

CAIR EXPRESS



PRESIDENT'S BLOG DR. AMOL MUJOOMDAR

2019 has been a highly successful year here at CAIR.

We were glad to welcome three new Board members, namely **Sandy Bailey** from Manitoba, Rob Beecroft from Ontario and Kevin He from Québec. The latter serves on the Board as resident representative.

Our financial situation is sound. Three new companies, **Abbott**, **Canon** and **GE Healthcare**, have joined our team, bringing the total of corporate partners to 16.

Our Annual Meeting, CAIR's signature event, attracted some 400 attendees in Toronto, Ontario, in May. As for the third edition of The Grand Slams & Catastrophes Course, held in Lake Louise in Alberta, the event drew a full house once again.

2019 was also CAIR's second year as a CIRSE member. Thanks to this partnership, physicians member of CAIR are automatically entitled to CIRSE membership benefits. Access to CIRSE's online resources, such as the CVIR Journal, is among them.

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PRESIDENT'S BLOG

DR. AMOL MUJOONDAR

Continuation...

2019 was also an excellent year for the CAIR Initiative. You will no doubt recall that the objective of this campaign is to promote the benefits of interventional radiology treatments and help lift the hurdles that stand in the way of better access to these treatments for all Canadians. The CAIR Initiative platform has been endorsed by various groups, including the Canadian Association of Radiologists, the Canadian Association of Medical Radiation Technologists, the Canadian Cancer Survivor Network, the Ontario Association of Radiologists and the Association des radiologistes du Québec. As part of the CAIR Initiative, we met with policy makers in Ontario, implemented an awareness campaign on social media, produced educational videos, and collected and shared patient testimonials.

Mr. Daniel Lapointe, our Executive Director, and Mrs. Sarah Elimam, our Events and Membership Manager, have announced that they will be stepping down before the winter is through. Their contribution has been invaluable. On behalf of the Board of Directors, I would like to extend my warmest thanks to both of them for their remarkable work. The recruitment process to hire a new team for our organization's Head Office is currently underway. I am happy to announce the arrival of Mrs. Siri Boulom on our team. She started in late January in her position of executive assistant.

I am very optimistic and have full confidence that CAIR will carry on its fine work of promoting quality interventional radiology and see that it is increasingly accessible to Canadian patients in 2020.



Canadian Association for
Interventional Radiology
Association canadienne pour
la radiologie d'intervention

CATCHING UP WITH... DR. ALEXANDRE MÉNARD

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1. Congratulations on building a successful multispecialty stroke treatment program at KGH. Could you give us a brief background of the individuals and specialties represented in your team?

The team is vast. When you consider delivery of EVT, it includes everyone from EMS, to clerks in ER, to CT technologists, stroke neurologists, the interventional team (MDs, technologists, nurses), critical care, physiotherapists and rehabilitation specialists, naming a few. It's challenging to delineate only the EVT part from the entire process. We estimate that for every successful EVT case, there were approximately 40 health care professionals involved. We are now four vascular and interventional radiologists, and one neuro-interventional radiologist providing the EVT service. Our group has grown from two vascular and interventional radiologists a few years ago.

2. What were some of the major challenges in building a stroke program unique to Kingston?

Our story is uncommon in the EVT world, but our environment is ubiquitous when you consider the equipment, the staff, the experience we had: two rooms, two vascular and interventional radiologists, two single plane machines, average-sized hospital, and 2-3 hours from an EVT center.

There are many hospitals very similar to us in Canada. We started in an environment where the common belief was that only neuro-interventionists on bi-plane equipment could safely perform this procedure.

The three main challenges were process, funding and training. We spent close to one year itemizing the process, from an EMS call, to discharge. Securing interim funding from the hospital until we could receive provincial funding was instrumental to our success. Finally, training of the interventionists, technologists and nurses was an obstacle, as few EVT centers were interested in supporting us. We were fortunate to have Dr Brian van Adel from McMaster university help us with training.



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Interventionists are familiar with preceptor training, commonly used for new thermal ablation equipment, or new vascular/EVAR techniques. Given the unpredictability of the cases, this model does not apply easily to stroke-EVT. We developed a novel training/supervision technique we called "tele-fluoroscopy". Using the Ontario Tele-Medicine network, we projected the video feed from the angio suite and a video camera in the room to Dr van Adel's computer in Hamilton. We had a virtual preceptor in the room advising and supervising. He could precisely see what we were doing; we could directly talk to each other. We believe that this training technique would be critical to any centre wanting to start to implement this program.

3. What advice would you have for other radiology practices in medium-sized cities looking to develop such a program?

The good news is that we have done it at our center, so we have lessons learned to share, a lot of framework and process already mapped out and documented. However, every centre is unique, and our processes likely have to be adjusted at other centres to accommodate institutional culture. Our main advice is that you have to pull in everyone, every department that may be involved, and have many meetings. You need to identify leads in neurology, radiology, interventional, critical care, and emergency. We suggest you budget an extended amount of time to plan and implement; we took over 12 months. In the beginning, inclusion and exclusion criteria should be very clear, documented and adhered to. Be very selective of the first few cases.

Early success is critical. All early cases should be formally reviewed and discussed with the entire team and processes reviewed after each case; the program greatly benefited from these formal reviews. Our final advice is that IRs cannot implement this alone. You are at high risk of failing if you do not plan appropriately, get all other members involved, and implement a robust review process.

4. Did you face any administrative difficulties at a health authority or provincial level given that Kingston is an hour helicopter ride from Toronto?

The helicopter ride may last only 1 hour, but bringing in the helicopter, landing it, doing the patient transfer to the helicopter team, turning on the engines, this takes much more time than the actual flight. In Ontario, transferring acute strokes by helicopter is impractical. It is not a robust solution. In 2015, we attempted repeatedly to transfer acute strokes to EVT centers; the process is not fast enough. We have never succeeded in transferring a patient to a remote EVT center and have them remain a candidate for thrombectomy. I think this scenario probably applies to many centres in Canada. We are a vast country. For us to expand the delivery of this life-saving procedure, beyond the major urban centres in Canada, to the remaining 50% of the population, then we need to recruit and train intermediate-sized hospitals and vascular and interventional radiologists.

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5. What is the current state of literature with regards to outcomes of stroke as a function of time taken to arrive at a stroke-care facility?

It is essential to consider the timelines in stroke care as a rapidly declining outcome curve. For every 9 minutes of delay in reperfusion, 1 out of 100 will have a worse outcome. For every minute saved to reperfusion, the patient gains an extra week of life. For every hour of ischemia, the brain loses as many neurons as it does over 3.6 years of normal life. It is essential to consider this when discussing delivery timelines. The landmark trials and guidelines indicate that the majority of patients will benefit if there is reperfusion within 6 hours. In properly selected patients, this can be extended to 24 hours. But someone reperfused within 1 hour is much more likely to have a favourable outcome than someone reperfused only 1 hour later. The guidelines require that the door to reperfusion time be on average less than 90 minutes. It is challenging to move a patient through the ER, CT, and then achieve reperfusion in that amount of time. We are very proud here in Kingston to have been continuously the fastest in Ontario, with our time from ER door to reperfusion averaging less than 60 minutes. That 30 minutes difference leads to improved outcomes.

6. Skill maintenance is a concern in smaller practices with such specialized programs in IR. Was this a concern and if so, how did your team deal with it?

The SIR has produced guidelines for the delivery of EVT by interventional radiologists. We find the majority of the guidelines pragmatic and appropriate. However, they require that each interventionist perform 15 procedures per year. For smaller centers, this is not realistic. If these guidelines are to be followed to the letter, many smaller centres and many potential patients will be excluded from this life-saving procedure. We sometimes have as many as three interventionists scrub in on a case to gain experience. An 'assist' may learn from and contribute significantly to a procedure. It is very similar to doing EVARs as a group of two interventionists.

Somehow, the assisting interventionist needs to receive some credit for these cases. We attend stroke rounds with the neurologists where we discuss the decision process, cases turned down, challenging cases and outcomes. Our experience is that it takes 18 to 24 months to train a new member into mastering the technical component of the procedure. It may be that once you achieve technical proficiency, you need to lead much less than 15 cases per year to maintain your skill.

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We continuously review our results and organize periodic M&M rounds to review the indications, technical issues and results of our EVT procedures. We found these sessions very beneficial to reflect on our practice and adequately choose the cases for EVT. We found that cross-pollination between IVR trained and INR trained radiologists, which occurs naturally when we work together, has been useful in addressing the following: choice of ideal cases for EVT based on clinical presentation, imaging analysis of CT-CTP and CTA findings, and the use of various devices for catheterization of difficult accesses and cerebral catheterization.

7. What are your future goals for the stroke program at KGH?

Maintaining our excellent metrics is 'progress' on its own. Constant work is required to maintain an optimized system. Transfers from surrounding areas can always be optimized. We have been refining 3D flow models to utilize for training and practice. In the next few years, we would like to offer an EVT 'boot camp' for fellows or IRs that want to start a program. We also have to plan for the long term, including potential retirements in the following decades. We need to concentrate on the training and mastering of this procedure with the junior members of the group for the long-term continuity of the service.

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HOT OFF THE PRESS: 2019 IN REVIEW

Dr. Vamshi Kotha

Another year has gone by and there have again been impressive advances in technology and clinical outcome research, ensuring the progress of Interventional Radiology and promising improved patient outcomes. This is an attempt to summarize some key clinical trial publications IR has seen in 2019.

The year started with controversy in the aftermath of the Katsanos publication that raised significant questions of our peripheral vascular practice. Health administration agencies issued advisory notices related to paclitaxel coated balloons and stents and various societies took note. There has been abundant discussion on the topic, and several follow up analyses failed to reproduce the increased mortality initially reported (1-4). Yet, this served as a reminder to us IRs that our procedural involvement may have significant potentially unrecognized consequences, reinforcing the need to constantly question and improve our scientific understanding.

Several interesting trial results were published in the first half of the year. The BEAT Obesity investigators reported 1-year follow up outcomes of bariatric embolization for severe obesity. Weiss et al reported results of gastric fundus embolization in 20 patients with no major adverse events, mean excess weight loss of 8.2% and significant improvement in the 'impact of weight on quality of life' scores (5)

Investigators from the University of Groningen, Netherlands reported results of an RCT comparing robotic and freehand needle positioning in CT-guided ablation of liver tumors (6). Heerink et al reported favorable results with robotic needle positioning. No antenna repositioning was reported in the 'robotic arm' compared to a median of one repositioning in the 'freehand' arm. For out-of-plane targets, robotic procedures were reported to have significantly smaller lateral targeting error. However, mean targeting time was longer and CT dose for navigational studies was higher in the 'robotic arm'.

Liu et al published results of a randomized trial comparing transradial and transfemoral access in patients undergoing radioembolization. The authors reported a strong patient preference for transradial access with significantly lower pain scores and shorter recovery times (7).

Lombardi et al published 5-year outcomes of the STABLE I trial and 1-year outcomes of the STABLE II trial reporting favorable clinical and anatomical outcomes following endovascular treatment of type B aortic dissection and low dissection-related mortality in the follow up period (8-9)

Late in the year, Pisco et al published the results of a randomized controlled trial of prostate artery embolization versus a sham procedure in patients with Benign Prostatic Hyperplasia. The investigators reported significantly improved IPSS and QOL score at 6 months after PAE as compared to sham with similar adverse events in both groups (10).

Gedikoglu et al compared conventional sedo-analgesia with ultrasound guided supraclavicular nerve blocks for pain control during the endovascular treatment of dysfunctional hemodialysis AV fistulae (11). The authors reported significantly lower pain scores, improved patient and operator satisfaction and no adverse events in the 'nerve block group'.

Just prior to year end, the ATTRACT investigators led by Dr. Kahn, presented results from quality of life analysis after catheter directed thrombolysis in patients with acute DVT. The authors reported significantly greater improvement in vein specific QOLs over 24 months in patients with iliofemoral DVT who underwent CDT versus those that didn't (12). For the overall DVT population, this improvement was seen only in the first 6 months. How these results affect clinical practice patterns and guidelines remains to be seen.

These are only some of the key IR data presented to the medical community in 2019 demonstrating the innovation, scientific progress and academic strength of our discipline. As technology makes rapid advances and innovative techniques are introduced, the task of guiding appropriate clinical application to improve health outcomes remains to the larger IR community as our shared responsibility.

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Read the article on interventional radiology in Canadian Healthcare Technology

CIRSE 2020 IR Trainee Support Program



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AI for radiologists
Vancouver imaging's 70 radiologists have signed on to use Intel's new Medley AI-powered error avoidance and skills development platform, along with its workload balancing abilities.
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What OHTs need to do
As Ontario's health teams go forward, they might want to look at the success of certain U.S. ACOs in delivering community health and keeping patients out of hospital.
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Assessing brain health
A Canadian company, headed by clinicians and using the expertise of a gaming company, has devised a new system for evaluating the brain health of patients. Uniquely, it captures changes over time.
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Healthcare leaders in London, Ont., announce a \$42-million investment in leading-edge MRI and angiography equipment from Siemens Healthineers. Pictured are Dr. Gillian Paul Woods, CEO of London Health Sciences; Dr. Alan Sheppard, President, Western University; Dr. David Pacitti, President, Siemens Healthineers; Dr. Paul Woods, CEO of London Health Sciences; and Dr. Alan Sheppard, President, Western University.

London hospitals to acquire new MRIs and angio suites

BY JERRY ZEIDENBERG

LONDON, ONT. — Hospitals in London, Ont., have partnered with Siemens Healthineers to refresh and modernize the city's stock of MRIs and angiography devices. In December, London Health Sciences Centre and St. Joseph's Health Care London announced the signing of a \$42-million deal for six new MRI machines and eight new angio suites.

As part of the agreement, Siemens will also invest \$1 million in a research and education centre, in which Western University's Schulich School of Medicine & Dentistry will also participate.

The acquisition of the new gear will go far to boost the services offered by radiologists, technologists and cardiologists in the city's hospitals. At LHSC, for example, some of the existing MRI and angio equipment is beyond the recommended lifespan.

The new machines, however, will now put London's hospitals at the leading edge when it comes to MR and angiography.

Dr. Narinder Paul, city-wide chief of diagnostic imaging at London's hospitals and at

Western University, said that Siemens is recognized for the advanced capabilities of its MR and angiography systems. The intent now is to make use of those abilities. "We're going to run them to the optimum," he noted.

The ultimate beneficiaries will be the patients of London and the surrounding catchment area, who will be scanned more quickly, accurately and with less radiation.

Siemens will invest in an R&D centre in London, to create advanced patient-care solutions.

Not only will the London hospitals use the latest sequences and protocols, but through the research partnership they're going to be developing new ones.

The research effort will work out of the Lawson Health Research Institute and Roberts Research Institute, where scientists and engineers from Siemens will also add their expertise.

The deal parallels a recent partnership with Canon, in which the London medical centres and university allied with Canon to

acquire high-end CT scanners and ultrasound machines. At the same time, Canon came on board as a research partner.

The agreement with Siemens will see the first 3T MRI scanner installed in the region. LHSC's University Hospital will acquire one 3T and a 1.5T MRI and two bi-plane angiography suites.

LHSC's Victoria Hospital will acquire a 3T/1.5T pair of MRIs, a bi-plane and two single plane angiography suites.

For its part, St. Joseph's will receive a 3T and 1.5T pair of MRIs, and a single plane angiogram suite.

The eight angio systems being installed include three Artis Q bi-plane, two Artis Q Floor mounted systems, two Artis Q ceiling mounted systems, and one Artis Pheno system. The relationship also has the potential for additional systems to be added in the future.

Each of the MRI systems will include Invenio video technology, a system that was devised by scientist-entrepreneurs at Sunnybrook Health Sciences Centre, and which has been adopted by Siemens. The technology allows patients to wear goggles and to

CONTINUED ON PAGE 2



Will you be enrolled in post-graduate training at the time of CIRSE 2020?

Get involved and join us in Munich for free!

CIRSE will repeat the IR Trainee Support Programme to help make the congress more affordable for residents and trainees. In order to be considered for the programme, applicants must fulfil the following requirements:

1. Submitting an abstract for CIRSE 2020 as a first or presenting author
 - Abstract submission will be possible from December 4, 2019 to February 28, 2020.
2. Being a CIRSE junior member
 - Not yet a CIRSE junior member and have not obtained your undergraduate medical degree no more than 5 years ago and are currently enrolled in post-graduate training, you are eligible for CIRSE junior membership. In order to be considered for the IR Trainee Support Programme, your junior membership application has to be sent to us by February 28, at the latest.
 - If you are already a CIRSE member and would like to change your membership status to a junior member, please contact registration@cirse.org
3. Applying for the 2020 IR Trainee Support Programme
 - The application link will be available for all CIRSE junior members in the "myCIRSE area" until February 28, 2020.

Please note that only 200 places are available and will be allocated on a first come, first serve basis.

Interested to know more about the European Trainee Forum and what activities are planned for young IRs at CIRSE 2020? Please visit the ETF website www.cirse.org/trainees/.



LATEST NEWS

Stroke treatment video



CAIR INITIATIVE PLATFORM

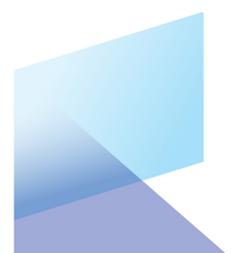
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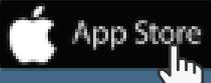
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UPCOMING EVENTS



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