EAU/AUA update 2016

Urolithiasis
LUS
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Urolithiasis disease

- Is everless changing field
- Epidemiology is changing
- Pathophysiology isn’t completely clear yet
- Diagnostic tools has also limitations
- Management options are still evolving

- Where we stand now?
Stone classification

- Size: Largest diameter
- Location:
  - Kidney: calyx (upper, middle, lower), Pelvis
  - Ureter: Proximal, Middle, Distal
- X-Ray: radiopaque, poor radiopacity, radiolucent
- Composition: infra-red spectroscopy or X-Ray diffraction (Le 2 Gr A)
Diagnostic evaluation

- US: primary Dg tool (sens: 45%, Sp: 91%)
- NCCT: Gold standard Dg (Le 1a- GrA)
- Indinavir stone are not detected by NCCT
- Immediate imaging is mandatory: Fever, solitary Kidney
Medical TTT: symptoms

- NSAIDs are the best Drug (Gr A)
- Opioides : second line (less durable effect+ side effect)
- α-blockers : decrease recurrence rate (Gr C ↓)

- NB: Diclofenac and Ibuprofen are CI in CHF and Arterial disease
Medical Management

- Stone < 5 mm: high rate of spontaneous emission
- Chemolysis is highly recommended radiolucent stone
- MET: duration up to 40 days
  - α-blocker benefit is subject to controversy
  (Pickard, Lancet 2015)
Stone management: active

- Kidney:
  - > 2cm: PNL
  - Lower calyx or HU > 1000: RIRS
  - Remaining: SWL

- Ureter
  - > 1cm: URS 1st choice (antegrade / retrograde)
  - < 1 cm: URS or ESWL are equal options

- RIRS is recommended for patient with uncorrected coagulation disorder (Le 2a Gr A) and Obese patient
SWL

- Frq= 1 to 1.5 (60-90 b/min) Le 1a Gr A
- Gradual increase in energy (ramping)
- Pain control increase SFR
- Stenting is not recommended (Le 1b GrA)
- SSD is a new parameter to predict outcome
- Increasing Beat number per session increase efficacy rate but not complication rate
- **Increase risk of DM with SWL than URS**
PNL

- Pre-op enhanced CT is mandatory
- Totally tubeless is safe if uncomplicated PNL (Le 1b Gr A)
- Smaller tube is better than large one: nephrostomy
- Occlusion Balloon: ↓ complication+ operating time
- For sepsis prevention: Low working pressure
- Mini /Micro : lower side effect with comparable efficacy
RIRS/URS

- Smaller is better (micro URS 4.5 FR)
- Safety guide wire and Access sheath :optional
- Pre-stenting is not mandatory
- Uncomplicated cases: Tubeless(Le 1 a)
- Blind basketing is prohibited  Gr A
- Under Study : co2 insufflation instead of water
Laser energy

- Stripped fiber > non stripped one: 1\textsuperscript{st} 10 min
- Small Fibers are as effective as larger ones
- Dusting > Fragmentation: no need for stenting

- Burst firing is a new promising technique
Obstructive Pyelonephritis

- Urgent Drainage: Nephrostomy or Ureteral stent (Le 1b Gr A)
- Stone removal should be post-poned (Le 1b Gr A)
- Urine sample for culture is mandatory after decompression (Gr A)
Pregnancy

- US: best Dg modality (Le 1a Gr A)
- MRI: second line (Le 3 Gr C)
- Low dose NCCT: third line (< 5 rad)
- URS for stone removal is recommended because of stent morbidity (Le 1a)
- **For clinically indeterminate pregnant** Low dose CT is recommended (AUA 2016)
Stein-Strass

- Prevent by 2J if stone > 1.5 cm
- If symptomatic: active management
- If asymptomatic: MET
- If Fever: Drainage by nephrostomy is preferred
Residual Fragment
Asymptomatic Calyceal stone
Risk

• Initiating new stones
• UTI
• Obstruction
• Migration (symptomatic, Obstruction)
Residual Fragment
Asymptomatic Calyceal stone Management

- Observation:
  Treat metabolic disorders
  close Follow-up: regular X-Ray
- Treatment:
  Follow same recommendation of primary stones
Last words

- Stone field is continuously evolving
- Multiple factors intervene in decision making
- Management options are multiple and overlapping

- So Keep yourself updated to offer the best management for your patient
Thank you