EDITORIAL

Who Should Treat Patients with Peripheral Arterial Disease – the Vascular Specialist

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Introduction

The mortality of patients suffering peripheral arterial disease (PAD) depends on the severity of the disease. Patients suffering critical limb ischemia (CLI) have an annual mortality of 10–15%, whereas it is 4–6% for those “only” suffering claudication.1–4 Compared to the people of similar age, without symptoms of atherosclerosis, the mortality of PAD patients is increased by a factor 2–4, i.e. similar to that of patients with coronary heart disease (CAD). This increased risk of death is of course accounted for by the presence of concomitant CAD. Hertzer et al.4 performed coronary angiograms on a series of patients undergoing peripheral arterial reconstruction because of CLI and found 90% to have significant CAD. Interestingly, amputation, which many patients with PAD fear most seems an uncommon event (1–3% in 5 years), compared to the risk of death (30%).1

Thus, patients with PAD have two separate problems that require consideration when evaluated by the physician:

(1) The symptoms from the lower limbs – most important with respect to the patients complaints
(2) The general risk of atherosclerosis even if the patient is unaware of any symptoms of CAD or cerebrovascular disease – most important with respect to the patients survival.

Looking at the former, we as vascular surgeons have a long tradition for treating lower limb ischemia. This area has undergone continuing development over the last decades, evident by the increasing proportion of patients being treated by endovascular methods. Also, non-surgical therapies are constantly being evaluated. Even though surgery is the most challenging aspect for the surgeon, the primary recommendation for the claudicant remains walking exercise as evident in the TASC report and other recent publications.5–7 Pharmacological treatment to improve walking distance has so far not gained widespread acceptance, mainly due to the inadequacy of the available drugs, although recent developments may be more positive.8

Turning to the overall risk of atherosclerosis in PAD patients, it is evident that our patients die from CAD or stroke. However, is there any evidence that treatment of risk factors for CAD will affect the outcome of the PAD patient?

The main mechanism for development of atherosclerotic plaques is the accumulation of cholesterol in the vessel wall. Thus, much therapy been directed towards preventing or slowing this process, most notably by cholesterol lowering agents, e.g. statins. The positive effect of these drugs within CAD is indisputable today, thus, in most western countries there are recommendations stating the need for statin treatment in CAD. The average risk reduction looking at hard end-points (death and myocardial infarction) is around 25–30% in all studies.9–13 Although there is every reason to believe that statins are beneficial for patients suffering from peripheral arterial disease, no published studies exist for this group as most patients in these studies suffered from CAD. Recently, the Heart Protection study was presented at the American Heart Association, November 2001, indicating that...
PAD patients, without evidence of CAD, benefit from statin treatment, as evaluated by a composite end-point including death, myocardial infarction, stroke and revascularisation. Similarly, very few would question the beneficial effect of aspirin in PAD patients, although the evidence for this drug lies in its use in patients suffering from CAD and stroke. Recent data from the HOPE study, including a substudy on patients with reduced ankle-brachial indices, indicate that ACE-inhibitors also reduce cardiovascular morbidity in PAD patients. Most national and international recommendations, including the latest North American, NCEP III, accordingly recommend that the risk factors in patients with PAD should be treated in the same way as those with CAD.

What is the level of risk factor reduction in PAD patients?

The level of risk factor reduction in patients with PAD has been found to be limited and much less than that offered to patients with CAD. In a Danish study only 5% of patients operated for CLI were on statin treatment and only 40% were taking aspirin, despite the fact that 30% of these patients had symptomatic CAD. Similarly, in American studies of primary care and in vascular surgical departments, PAD patients were found to be undertreated and treated much less than CAD patients with respect to secondary medical prevention.

Why are patients suffering PAD offered less risk factor reduction?

There are probably a number of reasons. Firstly, the scientific evidence proving the benefit in patients with PAD has been slow in coming. Thus, vascular surgeons, traditionally being involved primarily in treating patients symptoms and preventing amputation, have not been aware of the possible additional benefit of risk factor reduction and secondary prevention. Secondly, no medical speciality looks after PAD patients systematically throughout the western world, although the speciality angiology does exist in a few countries. This is in contrast to CAD which is attended by cardiologists who refer the surgical cases to cardiac surgeons.

Under all circumstances, there remains a strong need for increasing the awareness among physicians seeing and treating PAD patients, that risk factor reduction is important and that secondary medical prophylaxis is necessary in PAD patients.

Who should take responsibility for risk factor reduction in patients with PAD?

My opinion is that only one person is capable of treating all aspects of peripheral arterial disease – namely the vascular surgeon. Since we are aware of the pathogenesis and hemodynamic aspects of atherosclerotic disease, the additional task of offering risk factor reduction and secondary medical prevention is only minor. Most patients are already seen in our outpatient clinics – the claudicant treated conservatively will be seen again after a few months to evaluate the effect of walking exercise and the patient operated with an in-situ bypass will be offered graft surveillance.

Comprehensive risk factor identification and reduction in the vascular surgical outpatient clinic does require extra resources. However, much of the work may be done by someone other than the vascular surgeon. For instance, smoking cessation therapy, dietary instruction and supervised walking exercise may be offered by vascular nurses. In Gentofte University Hospital, the vascular nurses provide the services. In addition to the traditional tasks of measuring ankle pressures and performing duplex scans, the nurses offer smoking cessation therapy and dietary instruction when the patient has been seen by the vascular surgeon. Medical treatment with platelet inhibitor’s is considered for all patients and statins are prescribed and monitored according to protocols.

Embracing all aspects of diagnosis, prevention and treatment in one clinic not only improves the service to the patient, it might also improve the results of therapy. There is every reason to believe, that the compliance of a claudicant to follow lifestyle advice, will be better if the patient is seen regularly in one clinic. It is our experience that many patients referred to other departments for smoking cessation advice or dietary instruction never show up. Providing counselling immediately when the patient is already in the vascular clinic increases the likelihood of patient compliance.

Can vascular surgeons take responsibility for this extra task?

The major challenge is whether or not vascular surgeons wish to take on the responsibility of total care...
for their patients. If not, they should be referred to specialists in internal medicine interested in providing the required secondary prevention. However, if vascular surgeons turn over this task to specialists in internal medicine, these “colleagues” will begin to manage the claudicants walking problems as well, since many will not require interventional treatment. Moreover, patients may be referred for angiography and possibly endovascular treatment without involving the vascular surgeon. If one follows that development, the vascular surgeon would become the same as cardiac surgeons i.e. a “surgical technician” for the cardiologists.

In my mind, the future vascular surgeon shall be trained to understand and treat the diseases which affect the patients we see. This will require some additional training in internal medicine, but on the other hand, we may not in the future need to be trained so much in general surgery. Additionally, the developments within endovascular treatment seen over the last decade, requires us to be trained in this aspect as well. Thus, the future vascular surgeon will be a vascular specialist capable of treating the whole patient with PAD.

Other organisations are of course possible and in large centres, angiologists may be part of the vascular surgical unit. Certainly, complicated medical cases should be dealt with collaborating with specialists within internal medicine, i.e. severe hypertension and diabetes. However, it must result in improved patient care if all persons involved in the treatment of PAD patients have a similar background, focussed on development and treatment of PAD. Educating all physicians involved as vascular specialists they may subspecialise afterwards, i.e. like today’s situation in many other specialities.

In Denmark, specialist training is currently being redefined for all specialities. Within our field, the Danish Vascular Surgical Society is currently defining the “specialist of vascular disease” along the lines mentioned above, including training in endovascular techniques and medical treatment of the underlying diseases in patients with PAD.

References

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COMMENTARY

Is There a Need for the Medical Angiologist?

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In an editorial in this issue of the journal Henrik Sillesen gives a comprehensive and excellent summary of the current status of the medical management of patients with peripheral vascular diseases. It is acknowledged that coronary heart disease is crucial regarding the prognosis and that optimal treatment of risk factors is very important for the patient.1,2 We can all agree with this, but there are diverging opinions on how this shall be achieved. Sillesen is arguing that the vascular surgeon should be the only physician (the “vascular specialist”) primarily involved in diagnosing and treating the patient with peripheral vascular diseases. He states that this would require further training of the vascular surgeon in internal medicine for a period of time.

Of course, we all agree that the vascular surgeon is the colleague that should handle the scalpel in the operating theatre. His special skills and training are obviously a prerequisite for a successful immediate outcome of a surgical vascular intervention. However, for the patient it is at least of equal importance that also the long-term outcome is successful, which is dependent on several factors, i.e. concomitant diseases and risk factors. In many instances the vascular surgeon has a thorough knowledge of medical treatments and preventive measures, which makes him suitable also for the more generalised treatment of this patient group. However, this is not always the case – and should it preferably be like that?

Personally, we seriously doubt if this is the best way of handling the often very complicated vascular patient. In order to be able to provide optimal care for this diverse patient group, one would need to be fully trained in several fields of medicine; e.g. cardiology, angiology, diabetology, and nephrology. As, no individual can effectively deal with all these specific problems, the solution is teamwork. As the cardiologist needs the thoracic surgeon for treatment of many patients with coronary artery disease, the vascular surgeon needs the internal specialist for optimal care of the claudicant who often suffers from concomitant angina pectoris, renal insufficiency, diabetes or chronic obstructive lung disease.

In the editorial, the relationship between cardiologists and cardiac surgeons is condemned and a similar relationship between angiologists and vascular surgeons adhered. We do not agree as a well-trained and experienced angiologist is just the right person in the team to take care of the vascular patient with generalised atherosclerosis.3

Other vascular conditions that would benefit from the experience of an angiologist are vasospastic disorders, thrombophilias, and genetic disorders. The inflammatory process is now increasingly recognised as an important contributor to the atherosclerotic process,4 and knowledge of this complex problem is consequently of importance in the future.

At many centres there is an increasing cooperation between vascular surgeons and angiologists even if this speciality is only formally recognised in a few countries. In some centres vascular surgeons and angiologists belong to the same department, and this may be the best model of care. Instead of protecting our professional boundaries we should focus primarily on the patient and his or her needs. We welcome the suggestion that vascular surgeons should be...
trained in non-surgical aspects of vascular disease, but we doubt if they will have the interest and capacity which is required to also fully deal with the complex non-surgical parts of vascular medicine. We think there will always be an important and specific role for the medical angiologist. If we all work together using the specific knowledge and skills, present in different specialities, we will get as close as possible to the optimal treatment of our patients.

References


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