EuroIntervention

The gap between vascular interventions and vascular medicine

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The widespread localisation of atherosclerotic lesions throughout the vascular system determines the different clinical manifestations of the disease. Depending on the severity and extent of the obstructive vascular lesions, atherosclerosis may remain silent during a lifetime, or manifest itself through a wide spectrum of symptoms that span the range from limited and minor chronic complaints to a severe disabling status, or even sudden death.

Probably the most frequently diagnosed and treated localisation of atherosclerosis, due, in part, to its high prevalence, is coronary artery disease (CAD). The importance of cardiac involvement, its impact on survival and quality of life, progress in medical therapy and the development of revascularisation techniques have placed cardiologists and cardiac surgeons among the principal "doers" in the treatment of atherosclerosis. Nevertheless, the disseminated distribution of atherosclerotic plaques in the vascular system has created an opportunity for sharing expertise by different specialists that work on these common districts and "fields of interest". For many years, vascular surgeons have been taking care of dangerous aortas, life-threatening carotid lesions and diffuse disease of the lower limb arteries causing painful ischaemia that limits the quality of life. Radiologists deal with any vascular conduit, with the exception (generally) of the coronary and cerebral arteries, whereas interventional cardiologists and neuroradiologists respectively play their role.

The rapid development of "vascular interventions" has indeed enabled different specialists to address the same pathology. Cardiac surgeons, vascular surgeons, radiologists and cardiologists take care of these patients and develop their experience, often without a common coordination of intents, and as a consequence, patients may follow different diagnostic and therapeutic strategies accordingly. Which one of these different alternatives is the best among all the choices in each single case remains unclear, and this represent a enormous challenge, as well as a very important field of study for vascular specialists in the future.

The co-existence of atherosclerosis in different vascular districts is known as plurivascular disease, a pathological condition that continues to expand in parallel with the extended life expectancy of human beings. In fact, with ageing, atherosclerotic plurivascular disease becomes a leading cause of morbidity, needing hospitalisation and care, as well as becoming, itself, a cause of mortality[1]. In response to this dissemination in the elderly population, vascular interventionalists have proliferated, and, in these modern times, several professionals co-exist that take care of vascular disease.

In fact, above the age of 70, a patient with severe carotid artery disease has a 40% probability of having CAD, a patient with hypertension and CAD has an over 30% probability of having a significant renal stenosis, and a patient complaining of exercise-induced claudication may have aortic aneurysm or CAD[2]. Depending on the hospital division in which this patient is admitted –neurology because of a stroke, vascular surgery because of claudication, and so on– the patient will be treated appropriately, but, as dictated by the specific symptomatic territory. However, during the years that follow, that same patient will likely die of

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a heart attack, in spite of having benefited from a carotid stent or a vascular prosthesis in the aorta[3]. The risk of death due to cardiac events is doubled in patients with plurivascular atherosclerotic disease[4], but very seldomly do the "hyper-specialists" act in cooperation to address atherosclerosis for what it is, a systemic pan-vascular problem.

The Finalised Research In ENDovascular Strategies, the FRIENDS study group, is composed of interventional cardiologists working in cooperation with vascular and cardiac surgeons, radiologists, nephrologists, diabetologists and neurologists with the intention of diagnosing and treating atherosclerotic patients in a global manner, not just according to an occasional form in which their symptoms might present.

FRIENDS is a spontaneously generated, independent, not-for-profit, working group. Present members are currently engaged at high-volume Italian institutions, committed to cardiovascular care, and work with a shared intention under common coordination. The initial goal will be to assess the short, intermediate and long-term outcome of revascularisation procedures as applied to patients with complex, plurivascular disease.

The group shares a common database, and its main objective is to standardise the different therapeutic options that may be of benefit to patients with different phenotypic presentations of atherosclerosis. Eventually, the aim is to perform independent, randomised controlled clinical studies. The project will lead to an integrated treatment approach to atherosclerosis, with the ultimate objective of systematically verifying new hypotheses by enrolling patients in controlled studies. In fact, most of the vascular interventions routinely performed in the peripheral region are not supported by evidence based on timely and appropriately sized randomised studies. Practices in this field are often driven by experience from experts and opinion leaders that work in centres of excellence, but their results may not be replicated at large.

Cardiologists found themselves at the crossroad of this complex process, both because of their attitude towards clinical medicine and their knowledge of circulatory physiopathology, but also because of the advantage of working in a clinical division with a ward where patients and their referring physicians can be appropriately informed about the therapeutic options. Cardiologists are associated, as well, with intensive care units where complex patients can be treated in a comprehensive manner with the assistance of other specialists as needed. As a matter of fact, it is already common practice everywhere that cardiologists are asked to give their opinion on operability and evaluation of pre-operative risk for patients needing vascular interventions, a class I recommendation in the "Guidelines for perioperative cardiac risk assessment and perioperative cardiac management in noncardiac surgery"[5]. Nonetheless, their skills in vascular interventions add further capacity to their interaction with other interventional colleagues, resulting in much better coordination of diagnostic, preventive, and therapeutic strategies. This integrated approach should aim at providing the highest standards of care to these patients by offering them the best exercise of a global vascular medicine, through optimised medical therapy, continuous education and rehabilitation as part of their life style, and, when needed, appropriate local vascular interventions.

The achievement of this form of internal organisation should represent an institutional objective for any health care provider, who should encourage their key players to engage in a similar process. By agreeing on common protocols, setting up regular meetings to discuss difficult clinical situations, by holding regular mortality-morbidity conferences, and sharing results with other groups through FRIENDS, the standard of care of these high-risk patients suffering from plurivascular atherosclerotic disease can, not only be better understood, but improved as well.

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