

IR stories from the East

Interventional News has been liaising closely with Dr Robert White, who in passing on the Yale team's expertise in treating PAVMs has travelled extensively in South East Asia and the Far East. We felt it would be of interest to our readers if we took advantage of these travels and reported Dr White's observations on the practice of interventional radiology in Japan.

Dr Robert White became involved with Japanese interventional radiology through a series of friendships with Japanese colleagues throughout his working life. One of the first of these was with Atsuko Shishakura, whom White describes as "a very talented woman radiologist". He met Shishakura, who now goes by her married name of Heshiki, while training at Johns Hopkins in the 1960s. She is the only woman chair of a university department of radiology in Japan. White is also friends with the now retired Professor Makoto Takamiya, a cardiovascular radiologist at the National Heart Centre in Osaka. Professor Takamiya trained with Werner Porstmann behind the Berlin Wall at Charite Hospital. Porstmann studied with Gruntzig before and during his time at Kantonsspital in Zurich, and it was he who developed the 'corset balloon', which Gruntzig used as a model for his home-made double lumen angioplasty balloon that led to the modern revolution in recanalisation procedures. Professor Takamiya learned the Porstmann Technique for closing Patent Ductus and pioneered this procedure at the National Heart Centre in Osaka.

When White stepped down from the Chair of Diagnostic Radiology at Yale in 1995, he and his wife Pat Kelly-White were invited to attend the Asian Congress of Interventional Radiology in Tokyo. Dr White's wife is an integral member of the HHT team and often accompanies her husband on his trips. She was the manager of the cardiovascular laboratories at Johns Hopkins and has also taught radiation physics. She has been at the HHT centre at Yale since its inception, helping fundraise at the beginning and then collating genetic 'pedigrees' for patients, liaising with families and helping sufferers – as White puts it – "navigate through the managed care mess in USA". In Japan, the Whites renewed their old friendships with Japanese colleagues, including Professor Hiramatsu from Keio University, as well Professor Hideo Uchida from Nara, former editor of CVIR, and the afore mentioned Professor Takamiya. This meeting prompted White to write to his friends Atsuko Heshiki and Professor Uchida, asking for an invitation to visit Japan to see the very best of the individuals treating vascular malformations. White also wanted to learn from the Japanese their techniques for embolization, not only for vascular malformations but also embolotherapy in general. For some time, the Japanese have been the world leaders in embolization of Hepatocellular Carcinoma (HCC). Hepatitis B and C are so common in Japan and rest of Asia, with 350 million carriers of the virus on the continent, that HCC is a very common sequelae 30 years after hepatitis. The primary modality for managing HCC is embolization. Despite the lack of accredited programmes with subspecialty boards in interventional radiology, Japanese radiologists have advanced embolotherapy to a very high level, as well as other less known aspects of interventional radiology. For example, the Chiba needle was developed in Chiba, Japan.

Professor Uchida made introductions for the Whites so that they could visit Japanese universities where there was interest and expertise in managing arteriovenous malformations and in particular HHT. This introduction led to trips each year to Japan and Asia.

The structure of interventional radiology in Japan

The Japanese medical system is close to the German model, with one Professor 'king' followed by a limited number of associate professors and many assistant professors. In contrast, the Department of Diagnostic Radiology at Yale has 17 professors in a department of 45 radiologists and 20 PhDs. In each Japanese public and private university there is only ever one professor. Young Japanese radiologists have to serve a long apprenticeship before making a decent wage.



Dr White in discussion with Professor Nakamura and Dr Osuga

The training of Japanese interventional radiologists is not too different from the European and North American models. After six years at university (as is the case for most European doctors, the Americans taking a couple of years longer to qualify), the young Japanese interventional radiologist-to-be does a clinical year and then a further four years of diagnostic radiology. During those four years, they have continuing practical experience of



Dr White and the team from Akita University

interventional radiology. There is a board exam for radiology and the interventional part is very much on-the-job training, as in many European countries. There are no separate subspecialty boards for interventional radiology in Japan. In White's opinion, there is a need for this subspecialty commitment in Japan, as well as in Europe. As is being discussed in the US, building a three-year imaging and a two-year interventional training programme with certification in both diagnostic radiology and interventional radiology might make the most sense for all to consider.

Most Japanese radiology programmes have large abdominal sections. Since treatment of HCC is the most common interventional procedure done in Japan and in Asia as a whole, it follows that every diagnostic radiologist becomes an expert in imaging the liver as well as managing HCC by their 'local' imaging and embolization or percutaneous therapies. White notes "...at present, every country in Asia I have visited uses Japanese principals for embolization, most commonly of course for hepatocellular carcinoma, which alone is responsible for a million deaths in Asia each year." White observes that although Japanese interventionalists are solidly in control of embolotherapy, interventional neuroradiology and many non-cardiac vascular interventions are done by non-radiologists, something which is occurring now in the US as well as Europe. "I believe, of course, that this trend is reversible if all interventional radiologists take charge of the patient and become physicians first," says Dr White.

Conditions in the Japanese interventional radiology department are often in direct contrast to Europe and the US. Length of stay in Japanese hospitals is unlimited, as it is in rest of Asia, and there is no pressure for patients to leave beds before they are ready to. "Of course the US is just the opposite," White says, "insurance companies control patients, not doctors, and of course this is not so good. Doctors are still in control in Japan." White also notes another positive difference in interventional practice. The Japanese interventionalist has very advanced imaging technologies at his command and is able to treat the HCC in a room with a 'track' so that embolization is performed in a staged manner. When Lipiodol is introduced into the site, the patient can be shifted on the track into a CT scanner for confirmation before and after Lipiodol. This is so that the delivery of the ethiodised oil is maximised to the tumour and not the rest of the liver, already compromised by underlying cirrhosis (Hepatitis B or C).

The 'burn out' factor

"For the first time visitor to Asia," says Dr White, "many recommend starting in Singapore, since language is not an issue. Singaporean radiology is modelled after the British system and is superb. However, having spent time at Singapore General with Tan Bien Soo, I saw among those colleagues the 'burn out' issues so common in the US and the UK. Japan in this regard is no different, and the younger generation of interventional doctors understand this particularly well. One thing that globalisation has done is to allow those of us who are young

(not necessarily chronologically but spiritually), to understand that problems are the same for the young IR doctor whether in England, Japan, Singapore or the USA."

"Japanese interventional radiologists have a high rate of burn out. While this is not discussed freely, there were certain suggestions that this was a problem," he says. "This is also occurring to a large extent in the USA too, with heavy workloads in venous access and emergency call, not present yet in Japan." At the University of Osaka, doctors have admitting privileges and manage HCC patients on a floor in conjunction with internists but there are no nurse practitioners or physician assistants. These individuals are becoming increasingly common in the US, but White could find nowhere in Asia where there were similar programmes. "Japanese radiology really suffers from the lack of supporting staff to enable the diagnostic or interventional radiologist to have more time to do clinical, educational and/or research work," notes White. Something that perhaps many Europeans can empathise with!

The use of nurse practitioners and physician assistants, or physician extenders as they are also known, has proved extremely helpful in building interventional radiology practices (see www.aapa.org and www.aanp.org for more information). "If interventional radiologists worldwide are to achieve their potential, including recognition as physicians first and image-guided therapists (interventional radiologists) second, we must adopt these types of programmes. It is my belief that if Japan develops these types of practitioners, they will avoid some of the burn out which we saw."

White also feels very strongly that young Japanese radiologists should have an organisation that can speak out for them. He believes that this could be achieved by developing a forum for young interventional radiologists, perhaps in the style of the Association of University Radiologists (AUR) in the US. "Like many European countries and some of our more feudal universities in the USA, young IRs accept some training and working issues which would be unacceptable to us i.e. most Japanese radiologists do not dictate reports on their patients, but instead type or write them by hand each evening. How extraordinary", he says, "that in a country so advanced technologically, such an old fashioned and time consuming practice still exists."

"The world can learn a lot from the Japanese on embolization techniques," says White, "but not on managing practices." Japanese interventionalist techniques are widely practised in some modified form by other Asian nations. Consequently, White believes that it is incumbent on both them and interventionalists in the West, to help colleagues understand ways to enhance their practices and to avoid the burn out factor.

White concluded with a warning on fostering more patient ownership, which interventional radiologists worldwide are hearing all too often. "Remember, cardiologists own patients, vascular surgeons own disease and interventional radiologists develop new techniques. What we should try to do is to teach interventional radiologists to own their patients, not just develop new and exciting therapies. Once we have a global commitment to do this, we won't lose things like the management of leg and renal vascular disease to other specialities."

Reekers' ME-test

The latest Charing Cross meeting was a great success through which a lot of new insights were gained by many of the attending physicians. Among these insights, a new test was introduced by Jim Reekers from the AMC in Amsterdam which was immediately picked up by some of the other speakers during the debates – the so-called "ME-test". Although this test has no solid scientific back up, it has to meet some basic inclusion and exclusion criteria before it can be applied.

Inclusion criteria:

- Absence of good scientific data
- No direct life threatening disease
- Quality of life has to be involved
- Two strongly opposite opinions
- Treatment based "my experience"

Exclusion criteria:

- Availability of randomised trials
 - Direct life threatening
 - A poor self image of the treating physician
 - Previous psychiatric disease of the treating physician
- If you have to make a choice how to treat your patient, and all inclusion and exclusion criteria

are met, you can apply the ME-test. Just by simply asking yourself, "How would I decide if it was ME", or my wife, children or other close relatives (ex-wives and mothers-in-law are excluded). If the ME-test is going to be applied more often, we might see a decline in the amount of treatments, although scientific data for this speculation are lacking. Finally, we know that there are only three types of treatments.

1. Treatments that the doctor feels necessary,
2. Treatments that the patient feels necessary
3. Treatments that are necessary.

The ME-test will help you to make the right decisions for your patients.