Stone disease

Recurrent stone formation is common, but people who have frequent early recurrences should be screened for risk factors. Check:

Blood	Renal function Ca and PO4 Uric acid HCO3
Urine	Infection Request 24h urine for 'stone screen' (Edinburgh labs), (plain bottle), to check volume, calcium, oxalate, Na, urate, cystine. Note that creatinine and protein need to be requested separately.
Stone	don't forget to analyze the stone itself
Family history	hypercalciuria, medullary sponge kidney, distal RTA, Dent's disease
Drug history	occasionally stones formed from drugs (including ephedrine)
Dietary assessment	important. See Diet.

As for protein, urinary calcium can be measured as a ratio with creatinine, instead of a 24h clearance:

Ca/Creat ratio	Comment	Oxalate/Creatinine
< 0.6	Normal	< 50 micromol/mmol *
0.6 – 0.8	Equivocal	
> 0.8	High	

* After the age of 5 years. Ratios are higher in infancy (Matos et al 1999).

Management principles

Important principles are common to most stones:

- Maintain high urine volume, especially at night
- Restrict dietary sodium
- Maintain good dietary calcium intake, but avoid calcium supplements

- Consider thiazide for hypercalciuria (avoid loop diuretics)
- High protein diet is associated with stones – reduce

For management of individual metabolic abnormalities, seek specific information.

Further information

Patient information on renal stones from EdRenINFO

Acknowledgements: Neil Turner was the main author for this page. The last modified date is shown in the footer.