

# The Effectiveness of Dietary Counselling for Hyperoxaluria



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## Background

- Oxalate >  $\text{Ca}^{2+}$  → Calcium Oxalate Stones
- ↑ Dietary Oxalate → ↑ Urinary Oxalate
- Metabolic stones → Poor Compliance

## Hypothesis

- Dietary counselling in hyperoxaluria is ineffective

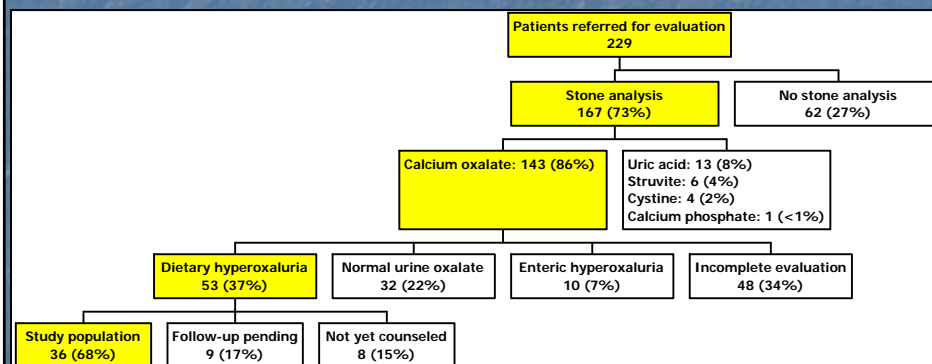
## Methods

- Single endourologist's experience with metabolic stone disease
- 2-year study period
- Baseline and follow-up investigations:
  - Stone analysis
  - Serum metabolic studies
    - Lytes,  $\text{Ca}^{2+}$ ,  $\text{PO}_4^{2-}$ ,  $\text{Mg}^{2+}$ , PTH, UA
  - 24-hour urine collection

# Definitions

- Hyperoxaluria  
>350  $\mu\text{mol}/\text{day}$

# Patient Population



## Demographics

Age (years)	54.1 ± 13.3
Sex (M:F)	3:1
BMI (kg/m <sup>2</sup> )	27.5 ± 5.8
Recurrent stone former? (%)	86

## Methods

- Counseling recommendations:
  - ↑ H<sub>2</sub>O intake (>2 L/d)
  - ↓ Animal protein intake (<150 g/d)
  - ↓ Dietary oxalate (Handout)
  - Normal calcium intake
- Outcome measures:
  - 24-hour urine volume
  - Urine oxalate, Ca<sup>2+</sup>
- Paired t-test

## Results

	Baseline	Follow-up (3-12 mo.)	p-value
Urine Output (L/d)	2.0 ± 0.8	2.3 ± 1.0	0.23
<b>Urine Oxalate (umol/d)</b>	<b>553 ± 227</b>	<b>471 ± 223</b>	<b>0.21</b>
Urine Calcium (umol/d)	4.5 ± 2.5	4.9 ± 3.3	0.52

## Results

- 7/36 (19%) ↓ urine oxalate < 350 umol/d
- 14/36 (39%) ↓ urine oxalate by >20%
- 10/36 (28%) ↑ urine oxalate

## Conclusions

- Dietary counseling → modest reduction
- 19% ↓ to within normal range  
39% ↓ by >20%
- More patients
- Longer follow-up