The pressing need for Interventional Radiology Centers

Interventional radiology (IR) appeared in the official organization of patient care as part of the second and third Regional Care Organization Plans, known as SROS 2 and 3, under the section “Interventional Therapies Guided by Imaging”. During this period (2004–2012), only interventional neuroradiology and interventional cardiology were subject to structuring arrangements in the form of a Decree of Activity. This type of decree labels the centres concerned according to the conditions of exercise (structure, medical and paramedical team, level of activity, etc.). This approach has enabled organizing patient care, in particular, in the context of emergencies. Unlike the above-mentioned activities, IR has unfortunately not been subject to an equivalent structuring.

The Imaging section of SROS 4 (2012–2017) implies the organization on a regional and territorial level of emergency imaging care, including IR emergencies. It thus appears that the implementation of Regional Health Projects must include considerations by the Regional Technical Committees for Imaging and/or by Regional Delegations of the Professional Council of Radiology (G4) in partnership with the Regional Health Agencies. By 2017, this should lead to structured and organized care for IR emergencies. Not adopting this approach runs the risk of being subjected to regulations imposed by our administrative supervisors. IR emergency care must be proposed and available to all the patients, whatever their geographical origin. In addition to the implementation of round-the-clock availability of IR in healthcare centres, this organization should enable the coordinated and harmonious development of the major IR axes, in particular, interventional oncology imaging. To meet these goals, the Federation of Interventional Radiology (FRI) in close collaboration with the profession, recommends the implementation of a national, homogeneous and balanced network of technical platforms for interventional imaging: the IR centres.

Assessment

Various annual surveys by the French Society for Cardiovascular Imaging, as well as the 2009 survey by FRI, have shown that although there are a sufficient number of structures dedicated to IR, their geographical distribution is exceedingly random. If France, certain territories are insufficiently covered as concerns IR activities. This can be tied to both an absence of structures or organization and a lack of trained operators. The consequence is insufficient access to IR for the unlucky populations living far from urban centres with readily available IR structures. This concerns emergency services in particular. The specialty must therefore think about how to propose solutions to make up for this lack.
**Actions to implement**

**Act to increase professional awareness**

The entire radiological community must realize that IR is a key strategic foundation. For an increasing number of patients, IR has become an essential treatment method, which must be recognized by radiologists. If we throw up our hands (and there are many pretexts for doing so), other specialties are ready to take up this activity, and examples are many (surgery, the endovascular domain, interventional rheumatology, etc.). In addition to a loss of activity, the future of technical support is threatened and risks being Balkanized (our older members have experienced the negative effects of a dispersion of radiological activities, and we have spent over fifty years attempting to give geographical and functional unity to our different ways of working). How can we oppose the installation of a scanner in the surgical ward if percutaneous tumour destruction guided by imaging is carried out by surgeons?

Radiologists must also be aware that IR, with its dual diagnostic and therapeutic aspects, contributes to promoting the specialty and its image and improving our attractiveness to future specialists. Finally, from a more down-to-earth point of view, each IR intervention generates from two to five diagnostic imaging interventions.

**Train skilled operators in sufficient numbers**

Even if IR has the power to attract future specialists, we must improve our visibility during medical studies. This is the role of every radiology teacher. We must also improve remuneration levels for the activity. Finally, we must continue the actions begun to increase the number of specialist positions. The rapid growth of IR and its role in emergency care in particular are strong arguments to continue this increase.

In collaboration with CERF, the FRI has initiated a dynamic of improvement in training by adapting it to the level of activity according to the interventions proposed by the FRI:

- training of future radiologists on all level 1 procedures and on the indications and imaging necessary for procedures at levels 2 and 3. The general idea behind this teaching is to inculcate future interventional radiologists with a “caregiver” approach in order to improve their image and credibility, in addition to their skills and expertise;
- implementation of an inter-university Diploma in diagnostic and interventional imaging in the different organ specialties in the post-internship context;
- organization of hands-on training: apprenticeship, tutoring, simulators and all other types of useful preclinical training.

Some of these actions have been carried out, and others are being implemented:

- certification of practicing interventional radiologists by specifying the criteria for the on-going development and the level of activity required;
- specific training of IR technicians (in collaboration with the French Association of Paramedical and Electroradiological Personnel).

**Organize the activity**

Enabling fast, efficient and permanent access to IR, whatever the geographic origin of patients, depends on the implementation of a territorial network of IR centers. There must be a sufficient number of these centres, and they must be properly equipped and able to provide all the recommended IR guidance procedures. In a shared way and through a government-private sector partnership if necessary, they must bring together all qualified operators in the territory, who must be in sufficient number and able to cover emergency needs in particular.

**The centres**

A regional centre of reference is indispensable. Territorial centres, which are able to ensure both level 3 and emergency interventions, must be gradually implemented according to demography, needs and geographical imperatives. One centre per one million inhabitants is the goal to reach in the context of SROS 4. Access time should preferably be less than one hour. This centre could be installed in public or private facilities or located on an open and shared radiology platform, depending on the local situation.

**Operators**

The medical team should include a sufficient number of interventional radiologists, who are able to take charge of all IR emergencies. A minimum of three operators is necessary to start an emergency center activity. If necessary, this team could be built through a public-private partnership. Taking charge of all IR activity implies that the participants are committed to an indispensible quality approach (rules of good practice according to Interventional Radiology Guidelines; accreditation of at-risk practices; traceability of all aspects of the activity; systematic application of a check list; declaration of serious undesirable events; meetings on morbidity and mortality; mandatory indexing of the activity in the EPIFRI register, a national database for collecting information on the activity). For emergency interventions, organizing collaboration with the anesthesia—reanimation team is imperative. Here again, it is necessary to have a sufficient number of trained personnel.

**Structure**

Located within the technical platform of a care facility, the centre should include equipment to provide for all radiological guidance procedures (angiography, ultrasound, X-ray scanner and even MRI in the future) and for the collection and transmission of images (PACS, tele-radiology). Emphasis will be placed on a strict application of the rules of radioprotection and hygiene. Availability of secretarial and consulting rooms is essential, as well as access to hospital beds since the interventional radiologist is a caregiver. A place for storing material with a sufficient number of implantable and non-implantable devices is indispensable. The same is true as concerns a post-intervention room.

Because of the increasing development of radio-guided interventional techniques, and in particular, percutaneous tumour destruction, discussions must be organized with our national supervisory authorities on the need to include this activity in the form of specific time slots in the criteria for
authorizing heavy material (CAT scans, MRI). For centres with intensive activity in the area, this could lead to the authorization of dedicated machines.

Operation
The integration of the centre within overall patient care implies a certain number of organizational imperatives:

- internal links with the different hospital sectors, in particular, with multidisciplinary teams in charge of emergencies and anesthesia—reanimation. Regular participation on medical—surgical staffs and in meetings on multidisciplinary coordination is indispensable;
- external links with the different patient transportation structures (emergency ambulances, firemen) and listing on the Operational Directory of Emergency Resources, as well as the establishment of patient transfer protocols. A tele-radiology network covering an entire region must connect the different care facilities, radiology platforms and IR centers if there are several of these.

Labelling
In each region, the Regional Health Agencies must include this action in the Regional Health Project, but it is up to the profession to drive the creation of these centres. This gradual implementation should lead to a labelling of the centres, subject to their adherence to radiological recommendations. Official labelling should stimulate the participants to look for solutions to enable this implementation. The FRI group should also create a dynamic on the level of the regional delegations of the Professional Council of Radiology by designating a representative for each region.

Issues
The first concern is related to the demography of future radiologists. The pressing need to implement this organization is directly related to the exponential role of IR and requires a significant increase in the number of radiology interns. Regional G4 university hospitals must obtain this increase from the Regional Health Agency.

The accelerating evolution of techniques contributes to an imbalance in charging for IR interventions with respect to service rendered and expense incurred. The SFR—FRI group is resolutely committed to the proper evaluation of IR interventions, which is supported by the specialty as a whole. This is an issue on which the future of the activity depends, in particular, as concerns the potential impact of its attractiveness to tomorrow’s radiologists.

Will the implementation of IR centres lead to a Decree of Activity? Such a decree would ensure better visibility and greater recognition, with an undeniable structuring effect. However, this is a long, complex process subject to multiple extra-medical contingencies, which are difficult to manage. Therefore, we cannot wait for a possible decree to implement our organization. However, once the IR centres are in place, we feel that the creation of a Decree of Activity, if it is found to be necessary, would be greatly facilitated and our position would be more solid.

For the radiological community, the implementation of this ambitious program depends on being aware of what is at stake for IR and fundamental to its future. The organization of IR activity concerns everyone, whether a "diagnostician" or an "interventionist". The indication for an IR intervention is based on diagnostic radiology, and the image is one of the key tools for evaluating IR effectiveness. This complementarity of the specialty reinforces our approach and should help convince our non-radiologist colleagues, supervisory authorities and the public at large that radiology not only detects illness, it can also treat it. This is the concept of Radiological Medicine, which was proposed and is defended by Jean-Pierre Pruvo, General Secretary of the French Society of Radiology.

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