-Hep & serum U&E if repeated mild hyper-K without known cause

Initial management

- Assess severity - use above table using combination of ECG findings, degree of elevation and likelihood of pseudo causes
- Assess trend – rapidly rising K+ with concurrent change in renal function will need more urgent action
- Review medications as this can exacerbate any K+ rises (see page 2)
- Take appropriate action – any severe rise in K+ **not** thought to be a pseudo cause requires urgent action **and is a medical emergency**
- If mild hyperkalaemia – ensure appropriate retesting, assess diet and fluid status
- If considering admission for management Mon-Fri 0800-1830 use Integrated urgent care professional line for advice/to refer (01172449283)

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Drugs to review

ACE inhibitors

ARBs

Calcium channel blockers

NSAIDs

Trimethoprim

Heparin

Beta-blockers

K⁺ sparing diuretics
(spironolactone, amiloride)

Digoxin

Decision algorithm

Hyperkalaemia >5.5mmol/L

Ensure Pseudo-hyperkalaemia excluded (see differential diagnosis box on page 1)

K⁺ = 5.5 – 5.9 mmol/L

K⁺ 6.0 – 6.4 mmol/L

K⁺ >= 6.5 mmol/L

Clinically well – repeat within 14 days
Unexpected – within 3 days

Clinically well – repeat within 1 working day
Unexpected – within 24hrs

Refer to hospital

Exclude common causes:
Drugs (see above) / AKI / CKD / excessive K intake / K cellular shift e.g metabolic acidosis
Basic investigations:
FBC/ renal profile / glucose

Treat underlying cause and retest. If persistent without explanation revisit pseudo causes.

Consider less common causes such as mineralocorticoid deficiency, rhabdomyolysis, RTA Type 4, hyporeninaemia hypoaldosteronism. May require referral to endocrine/Renal team to investigate such causes.

Examples of further tests:
Short Synacthen test / CK / LDH / Plasma Renin&Aldosterone

References

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