



I'm always thirsty!!

Case for renal study day

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Background

- High oral fluid intake from 2 ½ years
- Normal oral intake of >4l
- Drinks water
- Voiding up to 10x per day
- Aug 2017 – Seen by surgical team for urinary urgency and frequency → presumed overactive bladder.
- Referred to nephrology team Sept 2018 excessive thirst leading to high fluid intake ? Diabetes Insipidus
- No sig FHx

Investigations

- Normal renal USS – 2006 and 2017
- Normal U+E
- Normal blood glucose
- Normal urinary flow rate on urodynamics
- Voiding chart >10x per day
- Urine output on bladder diary – 4690ml
- Early morning urine osmolality 248

Admission for water deprivation test

- Nil sig PMH
- Currently on Isotretinoin for Acne.
- No hx suggestive of pituitary disease
- Examination normal
- Normal visual fields
- Does not drink much at night
- Normal growth – weight 57.8kg, BP 100/70

Water deprivation test

Procedure:

- Baseline blood for osmolality, plasma Na and AVP
- Weigh
- Empty bladder and send urine for osmolality and Na
- Start fluid fast
- Collect each urine and take paired serum samples with each urine sample or 2 hourly if none passed.
- Record weight and BP hourly

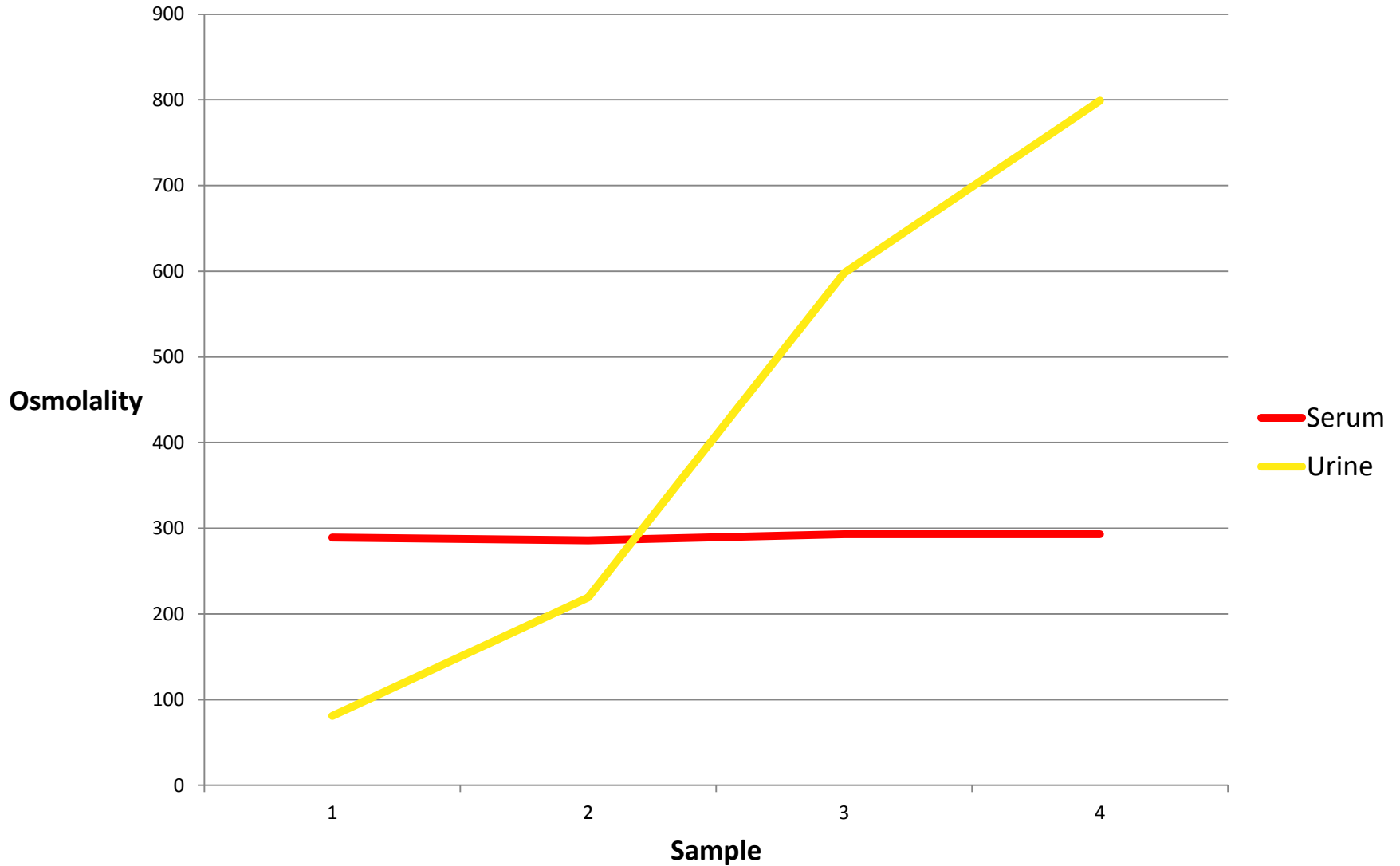
Terminate test if:

- Urine osmolality >750
- plasma Na >148
- plasma osmolality >305
- urine osmolality does not increase by 30 in 3 hours in context of rising serum sodium and/or osmolality
- loss of $>5\%$ body weight.

Results

Time (hours)	Serum Osmolality	Urine Osmolality	Urinary Sodium
0	289	81	<20
2	286	219	34
4	293	598	104
6	293	799	129

Comparison of urine and serum osmolality in water deprivation test



Outcome

- Reassurance
- Can safely cut down fluid intake to decrease episode of voiding.
- Discharged from nephrology follow up.

- **Learning points:**
 - How to complete and interpret a water deprivation test.
 - Considerations in the history to support a diagnosis of D.I.