Editorial

Keynote PAIRS2024: The Diamond Jubilee of Interventional Radiology, Reflection on the Era of Modernizing Medicine: Our Wins, Losses, and Future Opportunities...

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Interventional radiology (IR) started in the mid-60s with Charles Dotter who treated a patient with gangrenous toes and critical ischemia using serial dilators and got good results, recanalizing the superficial femoral artery (SFA) lesion, promoting tissue healing, and salvaging the foot. Despite the success, he received a request, a couple of weeks later, from the same surgeon asking for a preoperative diagnostic angiogram, specifically saying "to visualize but not try to fix it," because he did not believe a radiologist could do this. Charles Dotter used to be called, among his contemporary colleagues, Crazy Charlie! He was not crazy. He was a man with a vision and determination. It is perfectly said that he is the Father of Interventional Radiology. Since that time, IR picked up at every level and in every direction.

IR procedures have evolved dramatically over the years from simple diagnostic angiogram and angioplasty to a wide range of procedures involving every aspect of medicine. This is accompanied by significant innovative developments in technology and techniques. Thanks to generations of IR pioneers and inventors who contributed a lot to this specialty driven by care, passion, and determination.

A lot has been done in the field of research and validation of new procedures and technology, including some landmark trials and important registries.

At the training and education front, enormous work has also been achieved, thanks to Cardiovascular and Interventional Radiological Society of Europe (CIRSE), Raman Uberoi, Mick Lee, Rob Morgan, and others who established the First International Qualification for Interventional Radiology Training (the European Board of Interventional Radiology [EBIR]), the accompanying IR curriculum, and recently the EBIR endovascular Specialist Certificate.

There is also a plethora of societies at national and international levels such as CIRSE, Society of Interventional Radiology (SIR), and Pan Arab Interventional Radiology Society (PAIRS), with the latter being the latest entrant on the scene.

But is this the whole story? I am afraid the answer is NO. This is only the shiny surface of the story. What is behind the scenes is probably a different picture.

There are a lot of uncertainty, threats, and genuine challenges. Let us take deep dive into the dark side and talk about it one by one.

First, there is ambiguity about identity. Some people call themselves Interventional Radiologists, which is fair and accurately reflects what we do. However, a sizable group call themselves Diagnostic Radiologist or at best Diagnostic Radiologist with interest in IR or some other titles. This fact has a direct link with the perception of the public and medics alike. Due to this dilemma, in addition to other factors, IR has historically been under-recognized. A study published in JVIR last year, surveying around a thousand people from the general public showed an astonishing observation. More than 40% of people did not know what we do, who we are, and what we can contribute to patient's care. This observation was not only among the lay people or general public but also among the medics. In another study published in 2019, 70% of referrers, in the primary care and hospitals, have poor or inadequate knowledge about the procedures we do and what can we offer. The gynecologist, for example, might know that we do fibroid embolization but they do not necessarily know that we do inferior vena cava (IVC) filter or treat pulmonary embolism (PE), etc.

Second, it is the contentious relationship with our diagnostic colleagues. This matter is quite complex and sensitive. It might take different shapes, forms, and intensities depending on which country, continent, or even in the same country. The common outcomes, however, of this unsorted relation are a lot of dragging forces that bring IR backward and limit IR from growing or using its potential to achieve more. This is a shame because both diagnostic and interventional radiologists are in the same boat and they can combine forces, have a unified voice, and use their potentials in a much better way.

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Moreover, IR is a wide field. That is brilliant because we never get bored by doing so many procedures and it is exciting to encounter different pathology every day. There is, however, a downside to that. There is a general atmosphere of less protectionism and loyalty to a particular procedure. One might say I do not care if I lose a particular procedure because I have other things to do and/or innovative new procedures continue to come through and can replace the loss. As a result of this, we are bleeding procedures. Unfortunately, the pace of innovation lags well behind the pace of losing procedures at the moment.

The fourth big issue is evident on the workforce front. The most recent census of the Royal College of Radiologists (RCR) showed that only 48% of the trusts in the United Kingdom have adequate IR service to provide 24/7 on call service. Around 80% of clinical directors fear that we are not providing good clinical services in IR. To add more concern, the number of consultants leaving the specialty is quite high and at a younger age. The contributing factors are a mixture of things related to increasing workload and lack of appropriate resources.

On behalf of the British Society of Interventional Radiology (BSIR), we collected data under the Freedom of Information Act (2000) from radiology departments in 120 trusts in England and Wales between 2017 and 2021.

There were more than 1.3 million image-guided procedures in this period of 5 years including the Covid time. The average number of procedures per year had not actually changed significantly during Covid peak time, which means IR continued to provide crucial patient care at a time when many specialties caved in. Another observation in this study is that the number of procedures continues to increase. Two-thirds of procedures were labeled as intermediate and complex and around one-third or 35% of procedures were vascular. What I mean by vascular is not only peripheral and aorta but also everything that involves dealing with blood vessels such as fibroid embolization, bleeders, and all other sorts of embolization and recanalization.

The workload and workforce shortage has resulted, among other things, in burnout. We did demonstrate in a study in the United Kingdom that 65% of IRs have moderate to severe emotional exhaustion, 77% have low to moderate personal accomplishment, and 46% have moderate to severe depersonalization. According to the people involved in this survey, the workforce shortage, the increase in workload, and the lack of infrastructure support contribute to these poor results. Unfortunately, that is not unique to the United Kingdom. A similar study in the United States has come up with more or less the same results.

The fifth big issue is Finance. It is another shabby area because coding is poor, inappropriate, and/or does not track to the radiology or IR department. In the United Kingdom, you do a procedure and the tariff goes to the referring team! In an unpublished study done in the Greater Manchester region looking at expenditures in 1 year, the cost of a simple biopsy and needle equipment was double the cost of thoracic endovascular aortic repair (TEVAR). But guess who gets more weight, presence, and a louder voice?

So far, we are not well positioned and equipped to tackle this issue.

Without going further on what could be perceived as self-infliction, let us see what we should do to rectify the situation.

No doubt that stagnation or complacency is the worst thing. We cannot accept the do-nothing option. There is only one direction of travel, that is, moving forward with a better-planned future for IR.

We need to work on parallel streamlines including clinical practice, training, research, recruitment, political engagement, and management of industry relations. We should work on them simultaneously and with equal intensity.

Clinical practice, which involves both ambulatory care and inpatients, is extremely important. It improves clinical care and physician–patient bonds, enhances a multidisciplinary care, allows us to progress with medical research, raises profile, and allows us better control of budget and resources. It is a no-brainer that clinical care and clinical practice are mandatory and essential. It has been highlighted since Charles Dotter's days in the early 1980s and I am astonished that I still need to talk about it in 2024.

We need to prepare our coming generations with good training and provide them with a dedicated and tailored curriculum that involves the three main pillars: diagnostic radiology, technical skills, and clinical care. We must accompany that with modern assessment tools instead of relying on a diploma in diagnostic radiology to assess trainees' knowledge in IR. Also, we should make sure the young consultants are equipped with the highest level of skills that enable them to function from day 1 as competent consultants who can do emergency IR besides mainstream procedures.

We need to recruit the right individuals for this specialty. We have been fishing from the wrong pond all the way through. We need to attract people who have the "I will" and "I can do" attitude. We need to engage more with the medical schools not only to attract them to IR but also to educate them about how they can benefit from IR when they are full practitioners. We need to work hard to dissolve the myth about radiation hazards so that we can attract more women and ensure diversity to enrich our specialty. National workforce planning is either ignored or not possible in most regions of the world due to so many limitations.

Wider investment is mandatory in the research world. The output must increase, and we need to keep pushing the envelope of cutting-edge technology. We need to increase the national and international collaborations among IR communities. It is great to see CIRSE and PAIRS collaborating this year, and this should continue and extend to other parts of the world. Collaboration can take various shapes and forms, for example, registries, education, and training initiatives and academic collaborations. Particular attention should be given to research on the economic impact of IR in a world where health systems are struggling to rationalize resources. The policymakers do not know much about IR, which is not their fault.

The relationship with the industry is very important and should be fostered with mutual benefits. The knowledge of industry people about IR is no different from the public or

medics that I just mentioned. It is wrong to assume they know who we are and what we do.

Education, collaboration, and focused efforts to engage with industry are vital measures.

There is no doubt that doing all these streamlines is a big ask that needs a lot of work. Furthermore, embarking on all those changes and tasks will not be possible if we continue to be in the same rigid and framed box within radiology, follow the same work culture, and use the ancient tools at our disposal. It does not mean we should entirely exit from radiology. Instead, we should have a clear identity that allows us to function independently, collaborate positively with diagnostic radiology, and show the value of working side by side.

IR specialty is the only way forward that makes us give better patient care, address historical challenges, raise our profile, better political weight, better control of our destiny, better competition value, and ensure sustained growth.

Generations including ours have worked hard to reach the top. But staying at the top is much harder than reaching there. Also, when you reach the top and fail to stay there, the consequences are dire. Pursuing this goal of specialty is the responsibility of all IRs toward our patients, trainees, and our profession.

I am sure we can achieve it; the question is when and I hope when it is not too late.

