

EAU/AUA update 2016

Urolithiasis

LUS

Rodrigue SAAD MD



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: 1st 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