

## “Imaging of the Intervention” a new paradigm for our specialty

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Interventional Radiology (IR) is a subspecialty of diagnostic Radiology. It has dramatically developed in the recent past and has become part of daily practice in most Health Care centres in Europe and worldwide. Because of its major role in various diseases, IR has gained wide acceptance and despite turf battles on some intervention, IR are in a central position to create, perform, determine the indication and the follow-up of mini-invasive image guided interventions. It is common sense that optimized results and appropriate levels of activity of Interventional Radiology relies on sound clinical judgement but also in a large part on the results of Imaging workup.

Unfortunately, Interventional Radiologists today share the experience that imaging is not optimized in several aspects and that there is a need for better understanding of the principle, the indications, results and complications of Interventional procedures.

First of all, there is not enough awareness of the indications for IR procedures among diagnostic radiologists. How many cases are not referred to IR for advice, despite obvious feasibility? How many pelvic MR patients are not referred for possible Uterine Fibroid Embolization? How many aortic imaging studies are not referred for possible EVAR/TEVAR? How many typical osteoporotic fractures? How many complex biliary stenoses ?.... These missed opportunities are patients who lose the potential benefit of undergoing minimally invasive intervention. In addition the field of IR does not develop appropriately.

Secondly, when reading the report from our diagnostic radiology colleagues, we know that we often have to re-analyse/re-interpret the images for our own purpose, in order to answer our own specific IR related questions. Examples include: CTA workup for Abdominal Aortic Aneurysms reporting on the “length of the aneurysm” but not on the infra-renal neck; Lower limb CTA reporting on “calcified arteries” and “infiltration” of the Superficial Femoral Artery with no attempt to search for a tight stenosis that could be amenable for balloon dilatation; Liver imaging reporting on “2 metastasis in the left liver” or HCC workup before chemo-embolisation that do not search for extra hepatic feeding arteries. There are many other examples covering the whole field of IR with all types of imaging techniques. Such reports which do not consider IR factors do not prompt referring clinicians to propose Intervention Radiological procedures for their patients, thereby reducing the appropriate growth and appreciation of IR.

If all this is true for pre operative imaging it is certainly equally important for follow- up imaging. How many reports will really help us when we see the patient in consultation after an intervention? How many of our diagnostic colleagues truly understand which complications needs to be ruled out. How many diagnostic radiologists specifically assess tumour response the way Interventional Radiologists require it according to international consensus and to the way a specific intervention was performed in a specific patient? Here again, we often need to re-analyse the images and use our own “diagnostic radiology hat” to ensure that optimum/ focused information is derived from the images.

All these considerations demonstrate each day that there is a need for a specific effort of teaching and training of all radiologists toward a better understanding of imaging

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tailored to the need of IR. The concept of “Imaging of the Intervention” that we propose today is a way to address this problem in all its aspect. “Imaging of the Intervention” would concentrate on proposing tailored training opportunities on all its aspects including lectures, courses, focused review articles, books and virtual material. This effort would deserve dedicated time during pre a post graduate programs of all Radiologists in order to widespread this specific knowledge in all its aspects in our Radiological Community world wide.

We believe that the Radiology community must identify this need and this new opportunity for both

diagnostic and Interventional Radiologists: the demand on diagnostic imaging and the expertise will increase just as the number and quality of intervention will increase in parallel for the global benefit of our specialty. Both diagnostic and interventional communities are missing major opportunities each day due to this absence of specific knowledge.

All of us need to push forward the agenda on the concept of “Imaging of the Intervention” and put it into practice not only in our daily clinical practice but also at the academic level in national and European scientific societies.