Advances in Treatment of Stones

Over the last decade or two, there has been significant improvement in surgical treatment of urinary stones
Improvement in Optics

Lots of Literature and Debates on PCNL Positioning
Mini-Invasive Access

Large Selection of Energy Sources to Break the Stones
Improved, multi modality and expensive lithotripters

- N = 7500
- 0.63%, Overall 1.47%
- Prevalence ♂ 5.5%, ♀ 4.0%, Overall 4.7%
- Incidence ♂ 0.84%, ♀ 0.63%, Overall 1.47%
- Recurrence rate = 42%
- Other studies 35-50%

Prevalence & Incidence

- NHANES survey, N = 12,110
- Prevalence ♂ 10.6%, ♀ 7.1%, Overall 8.8%
- Incidence ♂ 0.84%, ♀ 0.63%
Significant advances but increasing prevalence WHY?

- Are we fighting a lost battle?
- Are we just dealing with the final product “stones” and not the source “soluble/ crystals”?
- Are we late in the management of patients’ pathway, what about the pre-clinical approach?
- Are we acting like orthopedic surgeons not thinking about the cause of the fracture
- Don’t we need holistic approach with integrated patients’ care pathway?
- How can we achieve that?

To Do it a Multi-Discipline Team Approach is Needed

- Working ‘in silos’ can have a negative impact on performance
- Everyone in a team has something different to offer which might not seem immediately obvious
- Collaboration is key to effectiveness and success
Involve basic scientists/biochemists to understand pathophysiology of stones’ formation

Medullary Sponge Kidney (MSK)

Make use of new advances in other disciplines’ technology (radiology/industry)

- HD and digital Endoscope
- Micro CT imaging
With collaborative approach between scientists (biochemist), industry (good scopes), radiology (diagnostics..) and skillful surgeons (urologist), we can better understand the pathophysiology of the stones, classify our patients to subcategories not only to treat them but also to help prevention and prognosis; possibly involving nephrologist early to avoid renal function compromise.

How can we implement integrated approach to stone patients in practice

- Regular multidisciplinary team meetings to discuss patients’ management
- Metabolic/ multidisciplinary stone clinics
- Combined research projects and publications
- Combined scientific meetings
Multidisciplinary Team (MDT) Meetings

- Is a meeting of group of professionals from one or more clinical disciplines who together make decisions regarding recommended treatment of individual patients
- UK NHS cancer plan implemented MDT formal review of cancer patients as “gold standard” since 1995
- Not much done though for benign conditions
- Recent “NICE” advised for pelvic floor/ incontinence

Evidence for cancer MDT working

- Junor et al. 1994:
  - Survival benefit from treatment by MDT
- Hong et al. 2010:
  - No good evidence of benefit to survival
- Lamb et al. 2011:
  - Some features of MDTs may improve decision-making
- Kesson et al. 2012
  - MDT Improved survival

No available literature for "benign" MDT
Stone MDT Members & Logistics

- Stone surgeon
- Nephrologist with special interest in stones
- Biochemist
- Dietician
- Endocrinologist
- Specialist nurse
- Trainees

Frequency, local/ regional, documentation, audit
Discuss all cases/ complex/ PCNLs...
In Cambridge started 2009, once a week

Benefits of MDT

- **To patients**
  - Improved health outcomes
  - Enhanced satisfaction, unified approach
  - Quality control avoiding unnecessary treatments
  - Evidence base

- **To health professionals and the team**
  - Feel supported, less stress with enhanced job satisfaction
  - Efficient use of resources
  - Governance and medicolegal
  - Education/professional development of team members
  - Create ideas for research and help enrolment in clinical trials
  - Adherence to national and local clinical guidelines
  - Enhances team working and collaboration
MD Metabolic Stone Clinics

- Urologist, Nephrologist, Dietician, Endocrinologist. Selected patients?

EULIS MDT Vision and Approach

- EULIS board and members: Urologists, Nephrologists and basic scientists
- Working group on medical and dietary management of stones
- Working group on metabolic evaluation and research in stone disease
- Combined meetings with Nephrology society and basic scientists
- Multi-disciplinary research projects: renal papilla characterization
- Education and training
- Patients involvement with information guide/ update..
Conclusions

♦ Significant advances in treating stones but incidence and recurrence rates are still high
♦ Holistic approach is important including risk reduction
♦ The way forward is Multi-Disciplinary approach
♦ Practically by MDT regular meetings, combined clinics and collaborative research
♦ EULIS is the right platform welcoming all disciplines to improve patients’ care

Come and Join US in Milan
Thank You

Duke and Duchess of Cambridge