

GLOBAL CONNECTIONS

A publication of the American Urological Association

Volume 4

PRACTICING IN
TIMES OF CONFLICT:
**Is Healthcare
in Danger?**



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A makeshift hospital in Syria was destroyed by armed forces in March.
(Photo by Daniel Zoupandji, Médecins Sans Frontières [Doctors Without Borders])



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PRACTICING IN TIMES OF CONFLICT:



By: Dr. Robert Flanigan and Lori Agbonkhese

As health professionals, physicians play a key role in providing high-quality care to all patients without discrimination, as well as preventing and reporting acts of torture and ill treatment that constitute gross human rights violations. This tenet is critical to healthcare – and perhaps most pronounced during times of conflict – whether armed, economic or political. In recent years, conflicts around the globe have captured the attention of the world audience. However, what is not often seen is its impact on the healthcare community.

The principle of medical neutrality is outlined in the Geneva Conventions, and a violation is considered a war crime. Nonetheless, violence against healthcare workers, facilities and beneficiaries is one of the most serious humanitarian challenges in the world today, according to the International Committee of the Red Cross (ICRC).

For this issue of Global Connections, the AUA set out to learn how political and economic instability, as well as armed conflict, have impacted the global urologic community and the practice of medicine in these regions.

CAUGHT IN THE CROSSFIRE: DOCTORS AND PATIENTS

As part of its campaign “Healthcare in Danger,” the ICRC has been documenting violence against healthcare facilities, workers and patients since 2008 within the 16 countries where it works, and reports that the increased number of incidents recorded is striking – 655 documented incidents in 16 countries between 2008 and 2011 that disrupted delivery of healthcare.¹

Hospitals in Iraq, Sri Lanka and Somalia have been shelled, while in Lebanon and Libya, ambulances have been shooters’ targets. In Bahrain, 34 doctors and nurses were put on trial and accused of backing protestors and taking part in alleged anti-state plots at the country’s main public hospital.^{1,2,3} In Afghanistan, wounded patients languish for hours in vehicles detained at security checkpoints. The country receiving the most attention for its civil unrest in recent months is the Syrian Arab Republic where, according to Doctors Without Borders/Médecins Sans Frontières (MSF) French Section President Marie-Pierre Allié, MD, “wounded patients and doctors are pursued and risk torture at the hands of the security services. Medicine is being used as a weapon of persecution.”



Top: Yemen, 2011. The wounded and dead arrive by ambulance, motorcycle or car to a mosque that serves as a medical clinic.
© COSMOS / Catalina Martin-Chico

Bottom: A makeshift hospital in Syria was destroyed by armed forces in March.
(Photo by Daniel Zoupandji, Médecins Sans Frontières [Doctors Without Borders])

But one needn't be in the midst of the Syrian conflict to feel its impacts. "My location in Syria is still considered safer than the other areas of the country; nevertheless, we have noticed a clear reduction in the number of patients coming from the rural areas. That is probably due to the difficulties in traveling between cities," said one Syrian urologist. "My private work volume is significantly decreasing."

That may be partially because patients with chronic conditions or non-traumatic injury may not be seeking treatment – out of fear or simply because medical resources are being diverted to medical emergencies.

"Many patients in Syria depend significantly on private hospitals and clinics that were compelled to close in the fighting areas. Many general hospitals are focusing primarily on trauma patients in these circumstances. Transportation has become dangerous in the affected locations where patients seeking medical care are having trouble reaching the hospitals," says a Syrian urologist who requested anonymity.

According to one Iraqi urologist, "In war-zone areas, physicians – including urologists – were faced with an increased frequency of high-velocity weapon wounds, which produce greater tissue destruction than the more frequently seen low-velocity wounds" (more commonly seen in the civilian community), as well as multiple fragment wounds and mass casualties. According to Dr. P*, this presented an unpredicted learning opportunity, allowing residents to be trained by senior urologists who learned many of the lessons in surgical techniques and management of these deep, complex urologic injuries from prior wars. This "led to

*Name changed per request

“PATIENTS...MAY NOT BE SEEKING TREATMENT – OUT OF **FEAR** OR SIMPLY BECAUSE MEDICAL **RESOURCES** ARE BEING **DIVERTED** TO MEDICAL EMERGENCIES.”

these surgeons rapidly acquiring the general surgical principles and techniques for the care of the victims with urologic wounds" and "added to the juniors' personal confidence and comfort level to operate independently, particularly in situations when faced to operate alone to save lives when attending senior staff could not make it to the hospital because of curfew law."

In many cases, it isn't only the patients who are uneasy. "There is a continuous fear of the fighting reaching where I live," said one Syrian urologist, reporting that many of his colleagues living in the conflict zones have had to move to live in safer areas, while others have sent their families somewhere else and stayed to practice their work in spite of the serious risk on their lives. The targeting of medical workers not only harms patients and workers during the actual conflict, but can also harm prospects for post-conflict reconstruction and stability, as it has in Iraq, where it is estimated that half of the country's physicians fled amid attacks starting in 2003.⁴ "Many of my colleague urologists in other cities had to move and relocate to other countries," says a Syrian urologist.



Suburbs of Sa'ada, Yemen. A tent set up as part of a primary health-care project organized by the Yemen Red Crescent Society in cooperation with the ICRC.

© ICRC / P. Duda

Those who remain often find themselves in less-than-favorable conditions. “Sometimes [surgeons] find themselves compelled to operate in unprepared environments, which may lack some surgical instruments, the proper sterilizations or even the adequate lighting for operating, in addition to the shortage in drugs, medical equipment and healthcare workers.”

In Iraq, the shortage of healthcare workers reached inconceivable levels as “militias entered hospitals to check and arrest people of interest, including targeted physicians.” According to Dr. P*, both male and female physicians were kidnapped, held for ransom, tortured or even killed – a tactic that “caused a steady exodus of physicians, leaving the healthcare system in near-critical condition.” But the impact reached far beyond the healthcare community – “assassinations were conducted by insurgents and different armed groups and militias, with very carefully selected figures that would have a lot of impact on society, including prominent university professors and deans, engineers, neurosurgeons, plastic surgeons, orthopedic surgeons, transplant surgeons, professors of surgery, ophthalmologists and urologists, and even newly graduated physicians.”

“BOTH MALE AND FEMALE
PHYSICIANS WERE **KIDNAPPED**,
HELD FOR **RANSOM**, **TORTURED**
OR EVEN **KILLED...**”

Sometimes, non-government organizations (NGOs) can help a debilitated healthcare infrastructure continue to meet the needs of the community. In Syria, the Syrian Arab Red Crescent is “making huge efforts in helping the injured and in emergency preparedness,” says a Syrian urologist. He points out that many physicians and surgeons haven’t been trained to manage similar cases before and that, when possible, physicians in the conflict areas transfer the complicated trauma cases to the medical centers and hospitals in the cities after stabilizing the patients, although that depends on the safety of the roads at that time. To support the NGOs working in-country, others operate and work on the borders of nearby countries – especially when international aid organizations are unable to enter to assist. Since March 2011, international organizations have been significantly restricted in the amount of aid they have been able to provide. Despite difficulties accessing the country, MSF has been working on the ground in Syria for more than two months, providing humanitarian assistance to people affected by the conflict.⁵ With the help of a group of Syrian doctors, in six days a team was able to transform an empty house into an emergency hospital where wounded people could be operated on and hospitalized. MSF reports that as of mid-August, it had



This ambulance was hit by a mortar shell.
© ICRC / J. Mohr

treated 300 patients and its surgeons performed 150 operations. However, the future of this surgical project is uncertain. In addition to the fact that MSF is working without authorization from the Syrian authorities, its activities are under threat by the changing nature of the conflict, difficulties accessing supplies and the challenges the wounded face in reaching the hospital.⁵ In response, MSF is working closely with refugees who are flowing across the Syrian borders into countries such as Lebanon, Jordan and Iraq.^{6,7} MSF’s 2012 budget for Syria-related activities is currently estimated at more than \$6 million (USD).⁵

THE ECONOMICS OF CONFLICT

While armed conflict is a serious issue, could healthcare also be in danger from the economic downturn? Portugal is one country that is currently under a program of financial assistance from the European Commission (EC), International Monetary Fund (IMF) and European Central Bank (ECB). According to Dr. Pedro Nunes, “One of the most impacted areas was the National Health System with a substantial downturn of the yearly budget allocated to this usually successful model. Patients and professionals are afraid of the future of their health.” Restrictions recently imposed include cuts in hospital budgets and salaries, and consolidation of some health institutions, as well as hiring restrictions, replacing old or damaged equipment, or acquiring new supplies. He says, “Patients sometimes have difficulties getting transportation to their scheduled hospital visits since the usual support was cut. Some people used to have completely free healthcare, now they have to pay.” Dr. Nunes feels that one positive outcome with the new regulations is that the country is

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“now rationalizing resources much better; there is now more common prescription of generic medicines and discussion of expensive oncologic treatments with sometimes low rationale for being used.” He also reported that “clinical guidelines are being written for some common pathology/tests, and they must be obligatory followed by all physicians. In the particular case of urology, there are, for instance, very strict guidelines on benign prostatic hyperplasia (BPH), urinary tract infections (UTIs) and prostate-specific antigen (PSA).”

Portuguese urologists are also facing required mergers with other urologic departments/institutions and severe cuts in reimbursement for their work, while at the same time having their patient reference area extended.

“Our emergency department is always crowded, and the hospital has no operating time or beds to treat all the patients in need,” Dr. Nunes said. How has this impacted urologic training? In more secure economic times, medical residents could be confident about being invited as permanent staff at academic centers, but austerity measures have limited the creation of new positions.

“It can be hard to maintain the motivation during residency when you know that there will be a dark future for you. We’ll try

to keep their enthusiasm high, otherwise the quality of the new specialists will be endangered” says Dr. Nunes. “We need to have a very rich imagination to keep our standards very high.” Despite all the challenges, he says, “I truly believe that Portuguese urology is keeping at its top level.”

The impact of the economic downturn is truly reverberating and being felt by urologists around the world. This includes the 2,000 urologists in The Republic of Korea, who have seen “many of the medium- and small-sized hospitals close,” said Dr. Moon Kee Chung, President of the Korean Urological Association. “Surviving hospitals do not want and are not able to expand the practice of such departments, which makes it difficult for urologists to get jobs in hospitals.”

The number of applicants for urology training programs in Korea has also decreased dramatically. In 2009, slightly fewer than 120 applicants were seen in urology, and just three years later in 2012, this number has fallen to less than 60 applicants for urology.

Physicians worry about the financial health of their practices. “I have heard very frequently from the private clinicians that they (especially young urologists under three years of private practice) have the fear of bankruptcy always in the bottom of their



Yemen, 2011. Ambulances take huge risks during armed conflicts to reach and transport the wounded and can fall victim to stray bullets.

© COSMOS / Catalina Martin-Chico

mind.” According to Dr. Chung, Korean news agencies have reported that more than 4,000 medical institutes (hospitals and private clinics) had closed due to bankruptcy. More than \$88 million (USD) is under attachment from the medical institutes.

‘SURVIVING HOSPITALS DO NOT WANT AND ARE NOT ABLE TO EXPAND THE PRACTICE OF SUCH DEPARTMENTS, WHICH MAKES IT DIFFICULT FOR UROLOGISTS TO GET JOBS IN HOSPITALS.’

And, like his counterparts in the Middle East, Dr. Chung also reports that patients may be postponing care. “Patients are not seeking out medical services if their condition is not severe or life threatening. Patients of plastic surgery, dermatology, ENT and urology have [all] decreased,” he said, stressing that fiscal problems may force changes to the national medical insurance system, which may transfer additional costs to patients to maintain levels of care.

According to Dr. Chung, rationing of healthcare is being considered, with the Ministry of Health and Welfare attempting to establish two tracks. He explained that the first track has already begun – if a patient with light diseases or chronic, long-term, prescription-only visit the primary care physician (i.e., private practitioner), they get some reduction of the medical fee, otherwise they have to pay extra. Light diseases are indicated to be acute cystitis, chronic prostatitis, etc. The second track, which has not yet started due to strong objections by the Korean Medical Association, includes a family doctor system. Patients can choose one private clinic doctor. If the patients visit the allocated doctor, they can save money. Each doctor is allowed to care for a limited number of patients.

THE ROAD AHEAD

At the 65th session of the World Health Assembly, an unprecedented step to protect the lives of health workers and patients in humanitarian crises was taken with the adoption of a resolution that will enable the World Health Organization (WHO) to spearhead global efforts to document the number of attacks on medical services by collecting and disseminating data on the attacks on healthcare in complex humanitarian emergencies.^{8,9}

The U.S. Institute of Peace (USIP) also recently awarded a grant to The Johns Hopkins Bloomberg School of Public Health that

will allow researchers to develop, test and validate a data-driven instrument designed to track attacks on healthcare workers in armed conflicts. The project will eventually enable healthcare providers and international agencies, including the WHO, to better understand the nature and extent of the attacks, develop prevention strategies, promote legal accountability and support indigenous health workers in armed conflicts.⁴ The project’s director, Leonard Rubenstein, a senior scholar at The Johns Hopkins Bloomberg School of Public Health, says, “We expect the instrument over the long term to be a basis for the development of strategies to protect health services in conflicts and to hold perpetrators accountable.”⁴

Despite the many challenges that lay ahead of the medical community from various types of conflict, it is clear that physicians remain willing to contribute both financial and manpower resources to various philanthropic causes when possible. Although the economic downturn may decrease some urologists’ ability to contribute financially to causes near and dear to their hearts, in-kind donations and manpower are always needed.

“Portuguese urologists are always willing to contribute to philanthropic causes. Our association is a very good example of that trend: we want to promote a straight cooperation with all the Portuguese-speaking community, and if we need, we’ll have a huge number of urologists willing to help,” Dr. Nunes says.

Through its philanthropic efforts and partnerships, the AUA offers members several ways to contribute their time, expertise and resources towards the improvement of urologic care in underserved countries. For more information, please visit www.auanet.org/GivingBack.

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A Journey to Join:

ONE UROLOGIST'S PERSPECTIVE ABOUT MEMBERSHIP IN THE AUA



The American Urological Association (AUA) recently received its first two AUA membership applications from two urologists in Cuba. One of the applicants, Octavio De La Concepcion-Gomez, MD, who is also the President of the Cuban Society of Urology, was happy to share some information about his background, his country and his perspective on why he decided to apply for AUA membership.

Dr. De La Concepcion-Gomez first became interested in urology during his first year at medical school. He had nephritic colic and discovered his interest in urology after receiving surgery to remove a small urinary stone. He knew an excellent professor and became a helping student (medical students that assist professors in the office and operation theaters).

Today, Dr. De La Concepcion-Gomez works at The National Institute of Nephrology at Havana, a public hospital. His specialties are endourology and kidney transplantation. While he enjoys all facets of the urological practice, he feels most comfortable performing surgery and presenting difficult cases to his colleagues and students. Some of the challenges that Dr. De La Concepcion-Gomez faces include approaching new surgical techniques that demand new skills, such as robotics, and trying to keep up to date in the knowledge of his specialties.

Dr. De La Concepcion-Gomez said, "For decades, there have not been any Cuban members of the AUA. The opportunity to become an AUA member will help me gather with other colleagues at the largest scientific meeting of urologists in the world and will allow me to gain experience through these meetings and publications."

In regards to the benefits of joining the AUA, Dr. De La Concepcion-Gomez commented, "For urologists in underdeveloped countries, to belong to an association like the AUA is very important in order to expand horizons. It is also important to have the possibility of collegial interchange with other urologists with more experience and access to different technologies; and, of course, the membership benefits are valuable."

According to Dr. De La Concepcion-Gomez, there are close to 500 urologists in Cuba, and all Cuban urologists are members of the Cuban Society of Urology. Dr. De La Concepcion-Gomez believes, in regard to the economic crises that are affecting the world, "Cuban urology is going to change and become more specialized, focusing on the health problems of the Cuban population and working to fulfill the demand of health services that are increasing and becoming more complicated every day."

Dr. De La Concepcion-Gomez is convinced that many urologists in Cuba will want to join the AUA so that we can further connect the AUA and the Cuban Society of Urology. He sees many opportunities to accomplish this, to include facilitating visiting professorships at hospitals, creating courses in Cuba with support of the AUA and encouraging the participation of members and professors of the AUA in the meetings and courses of the Cuban Society of Urology.

As part of becoming an AUA member, Dr. De La Concepcion-Gomez hopes to facilitate the path for his Cuban colleagues to join the AUA and to be able to connect with the world of urology. He also hopes to be able to form collaborations and interchanges with specialists from around the world.

If you are interested in International or International Residents-in-Training membership with the AUA, please visit www.AUAnet.org/JoinGC.



UP CLOSE & Personal

AUA's Academic Exchange Programs

AUA's Academic Exchange Programs* offer promising young urologists the opportunity to spend time at academic institutions in another country and attend that organization's annual meeting. The programs give participants the opportunity to gain a global perspective in urology, while broadening their cultural horizons. Participants, selected through a competitive process, include urologists from Brazil, China, Europe, India, Japan, South America and the United States.

In the past, we've highlighted individual exchange participants to hear about their experiences. While it is clear that the exchange scholars continue to benefit from these programs, we have to remember that they are not alone. The institutions that graciously host these scholars are an important key to the success of the programs. In this issue, we hear from a few of the urological leaders that host these exchange scholars at their institutions to gain a new perspective on the AUA Academic Exchange Programs.

AUA: What is your favorite part about hosting AUA Academic Exchange Program scholars?

Campbell: *Getting to meet and develop friendships with visiting scholars from around the world.*

Preminger: *Having the opportunity to compare clinical and research practices with visitors throughout the world.*

AUA: What collaborations have begun as a result of your hosting an AUA scholar(s)?

Campbell: *We have a case-based learning program that we now share with many of our visiting scholars by providing the cases that they can review with their trainees; and, in*



Name: Steven Campbell, MD, PhD
Institution: Cleveland Clinic
Hosted AUA scholars from: Argentina, Brazil, Chile, China, India, Mexico



Name: Karim Hamawy, MD, and John Libertino, MD
Institution: Lahey Clinic
Hosted AUA scholars from: Brazil, Germany, Italy, Spain



Name: Glenn Preminger, MD
Institution: Duke University Medical Center
Hosted AUA scholars from: Germany, Italy, Japan, Spain

turn, they provide us with interesting cases that we can learn from. We also often will visit their centers subsequently to participate in educational courses and other experiences that allow for sharing of expertise with one another.

Hamawy & Libertino: *IVC Tumor Thrombus Consortium. This resulted in an AUA2012 presentation.*

AUA: What have you and your institution gained from participating in these programs?

Campbell: *Many great friends across the world and*

much valuable learning about different and innovative ways to evaluate and manage various urologic conditions in different settings and circumstances.

Hamawy & Libertino: *Forming relationships that will be meaningful for urology education and research in the future.*

Preminger: *Greater insight into the practice of urology across the world.*

AUA: *What is the biggest challenge you face when hosting international scholars?*

Campbell: *Time constraints related to other commitments are the biggest challenge for all that we do today; but with a team approach, a robust operative schedule and a stimulating conference schedule, we can usually provide a full and exciting experience for most of the visiting scholars.*

Preminger: *Sometime there is a language barrier but usually not a significant problem.*

AUA: *Why do you think it is important for institutions to participate in such exchange programs?*

Campbell: *First and foremost, it is a great learning experience for us. We are always asking the visiting scholars questions to learn about how their training programs are structured, how they manage various conditions, etc., and in the end, there is much to learn from each other.*

Preminger: *I believe that all institutions should have the opportunity to host an exchange scholar and both can learn from each other.*

AUA: *What is one of your favorite moments during an international scholar visit?*

Campbell: *Mostly just the informal discussions about cases in the operating room, what types of approaches are used, their perspectives about some of the innovations in the field, etc. We try to take them out socially whenever possible, and it is great to learn more about their culture and backgrounds.*

Hamawy & Libertino: *Explaining the Boston Red Sox and baseball to our guests.*

Preminger: *Being able to invite the scholar to dinner at home, along with faculty and residents, in a relaxed atmosphere.*



Academic Exchange Program Scholars pose for a photo with AUA and AMS Leadership at the 2012 AUA International Reception in Atlanta, Georgia.



Exchange scholars with Dr. Glenn Preminger in the OR at Duke Medical Center.

AUA: What do you think the biggest misconception is about international scholars? How were these changed once you hosted a scholar?

Campbell: *One concern related to language barriers; but, in reality, this has only rarely been a real hindrance. Shared common interests and challenges often help with transference of ideas/concepts, even when such barriers are present.*

Hamawy & Libertino: *No misconceptions. This is a wonderful opportunity for everyone, and we would be happy to participate in the future.*

Preminger: *That they would be a significant amount of inconvenience. We have found most scholars to be very accommodating and appreciative.*

AUA: Would you recommend hosting international scholars to your colleagues?

Campbell: *Strongly, this has been a great experience for us, and we are hoping to continue to participate whenever possible. One prerequisite, however, should be to have one or two faculty and administrative assistants who are committed to participating in these exchange experiences.*

Hamawy & Libertino: *Yes, we would recommend to our colleagues and repeat as a host institution when needed.*

Preminger: *I believe it will pay dividends to your program in the future.*

For more information about the AUA's Academic Exchange Programs, go to www.auanet.org/exchange or email international@AUAnet.org.

*The AUA's 2012 and 2013 Academic Exchange Programs are made possible through an educational grant by



Global Perspectives on Urolithiasis: Experts Respond



Bladder Stones, courtesy of the William P. Didusch Center for Urologic History, AUA. Donated by Ernest Lathem, MD.

Defined as the process of forming stones in the kidney, bladder and/or urethra (urinary tract), it is estimated that approximately 1 in 20 people will suffer from urolithiasis at some point during their life. With studies now revealing that the incidence and prevalence of stone disease is on the rise around the world, the AUA set out to talk to experts to look at this common urologic problem. All of our experts agreed that some of the latest techniques and innovations that they are seeing within their countries to treat urolithiasis include flexible ureteroscopy, laser lithotripsy and percutaneous nephrolithotomy (PCNL). These experts also agreed that the best methods for preventing stones include complete stone removal, hydration, diet and nutrition/lifestyle changes. We hope that these global perspectives on the treatment of urolithiasis are timely and of interest to the global urologic community.



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Q1: What is considered “standard” surgical treatment for renal calculi? For ureteral stones?

Skolarikos: Well, it depends on the size. For renal stones, Extracorporeal Shock Wave Lithotripsy (ESWL) and then PCNL; and for ureteral stones, ESWL and ureteroscopy or vice versa.

Geavlete: “Standard” surgical technique for renal calculi under 2.5 cm is retrograde intrarenal surgery using flexible ureteroscopes. For calculi larger than 2.5 cm, percutaneous surgery is the standard therapy. For ureteral stones, the standard treatment alternative is constituted by retrograde ureteroscopy.

Patel: Renal: depending on size, SWL or PCNL is used; ureteral: primary ureteroscopy, followed by SWL and double stent placement.

Desai: Renal calculi: PCNL, RIRS, Microperc, Mini perc, ESWL; ureteric calculi: ureterorenoscopy and flexible ureteroscopy & ESWL.

Osther: Renal: SWL, RIRS, PCNL, litholysis; ureteral: SWL, retrograde URS, antegrade URS.

Wong: ESWL, PCNL, ureteroscopy, Medical expulsive therapy (MET), and laparoscopy are all standard in Singapore.

de la Rosette: The ‘standard’ surgical treatment for renal calculi is PCNL, but this is recently challenged by URS. In selected cases, we are treating stones up to 1.5-2.0 cm with URS now. As for ureteral stones, semi-rigid and flexible URS have become very popular. As a consequence, the use of SWL has been reduced.

Pearle: I believe that SWL remains the most commonly utilized modality for the treatment of renal calculi, and for most moderate sized, non-lower pole stones (<15 mm), it is an appropriate treatment. However, I believe there is a trend towards a more selective approach to the management of renal calculi in which a variety of factors are taken into account to determine the optimal treatment modality for a specific patient and stone scenario. For stones in the ureter, I also feel there is no “standard” surgical treatment. Both SWL and ureteroscopy have been endorsed by the EAU/AUA Ureteral Stones Clinical Guidelines Panel as reasonable, first-line treatments, although most would agree that ureteroscopy offers a higher stone-free rate in a single procedure and is favored for larger stones.

Q2: What are the most common complications associated with surgery for urolithiasis in your country?



Renal Stone, courtesy of the William P. Didusch Center for Urologic History, AUA. Donated by Ernest Lathem, MD.

Skolarikos: Infection related to ESWL, bleeding with PCNL, incomplete fragmentation with Ureteroscopy (URS).

Geavlete: The most common complications associated with surgery for urolithiasis are fever and other septic complications, as well as persistent hematuria. Most of these complications are mild.

Patel: Failure to render the patient stone free in a single procedure, and stent-related morbidity due to high prevalence of routine stenting.

Desai: Bleeding, infection, residual stone and small proportion may end up in kidney failure.

Osther: Infection, bleeding (PCNL/rare).

Wong: Fever and infection at 2 percent of procedures.

de la Rosette: The complications include bleeding (including AV fistula) and urinary tract infections (including sepsis).

Pearle: Complications associated with any of the commonly used minimally or non-invasive surgical modalities for stones are remarkably few. However, SWL is associated with occasional obstruction from passing fragments; ureteroscopy is commonly associated with symptoms due to stents; and percutaneous nephrostolithotomy (PCNL) has a small risk of significant bleeding or pulmonary complications (particularly hydropneumothorax).

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Q3: How did the development of Shock Wave Lithotripsy (SWL) impact the treatment of stones in your country? Do you see the use of SWL increasing, decreasing or staying stable, and why?

Skolarikos: *There are several ESWL machines, both public and private, that have affected stone treatment the last 20 years in the country. I believe URS and Flexi-URS are increasing in number, mostly because a lot of young urologists have had appropriate training, as they had for PCNL also. However, the use of ESWL is still stable.*

Geavlete: *SWL is one of the very few technologies in which the results become poorer with the technological advent. For this reason, I consider that the use of SWL will decrease in the future.*

Patel: *High uptake 20 years ago, and high utility in centers with SWL machines. Decreasing due to greater interest and utility of ureteroscopy by younger generation urologists.*

Desai: *Initially, it was very promising and widely used, but soon its use has declined due to large burden stone, hard stone, unwillingness of the patient to come again and, therefore, treatment not completed, and socio-economic reasons.*

Osther: *SWL changed the management of stones dramatically. In Denmark, 75 percent of renal stones are treated with SWL. RIRS are on the rise, however, on the expense of SWL and to some extent PCNL.*

Wong: *SWL was introduced in 1987 and staying stable as limitations of SWL are recognized.*

de la Rosette: *SWL has received less interest in the past years. This is due to the introduction of smaller instruments for PCNL and URS (including digital imaging technology) in combination with laser on one hand and the lower efficacy of SWL on the other hand.*

Pearle: *With the introduction of SWL, stones in the upper urinary tract were treated nearly indiscriminately with this technology. However, with refinement in patient selection based on better understanding of the limitations of the technology, SWL is being used more selectively. Recent data obtained from surgical logs of certifying and recertifying candidates for the American Board of Urology showed that certifying (generally younger) urologists tend to perform SWL as a smaller percentage of their stone practice than do recertifying (older) urologists. With improvements in endoscopic stone management and better endoscopic training during residency, ureteroscopy and PCNL are playing an increasing role in stone treatment.*

Q4: Have you seen a change in the incidence of stones in your country? If so, to what do you attribute this?

Skolarikos: *We have realized an increase, as a lot of immigrants live in the country. Regarding the natural population, it is as it was for the last 10-15 years.*

Geavlete: *I didn't see any change in the incidence of stones in my country. However, Romania is a country with a lot of urolithiasis. That is why, in academic centers, the number of cases of urolithiasis may reach 5-6/day.*

Patel: *Yes, increase in stone disease. Multifactorial – diet (high calories, salt content and processed/preserved food), obesity, sedentary lifestyle, poor regular fluid intake due to working patterns, increasing intake of caffeine and alcohol, and immigration.*

Desai: *More patients come forward for treatment or diagnosis, as treatment is minimally invasive, quick and cost effective compared to traditional, open surgery. The most common treatment is PCNL, as it is quick, complete and minimally invasive.*

Osther: *Incidence and prevalence have increased – almost doubled – during the last two-to-three decades. It is attributed to lifestyle – obesity – metabolic syndrome. Stone disease is also increasing in childhood – especially in girls around puberty.*

Wong: *Increase in stones, but smaller ones. Dietary changes with western influence.*

de la Rosette: *We see more frequently smaller sized stones in an increasing number. Maybe dietary factors are an influence in an increased number of stones. The increasing availability of imaging modalities such as ultrasound may have resulted in a higher detection of renal stones as well.*

Pearle: *The prevalence of stone disease has been shown to be steadily increasing according to a variety of indicators, including self-reported history of stones, hospital discharges and surgical procedures. Speculation as to the reason for the increase has included the increase in overweight/obesity, the increased incidence of metabolic syndrome, and nutritional factors such as increased consumption of salt and meat and even excessive calcium and vitamin D supplementation.*



Right: Renal Stone, courtesy of the William P. Dicus Center for Urologic History, AUA. Donated by Ernest Lathem, MD.



Bladder Stone, courtesy of the William P. Didusch Center for Urologic History, AUA. Donated by Ernest Lathem, MD.

Q5: Are there disparities at most hospitals as compared to academic centers with being able to offer the latest technology for treating stones in your country?

Skolarikos: Unfortunately, there is a great difference between the academic units, which provide all the modern endourology, and the public sector. Private hospitals with full facilities are emerging more and more often.

Geavlete: There are great differences between these types of centers, in favor of the academic ones of course.

Patel: Yes, due to skill sets and budgetary constraints. This is gradually decreasing with time as teaching hospitals are financially challenged and better training leads to improved skill sets in peripheral hospitals.

Desai: Stone treatment is common. Uncomplicated stones are treated everywhere. Stones with associated morbidity are usually treated in tertiary centres.

Osther: Stone treatment is rather centralized in Denmark. For instance, only a few dedicated centers are allowed to do PCNL and RIRS.

Wong: There are no disparities in Singapore health system.

de la Rosette: Most non-academic centers are not fully equipped with the latest technologies. On the other hand, there is a trend to merge hospitals, resulting in large sized centers with a significantly sized medical staff that consequently have the availability to a larger budget and can also subspecialize in their field.

Pearle: I am not aware of data to support this one way or another. Most hospitals in this country, academic or private, are subject to budget cuts, and acquisition of new technology is challenging. However, academic medical centers have the advantage of being able to test new technologies or to acquire them at a reduced cost because of the exposure to residents and the advantage of having key thought leaders who can promote the technology.



Renal Stone, courtesy of the William P. Didusch Center for Urologic History, AUA. Donated by Ernest Lathem, MD.

Q6: What are some of the barriers to stone treatment in your country?

Skolarikos: The major barrier is that the patient has to travel to big city centers to have a properly performed operation. With waiting lists in the public sector, a lot of patients have to seek private treatment.

Geavlete: The main barriers consist of the problems related to the costs and applications of modern technologies.

Patel: Poor emergency setting diagnostics (NCCT), poor access to and knowledge of quality equipment and aftercare. Poor provision of metabolic evaluation clinics and resources to provide reliable follow-up in younger patients.

Desai: Education and cost are two major hurdles.

Osther: Oncological surgery takes up more and more resources. This is, to some extent, solved by making specialized centers in which stone surgery has the highest priority, and 'the heavy' oncological operations are referred to oncology centers.

Wong: Etiological assessment is not widespread.

de la Rosette: The outcome of treatment in high volume centers is better. At present, most colleges do not appreciate this since this may have an impact on their practice. In my view, one needs to collaborate and come to an agreement in allocation of tasks and treatments offered to the community. Secondly, there is still inefficiency in the use of technologies. Often teams are competing in attracting patients for SWL treatment whereas the patients and the community would be better off with one dedicated team providing treatment to a larger community instead of many SWL units treating a small number of cases each.

Pearle: I suspect that one of the biggest barriers has to do with biases of the treating physicians. If the practitioner has limited endoscopic skills, SWL will be preferred. SWL ownership by physicians has also been suspected of playing a role in decision-making, although this has not consistently been confirmed by reliable data.

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Q7: What advancements do you see happening in the future (e.g., technology, etc.)?

Skolarikos: Better understanding the nature of stone disease, gene research, advancement in training models, refining instruments (scopes, disintegrating tools) and creation of "stone centers."

Geavlete: In the future, we expect to witness a further development of the endoscopic surgery for urolithiasis, and especially the retrograde techniques, with a decrease of SWL and maybe also percutaneous surgery.

Patel: More durable, flexible instruments; affordable lasers; better training; use of combination multimodality treatments; robotically controlled instruments; smart technology for image-guided transcutaneous percutaneous access; provision of care by multidisciplinary teams; greater investment in diet-related stone disease research; economic modeling of best treatment strategies using data from high quality multicenter and multinational studies conducted by large academic and non-academic collaboratives; better education in prevention strategies in schools and colleges, especially targeted to lower socio-economic class pupils.

Desai: Most of the neglected staghorn stones will reduce; improvement in diet, especially adapting high caloric food, will lead to change in stone etiology.

Osther: Miniaturization of instruments (endourology) – better education in SWL – centralization of stone services – development of drugs based on the new ideas/documentation of calcium nephrolithiasis being more a micro environmental disease of the renal tubules (Randall Plaques)

Wong: Even better endoscopes and accessories.

de la Rosette: Maybe robotics will also be introduced in urinary stone treatment using even thinner instruments for ureteroscopy. As for stone removal, we need to be able to completely clean the system from small fragments and dust. A so-called 'dust sucker' or 'vacuum stone cleaner' is urgently needed.

Pearle: Although there are no revolutionary technologic advances on the horizon that I know of, I believe patient selection will be further refined, and endoscopic management will continue to be made safer and more effective. There are some developments in lithotripters that are underway that are based on a better understanding of shock wave physics and bioeffects that may re-ignite interest in SWL.

Stop by the 2013 AUA History Exhibit in San Diego:

MILESTONES in Urolithiasis



Building Bonds through Educational Bridges

By Dr. Gopal H. Badlani

"Friendship is always a sweet responsibility, never an opportunity."

KHALIL GIBRAN

The sharing of knowledge and experience are core values deeply embedded in the history of medicine that not only transcend geographic barriers, but cultural and language barriers as well. As technology continues to advance at a rapid pace, opportunities for the exchange of knowledge will only continue to increase, resulting in a higher quality of care to our patients. However, with all of these technological advancements, face-to-face interaction and the ability to network remains critically important to not only urology, but to medicine in general. The AUA has long recognized the value of involvement in the international urological community, and has taken a leading role in the international information exchange.

In past issues of *Global Connections*, the AUA has reported on its Educational Bridge to India. One of the educational programs contained within this bridge is to hold an annual review course in India utilizing both North American and Indian faculty. It is my pleasure to provide an update that this bridge continues to be strong and active with the Urological Society of India (USI). In fact, the USI and AUA recently celebrated the 4th Annual Review Course held in Hyderabad, India, this August, which was attended by more than 125 participants. Over the past four years, this course has trained 500 senior residents throughout India.

With the success of the review course in India, the AUA has opened this program to national urological societies around the globe. At the AUA 2012 Annual Meeting in May, the AUA signed Memoranda of Understanding (MOU) to codify arrangements for similar review courses to be held with the Egyptian Urological Association (EUA), Sociedad Mexicana de Urología (SMU) and Colegio Mexicano de Urología Nacional (CMUN), and the Sociedad Argentina de Urología (SAU).

The first of these inaugural programs was held with the Egyptian Urological Association (EUA) on September 1-4 in Cairo, Egypt, with nearly 150 participants. The program featured a combination of North American and Egyptian experts covering a wide array of urologic topics. According to Dr. Mohamed Eissa, EUA Secretary General, "The course is a first step in our bond of education. It could expand to provide this opportunity to residents throughout the region and not limited to Egypt." I would also like to thank two special people, for without whom



Participants of the inaugural 2012 EUA/AUA Annual Review Course – Cairo.

this program would not have been possible – Dr. Mohamed Eissa, Secretary General of the EUA; and Dr. Gamal Ghoniem from the University of California, Irvine. Dr. David Diamond, newly appointed chief at the Boston Children's Hospital, who served as one of the AUA faculty, says, "We lectured to 150 young Egyptian urology trainees, and the quality of questions raised and ensuing discussions was quite high. It was particularly gratifying for me in that I have been on three medical missions to different centers in Egypt to promote improved pediatric urological care. I hope that we have the pleasure of interacting with our Egyptian colleagues through the AUA for many years to come."

Additional inaugural programs were held on September 20-22 in Mexico City, Mexico, and November 2-3 in Buenos Aires, Argentina. I would like to thank SMU President Dr. Arturo Rodriguez Rivera, SAU President Dr. Alberto Casabe, and SAU Past-President Dr. Miguel Rivero for their efforts to hold these programs in their countries. The leadership of the South Central Section of the AUA and Dr. Steven Canfield from Houston has helped to put the program in Mexico together, and International Education Consultant Dr. Robert Flanigan is leading the way in Argentina.

As Secretary of the AUA, it is my belief that these educational bridge activities will fulfill a training and educational need and foster the interchange of urological skills, expertise and knowledge, which is critical to the continued success of urology in the world community. I encourage our readers to look to future issues of *Global Connections* for updates on the Mexico and Argentina courses.

Information on how to bring AUA educational courses and programs to your country can be found at www.AUAnet.org/academy/request-a-program.

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