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# The Asian Oceanian Society of Radiology Newsletter

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Boracay Island, Philippines

## **Thoughts from the President's Office**

- What does Harry Potter have in common with Radiology and its allied disciplines? MAGIC?



The Invisibility Cloak of Harry Potter - that should resonate with Harry Potter fans but that is not the only parallel one can draw from the Harry Potter series. Much of radiology and its allied disciplines (radiation therapy or nuclear medicine) deals with invisible energy that we have managed to harness for good. We can diagnose and treat diseases without dissecting anyone up. But nothing comes free - from the early days of healthrelated perils of radiation (Marie Curie had radiation induced health problems) and now with a different type of problem related to the strong magnetic fields in MRIs. A 3T magnet is 60000x stronger than the Earth's magnetic field!

The latest MR-related fatal accident was in October 2021 in South Korea. However, there are many more which are non-fatal and near misses. So please pay attention to MR safety, and ensure everyone using and involved in the MR service (not just those in the radiology department but also emergency responders, anaesthetists, cleaners, attendants, referring clinicians) are educated and reeducated and trained on MR safety. With the increasing number and variety of implantable devices, one needs to be even more obsessive and compulsive about the pre-MR screening. Pre-empt any potential accidents by screening well.

cont'd p.2

Unfortunately, there is no magic to prevent MR accidents. It requires a 'safety attitude' and whilst there is much developing including in the realm of AI, we still need that training and re-training (I am repeating myself) on MR safety. We can learn from the Aviation Industry and apply Human Factors & Reliability Science to our discipline.

On another note, I congratulate the IRIA for their initiative through Samrakshan, a program set up to supplement efforts to reduce perinatal mortality in India. Samrakshan focuses on 2 priority areas of Preeclampsia and fetal growth restriction, and upskilling radiologists to usage and interpretation of Doppler studies, CMEs, free online learning platform and more. I was given the opportunity to inaugurate their Webinar series in conjunction with World Pre-Eclampsia Day on 22 May 2022.

Value Based Radiology is vital today to ensure we will continue to be relevant and contribute pro-actively to healthcare. I hope you had a chance to participate in the AOSR VBR survey that was sent out to the secretariat of the AOSR member societies and hopefully drilled down to the individual members.

Finally, do enjoy the refreshed AOSR Newsletter which tries to bring you the people, activities, (the heart, soul, hard work) and features from different member societies and their locations in the AOSR to the forefront. Join me in welcoming our first individual member – Dr Komal Kritika Singh from Fiji.

See you at the AOCR2022 in Seoul, Korea in September 20-24, 2022.

## Getting to know our member societies -

# The Philippine College of Radiology (PCR): Building Resilience One Brick At A Time

"In the Philippines, history is not so clear as to when the first X-ray machine was introduced. But since the society was founded in 1948, it is safe to surmise that it was brought in even before the war", this was according to Dr Rene Reyes, the 39th president of the Philippine College of Radiology (PCR) and the current chairman of the accreditation committee. When the college was established in 1948, there was only a handful of Filipino Radiologists. This was the period when Manila was being slowly rebuilt from the devastation brought about by World War II. At that time, they called the organization the Philippine Radiological Society (PRS). It was formed by the "Magnificent Seven" and they were: 1. Dr. Paterno Chikiamco 2. Dr. Paulino J. Garcia, who also became the Secretary of Health for two terms in 1954 and 1965 3. Dr. Ramon Z. Paterno 4. Dr. Daniel Ledesma 5. Dr. Hilario Zialcita 6. Dr. Carlos Vergel de Dios 7. Dr. Carlos Marquez.



The Board of Directors of the Phillippine College of Radiology (PCR) 2022 -2023



The decade of the '70s saw the major development of the Philippine Radiological Society. It now bears the new name of the organization, the Philippine College of Radiology (PCR), with a new logo for the college. The logo was designed by Drs. Bienvenido Lapuz and Edmundo Villacorta, and was executed by an artist in 1970. It is interesting to note that the design of the logo was considered a sign of peace, with the theme, "Medical Radiology for the Health of Mankind in Time of Peace."

The Philippine Medical Association (PMA) acknowledged PCR as one of the only eight (8) specialty societies in 1996. Since then the PCR affiliated with several local and international societies.

Currently, the PCR is composed of nine (9) chapters: The Northern Luzon, Central Luzon, NCR Chapter, Southern Luzon, Cebu Chapter, Negros Chapter, Panay Island, Mindanao North and Southern Mindanao.

The society is composed of four (4) subspecialty societies.

Namely, the Ultrasound Society of the Philippines (USP), the

CT-MRI Society of the Philippines (CTMRISP), the Philippine

Radiology Oncology Society (PROS), the Philippine Society of

Vascular and Interventional Radiology (PSVIR).

During the 70th annual convention of the PCR, in 2018, the founding presidents of the different specialty interest groups, or system based New Allied Subspecialty Societies, took their oath. The New Allied Subspecialty Societies include the Neuroradiology and Head and Neck Society of the Philippines, Thoracic and Cardiovascular Society of the Philippines, Philippine Society for Abdominal Radiology, Skeletal Radiology Society of the Philippines, Diagnostic Breast Imaging Society of the Philippines, Philippine Society for Pediatric Radiology, and the Philippine Radiological Society of Nuclear Medicine and Molecular Imaging.

At present, there is a total of one thousand three hundred twenty 1,320 members in good standing in the PCR; nine hundred (900) residents in training ;and fifty six (56) accredited training institutions.



Rizal Park, Manila



The Hinatuan Enchanted River, Mindanao



As of this writing, the PCR is still continuously evolving, adding committees, chapters, special interest groups, and more. It is still molding its policies and regulations that would befit the everchanging landscape of the Practice of Radiology here in the Philippines and overseas. But one thing prevails— and that is the resilience demonstrated by the College and its members during the highest and lowest moments in Philippine history.

In the end, amidst the chaos that has befallen the international and local community, the members of the Philippine College of Radiology are all brothers and sisters at arms, fighting a common enemy, and fighting for a common cause. To be continued....



# Getting to know your AOSR councillor - Prof Jongmin Lee

In 2012, as the office director I joined the AOSR council. Through the AOSOR executive secretary and AOSR councilor in recent 10 years, I currently serve as the treasurer. In a limited AOSR financial status, I try to balance expenditure among activities of the AOSR committees. The income of the AOSR consists of annual membership due, AOCR bidding fee, and vendor support, which should be improved reasonably. Based on healthy finances and active member's participation, I wish that the AOSR can be the third international regional society together with RSNA and ESR someday.

I am affiliated with the Kyungpook National University Hospital in Daegu Korea. I work in cardiovascular radiology and biomedical engineering. My research focuses on hemodynamics, AI, and 3D printing in the cardiovascular area. Personally my four family members are on a balance between engineering and music. This oriental-meaning balance may allow me for hobbies such as woodwork, road bike, horse riding, yacht sailing, SCUBA diving, and photography.

Lastly, I would like to promote the AOCR&KSR2022 during September 20-24 in Coex Seoul. Ambitiously we prepare the AOCR with attractive contents including subspecialty international joint symposia. I wish this event can be a springboard for AOSR to jump up.

# **Teamwork is the key to enhancing MRI Safety**



During the commissioning of HK Children's Hospital, setting up the MRI suite was daunting and challenging. Much time was spent to brain storm and collaborate with key stakeholders—radiographers, sedation team, nurses, play specialists, clinical staff and clerical team. With a combination of meticulous planning, streamlined multidisciplinary cooperation, standardised workflow observing corporate guideline(s) and regular training, I believe all radiology departments can confidently enhance MRI safety for staff and patients.

Since the Hospital's service commencement in 2018, our team has made 'making imaging fun and safe' our goal!

#### Elaine Kan

#### **AOSR MR Safety Ambassador 2022**

Chief of Service of the Department of Radiology at Hong Kong Children's Hospital Honorary Clinical Associate Professor at the Department of Diagnostic Radiology, Li Ka Shing Faculty of Medicine of University of Hong Kong.

Watch/Listen to Elaine Kan's MRI Safety Tips - https://www.youtube.com/watch?v=dXOjrtxUsFc

## How do we ensure MRI safety for patients and staff?

Recent studies show a negative correlation between the number of MRI safety incidents and staff knowledge. MRI safety education is vital and should be made accessible for all staff who enter the MRI scan room. Ideally, MRI safety training should be performed on a monthly basis and should emphasise an MRI safety workflow.

A key component of this workflow includes an MRI safety Time Out. This is performed verbally before each MRI scan to ensure all staff have emptied their pockets, no staff member has an implanted device, and that in an emergency the patient has to be transferred out of the MRI room immediately for treatment.

Safety is our priority and your responsibility. Remember accidents hurt, safety doesn't.



## James Hallinan

#### AOSR MR Safety Ambassador 2022

MR in Charge Radiologist, Consultant Radiologist, Diagnostic Imaging, National University Hospital, Singapore Asst Professor, Diagnostic Radiology, National University Singapore

Watch/Listen to James Hallinan's MRI Safety Talk - https://www.youtube.com/watch?v=6VIkAV\_w1-0

# The AOSR Webinar on AI: The Radiology Community as the Front Runner in AI Research and Healthcare

By Dr Gaurang Raval, AOSR Emerging Trends Committee Member

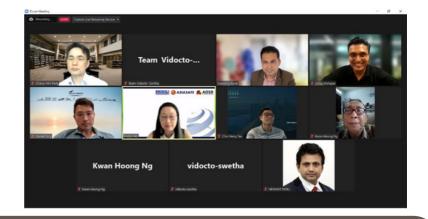
The Emerging Trends committee in association with the Education Committee of AOSR organized a Webinar on Artificial Intelligence: The Radiology community as a front runner in AI Research and Healthcare. The goal of the webinar was to act like a primer- to ignite the minds of radiologists and motivate them to better explore the field of AI research. This could open up new avenues for radiologists who are interested in AI research but do not know the path to take.

The entire webinar was coordinated and moderated by Dr Gaurang Raval from India- member of the Emerging Trends committee of AOSR. He was guided by Dr Evelyn Ho (President AOSR), Dr Cher Heng Tan (Chairman, Emerging Trends committee, AOSR) and Dr Hemant Patel (Chairman, Education Committee, AOSR). The webinar took place on 14th May 2022, Saturday at 2:30 pm.

There were 3 faculty talks: 1. What are the potential topics of research in AI in Radiology by Dr Vidur Mahajan from India. 2. How to read a paper in AI by Dr Daniel Ting from Singapore. 3. What are the steps involved in AI research project by Dr Chang Min Park from South Korea.

This was followed by a Q & A & panel discussion on: How do we motivate radiologists to be front runners in AI research and in health care. Prof Dr Ng Kwan Hoong (Malaysia), Dr Evelyn Ho, Dr Cher Heng Tan and Dr Hemant Patel participated in the rich discussion with the speakers. The enthusiasm of the webinar across the audience was such that their questions kept on pouring in and the panel discussion went on for about 45 mins.

There were 160 registered participants from 18 countries and 64 from 12 countries attending the webinar live. The webinar was available online for viewing on AOSR VIDOCTO platform until June 10, 2022 at https://aosr.vidocto.com



Feedback from Dr Ravi Mandalam, Kota Kinabalu, Sabah, posted with permission.

11 June 2022: Last night, I watched the recorded video of the recently held AOSR webinar on AI. Very instructive.

From a radiologist's perspective the talk by Dr. Park was most informative. Application of AI not only for diagnosis but a wholesome application for examination scheduling, patient positioning, dose calculation, contrast dose estimation - the promise and potential are enormous.

The summary by Prof Ng KH and Dr Ho were also very good, and also the Q&A.

If my current good health holds (fingers crossed), I hope to be around to see the routine application of AI in radiology.

Medicine aside, AI as a tool for image recognition has a lot of application in nature tourism. Google has an app called Google Lens which can be used to identify plant species if one is out trekking in our beautiful forests - I am using it on my mountain treks. I have proposed to our local nature society to develop an exclusive app for species on Mt Kinabalu using AI. Hope it will materialize.

Thanks again for a great webinar from AOSR.

# The Lancet Commission on Diagnostics:

A call to radiologists from the Asian Oceanian region

By Benjamin Kuo & Tan Bien Soo, Singhealth

Lack of access to diagnostics (of which diagnostic imaging is an integral component), is a complex global health challenge with diverse implications for healthcare systems of countries across the spectrum affecting high to low-income countries alike. The Lancet Commission on Diagnostics (LCD) shared their perspectives and recommendations in a landmark report in 2021 emphasizing the global diagnostic gap that contributes to significant diagnostic and therapeutic delays. The report defined a framework to address this gap and called for coordinated and accelerated global efforts to improve equitable diagnostic access that has for far too long been largely left out of the global health conversation.

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The Lancet Commission on Diagnostics (LCD) shared their perspectives and recommendations in a landmark report in 2021 emphasizing the global diagnostic gap that contributes to significant diagnostic and therapeutic delays.[1] The report defined a framework to address this gap and called for coordinated and accelerated global efforts to improve equitable diagnostic access that has for far too long been largely left out of the global health conversation.

On 16 February 2022, Singapore hosted the inaugural regional dialogue on the Lancet Commission's recommendations.[2] The event was spearheaded by the SingHealth Duke-NUS Global Health Institute, in partnership with the Academy of Medicine Singapore and the Lancet Commission, and with participation from organisations such as the Academy of Medicine Malaysia, the Hong Kong Academy of Medicine and the World Health Organization. The AOSR was represented by President, Dr Evelyn Ho.

The Guest-of-Honour Associate Professor Kenneth Mak, Director of Medical Services, Ministry of Health Singapore as well as Dr. Kenneth Fleming from the University of Oxford, UK and Chair of the Lancet Commission on Diagnostics opened the event with speeches.[3] More than 300 participants, ranging from radiologists, pathologists, administrators, business leaders and other relevant stakeholders from around the region, attended the event. The dialogue focused on three of the ten recommendations (Figure 1) of the LCD report - Health workforce expansion and upskilling for contemporary diagnostic skills, governance and regulatory frameworks to support and oversee diagnostic quality and safety, fostering development and appropriate use of technology to benefit everyone.

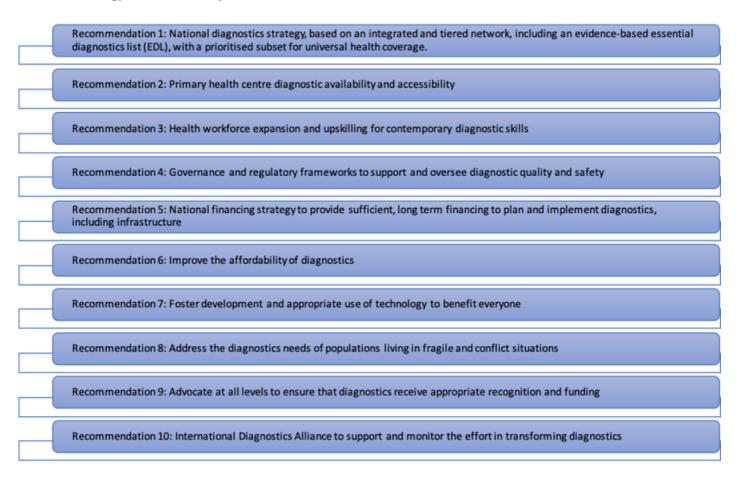


Figure 1. The 10 recommendations from the Lancet Commission on Diagnostics (LCD) at the national (recommendations 1-5) and international (recommendations 6-10) levels for improving global diagnostic access.[1]

- 1. Fleming KA, Horton S, Wilson ML, et al. The Lancet Commission on diagnostics: transforming access to diagnostics. The Lancet. Published online October 2021. doi:10.1016/S0140-6736(21)00673-5
- 2. SingHealth. Lack of access to diagnostics a global health challenge. Published February 16, 2022. Accessed June 7, 2022. https://www.singhealth.com.sg/news/research/A%20Regional%20Outlook%20on%20the%20Global%20Crisis%20in%20Diagnostics
- 3. Speech by associate professor Kenneth Mak, director OF medical services at A Regional Outlook on the Global Crisis in Diagnostics The Lancet Commission on Diagnostics, 16 February 2022. https://www.moh.gov.sg/news-highlights/details/speech-by-associate-professor-kenneth-mak-director-of-medical-services-at-a-regional-outlook-on-the-global-crisis-in-diagnostics---the-lancet-commission-on-diagnostics-16-february-2022.
- 4. DeStigter K, Pool KL, Leslie A, et al. Optimizing integrated imaging service delivery by tier in low-resource health systems. Insights into Imaging. 2021;12(1). doi:10.1186/s13244-021-01073-8
- 5. Kuo BJ, Busmanis I, Tan BP, Tan PH, Teoh WC, Tan BS. The Lancet Commission on diagnostics: What it means for Singapore. Ann Acad Med Singap. 2022;51(5):300-303. doi:10.47102/annals-acadmedsg.202242

## **ISROSA Call for Action**

G. Frija, D. Frush, Co-Chairs of the International Society of Radiology Quality and Safety Alliance (ISRQSA)

The following ISRQSA Call for Action is proposed to serve as a set of internationally relevant recommendations and guidelines for medical radiation safety, management, and informed use. In fulfilling its mission "...to facilitate the global endeavors of the ISR's member organizations to improve patient care and population health through medical imaging", the ISR and its Quality and Safety Alliance will function as both a primary actor as well as a facilitator through this Call for Action.





- Action 1: Act in accordance for safe and effective imaging across all ages
- Action 2: Identify medical imaging performance indicators including audit tools that can be attributable to improvements in patient care
- Action 3: Develop an Imaging Stars network of imaging centers (or develop a program distinguishing imaging centres) that acheive the embodiment of best practice
- · Action 4: Establish a mutally beneficial engagement with national authorities
- Action 5: Collaborate with stakeholders (e.g. radiographers, medical physicists, WHO and IAEA) with related initiatives
- Action 6: Improve information for and communication with patients and caregivers for children about radiology procedures
- Action 7: Organise courses for healthcare professionals
- Action 8: Develop clinical decision support system guidelines and implementation strategies
- Action 9: Faciliate the establishment of a framework for what constitues clinical diagnostic reference levels (DRLs) for adults and children
- Action 10: Provide dose management models to establish these local DRLs

# **Radiology in the Past**

Dr. Lilian Leong Founding President, Hong Kong College of Radiologists Past President, AOSR



It was just like yesterday when I started my radiology training, though it was already half a century ago. In the past decades, I witnessed the rapid technological advancement in medical imaging which we are very proud of. In this special column of AOSR newsletter, I would like to share with you some old photos showing what radiology was like in the past and I hope you find them interesting.

In the early 70s, we used an invasive procedure of pneumoencephalography to evaluate the contours of the brain and ventricles. It involved intrathecal administration of air via lumbar puncture (Fig. 1). The procedure was assisted by the Mimer II rotating chair (Fig. 2), which looks quite awkward nowadays. This equipment was completely replaced by the introduction of computed tomography a few years later.

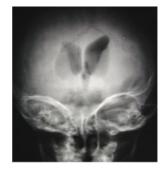




Fig. 2 Fig. 1

In the late 70s when pulmonary tuberculosis was prevalent, our government used mobile X-ray vans to screen the population for the disease (Fig. 3). We used 70mm miniature films and they were read with a special machine (Fig. 4). That was me holding the films for viewing (Fig. 5)!







Fig. 4



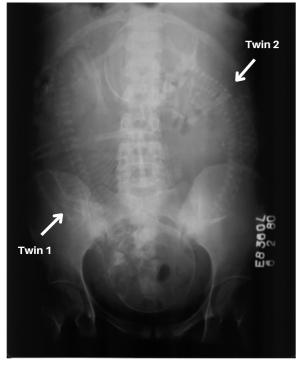


Fig. 6

By the early 80s, we were still using abdominal radiographs to detect twin pregnancy (Fig. 6). This was replaced by ultrasound soon after, with the advantage of not using ionizing radiation. Technological advancement allowed 3D or even 4D ultrasound imaging to be widely available nowadays.

In the past Radiology training was less structured. Like an apprentice, I learned little by little from my seniors. The department was small, but we were very close to each other (Fig. 7). We used typewriters to prepare the radiology reports (Fig. 8), and we need to fight to share the viewing box (Fig. 9)!







Fig. 7 Fig. 8

Fig. 9

It was not until the early 90s when Hong Kong College of Radiologists (HKCR) was established (Fig. 10) with the mission to unify the standards of training, hold qualifying examinations in radiology, organize CME/CPD activities, provide various guidelines and outreach to regional and international radiological organizations.

Though the radiology family expanded quite a lot in the past decades, we maintain close relationships with each other. We organize social gathering for our new trainees (Fig. 11), and our College even has our own basketball team (Fig. 12)! We look forward to widening our network through closer collaboration with other AOSR member societies!



Fig. 10



Fig. 12



Fig .11

## Mt Kinabalu - the icon of Borneo, Malaysia

Dr K Ravi Mandalam Consultant Radiologist, KPJ Sabah Specialist Hospital, Kota Kinabalu Member of College of Radiology, Academy of Medicine of Malaysia

Mt Kinabalu, the highest mountain in Malaysia is a granite massif, 4095m tall that is in Sabah, Malaysian Boneo. It is a beacon of biodiversity with an astounding variety of flora and fauna, earning it the status of a UNESCO World Heritage Site.

My first climb took place in 1995; 27 years later, I have completed 54 climbs. Mt Kinabalu has an interesting topography – vast mountain with ranges, peaks, and valleys. As a radiologist, I found it easy to understand this by studying photos from different angles – AP, lateral, oblique and axial views in our language!



Schima wallichii – an upper montane shrub with spectacular pink and white flowers

This mountain has a lot to offer:

- For the nature lover it is a botanical paradise.
- For the adventurous, it offers many thrills via ferrata, rock climbing, paragliding, mountain racing etc.
- The climb is also an excellent team-building opportunity for radiology staff; I have organized climbs a few times.
- For the socially conscious, Kinabalu climb can be a fundraiser – I raised RM50, 000 for a Rotary Cataract project.

If a radiologist wants to work from the summit there is good WIFI coverage with Celcom and Digi 4G SIM cards. Mt Kinabalu fascinates and inspires one and all who get 'acquainted' with it.



Dr Ravi, bottom right most with his radiology staff at the top of Low's Peak, the highest point in the whole of Borneo.



Logging in at the summit – radiologists who use Infinitt PACs will recognize the tool bar!

# **Radiology Quiz**

## Case contributed by Dr. Abhjeet Taori, India

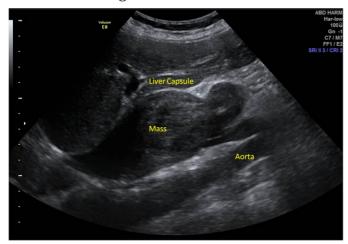
### Question:

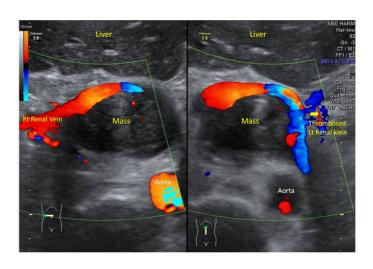
A 73-year-old man was sent for evaluation of chronic diffuse abdominal pain accompanied by anorexia and weight loss. Look at the USG followed by CT to determine the origin and probable diagnosis.

## Options:

- a. Thrombus in Inferior Vena Cava
- b. Paracaval/Caval Lipoma
- c. Primary tumor of Inferior vena cava
- d. Adrenal Mass
- e. Renal Cell Carcinoma

## <u>Ultrasound images</u>





Selected contrast enhanced CT images





# Promising applications of Al to reduce patient exposure in medical imaging.



## Prof. Habib Zaidi

Chief Physicist & Head, PET Instrumentation & Neuroimaging Laboratory, Geneva University Hospital

Professor at University Of Groningen (Netherlands) & University of Southern Denmark

# Al in Radiation Safety: A Radiologist's Perspective



# **Prof. Tchoyoson Lim**

Senior Consultant Diagnostic & Clinical Neuroradiologist Adjunct Prof, Duke-NUS Graduate Medical School

# ASIASAFE, AOSR - IAEA **Webinar AI in Radiation Safety**



04TH JULY 2022 04:30 PM IST, 07:00 PM SGT & 01:00 PM CEST

# WHY ATTEND?

The hype in AI has been mostly on interpretive tools but there is more to Al.

Can Al help improve quality and safety for patients & providers? Can AI help reduce user fatigue?

Can Al reduce the number of unnecessary studies?

Mark your calendar to find out how AI could be used to address some of these questions.

# WELCOME



Dr. Evelyn Ho President AOSR

## WELCOME



Dr. Ola Holmberg Prof. Kwan Hoong Ng Head of the Radiation **Protection of Patients** Unit, IAEA, Vienna,

Austria

## MODERATOR



Chair, ASIASAFE Emeritus Professor,

Universiti Malaya





## The AOSR Executive Council

Executive Council 2021 - 2023

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Evelyn Lai Ming HO College of Radiology, Academy of Medicine of Malaysia

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Wing P. CHAN Chinese Taipei Society of Radiology

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AOCR 2023 Organisation Chair Jarturon TANTIVATANA Radiological Society of Thailand

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## Asian Oceanian School of Radiology

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#### Hon Advisors 2021 - 2023

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Byung Ihn CHOI Korean Society of Radiology

The Asian Oceanian Society of Radiology, 71 Yangjaecheon-ro, Seocho-gu, Seoul, 06754 Korea Tel: (82)-31-704-4261 Email: office@aosr.kr

# **Answer to the Radiology Quiz**

#### Answer:

### Primary Tumor of Inferior Vena Cava.

There is a large lobulated heterogeneously enhancing intraluminal Inferior Vena Cava mass with necrotic changes in the suprarenal inferior vena cava distending and obliterating the lumen. There is no invasion into hepatic parenchyma. Left renal vein is distended with hypodense non enhancing thrombus. Right renal vein shows optimal luminal opacification. Color Doppler examination reveals no flow into left renal vein. Juxtahepatic Inferior vena cava shows optimal luminal caliber and contrast enhancement.

#### How to exclude other differentials?

#### Bland Thrombus in Inferior Vena Cava:

There is enhancing intraluminal mass with gross expansion of the inferior vena cava with no flow channels in or around the mass, which are features of tumoral thrombosis.

### Paracaval/Caval Lipoma:

The mass shows heterogeneous enhancement with no obvious fat density attenuation values

#### Adrenal Mass:

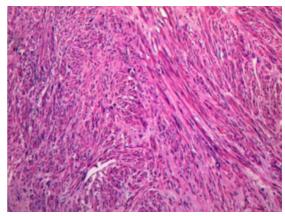
Right adrenal gland is seen separate from the lesion with normal size, shape and enhancement characteristics

#### Renal Cell Carcinoma:

Right kidney is visualised distinct from the lesion with normal parenchyma.



Resected surgical specimen showing externally smooth bosselated soft tissue mass adhered to vessel flap.



Resected surgical specimen showing externally smooth bosselated soft tissue mass adhered to vessel flap.