

Please read this bit first

This CPD/ CEU exercise is designed to take approximately two hours as a small group exercise within your laboratory. The Thistle QA CPD No is: **MT00025**.

Please keep a register of those taking part in the exercise. When the exercise is completed, please ask using the above email address, and we will send you a sheet showing the correct responses to each question.

Each attendee should claim two CPD points for completing the questions correctly, by retaining a copy of the relevant Thistle QA Participation Certificate as proof of registration on a Thistle QA EQA.

February 2006

CHRONIC RENAL INSUFFICIENCY

Case Study.

A 45 year old woman had been unwell for several months with weight loss, tiredness, and muscle weakness. Two weeks prior to admission she had increasing lethargy, vomiting, and diarrhea, and presented in semi-coma. A significant feature of her history was self-medication with analgesics for the previous five years.

Plasma

Na	133	mmol/L	(132-144)
K	5.5	mmol/L	(3.2-4.8)
CL	99	mmol/L	(98-108)
HCO ₃	15	mmol/L	(23-33)
Urea	55	mmol/L	(3.0-8.0)
Creat	125	mmol/L	(60-120)
AGap	24	mEq/L	(7-17)
PTH-C	18	U/L	(1.5-2.09)

Plasma

PO ₄	2.00	mmol/L	(0.65-1.25)
Ca	1.80	mmol/L	(2.15-2.55)
ALP	200	U/L	(30-120)
Alb	18	g/L	(30-50)

Urine

Cr Cl	0.05	mL/s	(1.5-2.0)
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(PTH-C = PTH,C - terminal fragment; Cr Cl = Creatinine clearance)

S A N A S



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Comment : This patient, with severe chronic renal failure due to analgesic abuse, shows the classical textbook features of renal failure, i.e.,

- Hyperkalaemia
- High anion gap metabolic acidosis
- Hyperphosphataemia
- Hypocalcaemia
- High plasma ALP levels
- High plasma PTH levels
- High plasma urea and creatinine levels

These features only occur in severe renal failure (plasma [creatinine], 400 mmol/L creatinine clearance <10-20 mL/min). When any of these biochemical abnormalities occur in mild renal insufficiency (plasma [creatinine]<0.20 mmol/L), other complicating factors should be considered.

CPD QUESTIONS.

1. Describe and discuss the statement : “classical textbook features of renal failure”. Why can these features be called this ?
2. Find a case from your own laboratory workload with similar features to this patient sing your routine test profile. Compare your results to those from this patient. If some features are not “classical” why is this ?
3. What other complicating factors should be considered in mild renal insufficiency ?



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