Proteinuria

- Dr. Boshra Hasanzamani
- www.mums.ac.ir/rsc-ktc

False positive (dipstick):

- Radiocontrast
- Hematuria
- Very concenterated
- PH>7

False positive(SSA):

- Radiocotrast
- Very concenterated
- Urine containing penicillin derivatives

dipstick

Trace	10 mg/dl
+	30
++	100
+++	300
++++	>1gr/dl

Quantitative measurement

- 24-hr urine pr collection
- Spot pr to cr ratio
- Micro albumin to cr ratio

Classification

- Benign isolated
  - Transient idiopathic
  - intermittent idiopathic
  - Functional
  - orthostatic
- persistent

persistent

- Persistent isolated
- With systemic dis.
  - Glomerular
  - Tubular
  - overflow

Clinical approach

- R/O false positive
- History &P/E
- U/A

Evaluation of Proteinuria

URINE DIPSTICK + PROTEINURIA

↓

Quantify 24-h excretion, or spot morning protein/creatinine ratio (mg/g)

- 30-300 mg/d or 30-350 mg/g → Microalbuminuria → *Consider*
  - Early diabetes
  - Essential hypertension
  - Early stages of glomerulonephritis (especially with RBCs, RBC casts)
- 300-3500 mg/d or 300-3500 mg/g → *In addition to disorders listed under microalbuminuria consider*
  - Intermittent proteinuria
  - Postural proteinuria
  - Congestive heart failure
  - Fever
  - Exercise
- > 3500 mg/d or > 3500 mg/g → **Nephrotic syndrome**
  - Diabetes
  - Amyloidosis
  - Minimal change disease
  - FSGS
  - Membranous glomerulopathy
  - MPGN

RBCs or RBC casts on urinalysis (for 300-3500 and > 3500 branches) + → Go to Fig. 45-2

300-3500 and > 3500 branches → **UPEP**

- **Glomerular**
  - *Selective* (mostly albumin; e.g., minimal change disease)
  - *Nonselective* (reflects all plasma proteins; e.g., FSGS, diabetes)
- **Tubular**: Tamm-Horsfall, β_2-microglobulin
  - → Tubular injury, any cause; Hypertension; Chronic renal failure
- **Abnormal proteins**: Light chains (κ or λ)
  - → Plasma cell dyscrasias

Treatment :

- Glucocorticoids
- Cyclophosphamide
- Cyclosporine
- Chloambucil
- Transplantation