All The Gear and No Idea

Commentary

There has been a welcome increase in the competitiveness and appeal of interventional radiology (IR) training over recent years, which has strengthened a workforce that has long been struggling (1). One of the key contributors to this trend is the emergence of several national conferences and courses that provide an excellent overview of the specialty. These events promote IR amongst medical students and junior doctors including Interventional Radiology the Basics (IRTB) (2), National IR Symposium (NIRS) (3), Radiological Imaging and Intervention Symposium Edinburgh (RIISE) (4) and the Yorkshire Imaging and Interventional Radiology Symposium (YiiRS) (5) to name a few. These events are highly successful in attracting trainees to IR, with many faculty members recalling their own experiences as delegates and how these inspired their career choice. Each year, industry provides incredible support by running hands-on stations where delegates can become familiar with the latest technology. These stations include simulations for embolisation, closure device deployment, thrombectomy with model clots, liver ablation, and even irreversibly electroporating bananas, amongst other activities. Industry's flight boxes often reveal brand new, exciting technology, elevating even the most seasoned interventionalist’s heartrate. However, amidst this excitement, we often overlook a crucial point. It should not be about what we can do, but what we should do, and where is the evidence supporting our practices?

A recent discussion with a cardiologist about using a pressure wire in a complex case of transplant renal artery stenosis highlighted this gap starkly. We are almost indistinguishable in our appearances. We wear the same lead glasses, same scrubs and both talk the same technical language with 0.18 wires and an array of kit at our disposal but the evidence base behind our decision making is different. The cardiologist simply asked what studies would support our decision making and fluently summarised the range of cardiac based trials using different cut-offs explaining how the meta-analyses were conducted, with a number of subgroup analyses to provide a solid evidence base for intervention to the coronary vessels giving him assurance he was both technically able and clinically justified to treat. The pressure wire would provide a number but what would the clinical correlate be for the patient? Even if

technical success was achieved on the day what evidence do we have to say that the outcome in 3 or 12 months is better than non-intervention?

Leaping to defend IR, we often use first principles and logic as the ‘jack of all trades’ and with a vast breadth of skills. Deep down we are nakedly exposed. We have stented renal arteries for years, not uncommonly in transplant kidneys and surely this is correct? Yet our current literature base is mostly expert opinion and case series. It doesn't stop there - our lists are full of poorly evidenced procedures; tibial plasties with a Safari technique or using a new device, new liquid based embolisation and venous intervention with more kit available than an average armoury. Our storeroom '101' lives up to its name for new nurses asked to urgently find specific kit, yet our evidence store is more akin to Mother Hubbard's cupboard. This disparity in evidence bases exposes a vulnerability in IR where new practices frequently outpace our evidence.

Similarly, our conferences are full of new expensive kit and a better way to do this or that. As IRs is it time to stop looking for the new exciting procedure and start getting excited by the latest trial results? Is it time to say no to new expensive kit and invest more concentrated effort in developing our evidence base for things we already do? We are not all an infinite resource and time occupied with the new is less time spent focussing on evidencing the current. Thankfully we are starting to accrue evidence (finally) for several IR procedures (6-10) but this is only after decades of performing procedures largely based on small case series and low-level evidence.

Kilic et al (11) highlight that recruitment is essential for the future of IR but is our current recruitment strategy attracting the right people to take IR from experimental to evidence based? As we compare the experiences mentioned above the authors wonder if we are starting off on the wrong foot. Whilst the hot new kit attracts enthusiast characters who want to play with new shiny toys, perhaps we would attract more academic minded doctors to better develop the evidence base if we focused on this earlier in recruitment or at first contact.

We are pleased to see new discussions focussing on research (11) and overcoming these barriers (12) within IR both with the recent strengthening of the research committee at BSIR (13) and in particular, a focus on introducing collaborative high-quality research to junior trainees and pre-radiology trainees through the UK National IR Trainee Research Collaborative (UNITE) research network (14). Trainee research

collaboratives have been hugely successful in areas like anaesthesia, neurosurgery and general surgery, increasing research awareness and delivering changes to clinical practice. Furthermore, the recent increase in funded research positions, such as NIHR clinical lecturers and RCR-funded dedicated research time, underscores a commitment to enhancing the academic footprint of IR. These opportunities are crucial for fostering a culture of research from early in training, leading to increased uptake of Academic Foundation Posts (AFPs) and Academic Clinical Fellowships (ACFs) within IR and Radiology.

While technological advancements are essential, we must balance this with a strong emphasis on research and evidence-based practice. The recent initiatives are promising steps toward this goal, but more work is needed, starting at an earlier stage. Our efforts to attract future radiologists might be more effective if they emphasise our scientific and academic foundations rather than focusing on glamour and glitz.

Acknowledgements

UK National IR Trainee Research Collaborative (UNITE)

References

1. Royal College of Radiologists. Clinical Radiology Census Reports. Available at https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/clinical-radiology-census-reports/
2. Southwest Imaging Training Academy, Interventional Radiology the Basics (IRTB) course. Available at https://www.swita.org.uk/interventional-radiology-irtb/g.uk
3. IR Juniors. National Interventional Radiology Symposium (NIRS). Available at https://www.irjuniors.com/nirs
4. Radiology Imaging and Intervention Edinburgh (RIISE). Available at. https://riisedinburgh.com/

5. Yorkshire Imaging and Intervention Symposium (YIIRS). Available at. https://app.medall.org/event-listings/yiirs-yorkshire-imaging-and-interventional-radiology-symposium
6. Neves JB, Warren H, Santiapillai J, et al. Nephron Sparing Treatment (NEST) for Small Renal Masses: A Feasibility Cohort-embedded Randomised Controlled Trial Comparing Percutaneous Cryoablation and Robot-assisted Partial Nephrectomy. Eur Urol. 2024;85(4):333-336.
7. Little MW, O'Grady A, Briggs J, et al. Genicular Artery embolisation in Patients with Osteoarthritis of the Knee (GENESIS) Using Permanent Microspheres: Long-Term Results. Cardiovasc Intervent Radiol (2024). doi: 10.1007/s00270-024-03752-7. Online ahead of print.
8. Moss J, Wu O, Bodingham A, B et al. Central venous access devices for the delivery of systemic anticancer therapy (CAVA): a randomised controlled trial. Lancet, I0140-6736,398,10298:403-415
9. Manyonda I, Belli A, Lumsden M, et al. Uterine-Artery Embolization or Myomectomy for Uterine Fibroids. N Engl J Med 2020;383:440-451
10. Ray AF, Powell J, Speakman MJ, et al. Efficacy and safety of prostate artery embolization for benign prostatic hyperplasia: an observational study and propensity-matched comparison with transurethral resection of the prostate (the UK-ROPE study). BJU Int. 2018 ;122:270-282..
11. Kilic Y, Weston-Petrides GK, Ihsan Nergiz A, Morgan R, Shaygi B. Challenges in research opportunities for interventional radiology trainees and interventional radiology in the UK, Clin Rad,2024;79:81-84,
12. Jenkins P, MacCormick A, Harborne K, et al. Barriers to research in interventional radiology within the UK, Clin Rad, 2022; 77:e821-e825.
13. British Society of Interventional Radiology. BSIR Research committee. Available at https://www.bsir.org/society/society-committees/research/
14. Mandal I, Zhong J, Borchert R. et al. The UNITE Collaborative: Early Experiences of Introducing Collaborative Trainee Research to Interventional Radiology in the United Kingdom. Cardiovasc Intervent Radiol. 2022;**45:**259–260.