Science and Surgery come to London

UK Capital hosts bi-annual 1st Meeting of the EAU Section of Urolithiasis

By Loek Keizer

The bi-annual 1st Meeting of the EAU Section of Urolithiasis convened in London from 7-10 September, delivering a varied programme that brought together urologists, surgeons and scientists. The meeting was a great success according to its organiser, Mr. Noor Buchholz (London, UK), and EULIS chairman, Prof. Palle Osther (Fredericia, DK). Attendance was beyond expectation, with 400 visitors and 200 abstracts being presented at the Mermaid Conference & Events Centre in central London.

The urolithiasis symposia have been taking place for 28 years, but this is the first meeting as a section of the EAU. Meeting Chairman Mr. Noor Buchholz: "With the help of the EAU's congress organisers, and also all the publicity we've had thanks to the EAU, we were able to achieve a very respectable size. This EULIS meeting has benefitted from the backing of the bigger organisation. Liaising with the international urological community is much easier because we have the EAU connection."

The scientific programme consisted of poster sessions, keynote lectures and workshops, and it is a reflection of the varied audience. Striking a balance for all involved was a key point in structuring the Meeting's schedule.

Buchholz: "What makes EULIS special is that we deal about 50% with stone surgery, but 50% of the time we deal with the metabolic side of stones, and basic research on prevention. We talk about diets, crystal formation and fluid intake. We're bringing together scientists and surgeons. There are scientists with no medical interest other than stones, and there are surgeons with and surgeons without interest in science."

"This meeting brings together all of those interests, and we try to have something for everybody. The meeting is set up to have parallel sessions, with one focussing more on the metabolic side, and one more on the surgical side."

Basic science and stone formation
The basic science and preventive side of stone formation was well-represented in the sessions. In particular, the role of diet in stone formation gave participants a good overview of the latest findings in the field.

Dr. Alberto Trinchieri of the Lecco Hospital (Lecco, IT) looked at the properties of various beverages and their effect on stone formation. He pointed out that evidence had changed drastically over the past decades, rendering evidence from forty years ago largely redundant. Whilst it has always been assumed that a lack of fluids promotes stone formation, researchers have now been able to scientifically demonstrate that a higher intake of fluids is actually related to lower stone formation.

According to Trinchieri, a more sophisticated look needs to be taken at the chemical properties of fluids. Preliminary findings were presented on citrus juices (protective effect in the short term, but a long-term risk), beer (inconclusive) and the calcium concentration of tap water.

Dieting advice also went beyond fluid intake during Workshop 4 on non-surgical stone treatment. Dr. Roswitha Siener of the University Clinic (Bonn, DE) presented findings of different foodstuffs and their effect on stone formation. Oxalate, an important component in stone formation can be ingested through rhubarb, spinach, cacao, almonds and particularly sesame seeds. Meat and fish are high in purines, which make the body produce uric acid, another contributing factor. Obesity is also addressed as a risk factor, as is a diet that is not nutritionally balanced.

Dr. Alberto Trinchieri, presenting findings on the effects of beverages on stone formation

Much of the data and basic science surrounding stone formation is available thanks to animal research. Dr. Brian Catchpole of the Royal Veterinary College (Hertfordshire, UK) spoke on the genetics of stone disease, specifically in research on dogs. Dogs are particularly useful for genetic research, as the genome assembly was sequenced and assembled in 2004.

Catchpole points out that "translational research" should yield promising results, as genetic research can be translated in between rats and dogs, and finally be applied to humans. He noted on the remarkable genetic diversity between breeds of dogs, but also the close similarity within the same breed. In-breeding results in a perpetuation and even worsening of stone problems through homozygosis. Dalmatians are a breed particularly sensitive to stone formation.

Stone surgery
The surgical side of urolithiasis formed a significant part in the scientific programme. Several hands-on training workshops were open for participation from visitors who had signed up, although they proved so popular that they were all promptly filled. Friday featured a day-long sub-plenary live surgery session that was broadcast from St. Bartholomew's hospital. Visitors could follow procedures from the meeting venue's auditorium. Several approaches to surgery were addressed, including PCNL, fURS and metal stenting of the ureter.

"Patients' recurrent risk is under-researched, and there is too little data to form guidelines."

Mr. Konstantinos Moraitis (London, UK) presented his findings on effective follow-up for the stone former. His research mainly uncovered that very little data was available on structural guidelines for follow-up procedures: "We know what to do, but not for how long, and not on which patients in particular." Patients' recurrent risk is under-researched, and there is too little data to form guidelines. More data is also needed to form a cost-effective protocol.

Many treatment options are available for physicians dealing with renal colic. With his extensive presentation on pathophysiology in the treatment of "rolling stones", Prof. Bernhard Hess (Bern, CH) gave an informative keynote lecture on the meeting's last day. After presenting and evaluating the options, including data on the presence of pacemaker cells in the kidney, and a caution about using pethidine. Prof. Hess warned that the effects are similar to cocaine, and recalled how patients would request pethidine for its euphoric feelings.

Suggestions were given at the end of the overview, stressing that forced hydration should not be applied in any case. NSAID and alpha blockers were good first steps toward treatment, with non-opioids like intravenous paracetamol as an intermediary step. Finally, opioids should only be used in acute situations.

Hands-on training proved popular for the attending surgeons

The EAU Section and its future
Also present at the EULIS meeting was its Chairman, Prof. Palle Osther. On the success of the meeting: "It was mainly down to Noor Buchholz's enthusiasm and hard work that the meeting took place in London. Working with the EAU has made the meeting much bigger, with more participation from urologists. It's tremendously encouraging that almost all the sessions are filled with participants."

On the future of the EAU Section of Urolithiasis: "I think we will continue to grow. If you look at the meetings we've had at the Annual EAU Congress, you can see that attendance has more than tripled over the last two years. I particularly like to see international cooperation. We are approached by societies from around the world for joint workshops. We are a Europe-based organisation, but we have international scope."

EULIS will convene again at the Annual EAU Congress in Paris, 2012. The next dedicated Section Meeting will take place in Copenhagen in 2013. Prof. Osther will be Meeting Chairman as well as EULIS Chairman, but is confident about doubling up. "It has been a very successful meeting, and we are very happy with the EAU organisers. We hope to have them again in 2013. Copenhagen, here we come!"

A full auditorium: a result of the high number of visitors

Awarding Honorary Members
The bi-annual EAU Section of Urolithiasis Meeting is also an occasion for honouring the pioneers in the field of stone research and stone surgery. At the faculty dinner on September 8, six EULIS members were awarded a Lifetime Achievement Honorary Membership for their innovations in the field.

- Prof. Peter Alken, University Clinic in Mannheim (DE)
  Recognised for his development of percutaneous surgery of the kidney
- Prof. Dr. Christian Chaussy, University of Regensburg, Munich (DE)
  Described as the "father of extracorporeal shockwave lithotropsy" by Mr. Noor Buchholz, EULIS Meeting Chairman.
- Dr. Michel Daudon, Hopital Necker des Enfants Malades, Paris (FR)
  As a biomedical scientist, he did a lot of work into the basics of stone formation
- Mr. Nagaraja Rao, South Manchester University Hospitals NHS Trust (UK)
  Former chairman of EULIS, responsible for EULIS becoming an EAU section
- Dr. William Robertson, Harrogate (UK)
  Basic scientist, developed the epidemiology of stones in the 1960s.
- Prof. Hans-Göran Tiselius, Stockholm (SE)
  Buchholz: "a very strong voice in the metabolic, clinical field of urolithiasis."

Dr. Chaussy (left) being awarded his Honorary Membership by Mr. Buchholz (right). EULIS Chairman Palle Osther looks on approvingly.