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Guideline Summary

Lower Limb Peripheral Arterial Disease (Clinical Guideline 147): A Guideline Summary

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The following text summarises the National Institute for Health and Clinical Excellence (NICE) clinical guidelines (CG 147)¹ on the diagnosis and management of lower limb peripheral arterial disease (PAD). With the increasing prevalence of obesity, hypertension, and dyslipidaemia, the more severe cardiovascular complications of such disorders are becoming increasingly common, including PAD. There is, therefore, a need to establish the most efficient and effective methods of diagnosis, treatment, and long-term management to tackle this issue.

Population based studies have found that approximately 20% of people over 60-years-old have some degree of PAD, presenting predominantly with symptoms of intermittent claudication.² Approximately 20% of these will progress to develop more severe symptoms³ with the risk of critical limb ischaemia, irreversible damage, and the possible need for surgical intervention and eventually even amputation. Therefore, PAD and its sequelae are going to be encountered by virtually every healthcare professional, and a sufficient understanding of the pathology, its diagnosis, and management is crucial.

These guidelines (CG 147) target healthcare professionals responsible for diagnosing and initiating treatment in people with suspected or diagnosed PAD. It addresses methods of diagnosis, information requirements, and lifestyle advice for the prevention of cardiovascular disease secondary to PAD, management of intermittent claudication and critical limb ischaemia, and the role of amputation in severe PAD. In particular, it discusses the progression of management from non-invasive lifestyle advice and exercise, to pharmacotherapy, minimally invasive procedures such as angioplasty and stenting, and finally surgical procedures such as bypass and amputation.

Overall Recommendations

Prompt diagnosis of PAD is crucial in reducing the risk of complications and adverse events, such as critical limb ischaemia, and the need for limb amputation. The hierarchy of management for the main symptoms of intermittent claudication begins with lifestyle interventions aimed at improving walking distance and reducing cardiovascular risk, in particular by undertaking supervised exercise. Vasodilator drugs can be administered if exercise leads to insufficient benefit, followed by angioplasty with or without stenting, and bypass surgery depending on comorbidity and overall risk vs. benefit. Endovascular intervention and bypass are also used in the management of critical limb ischaemia. Sufficient pain control is necessary for ischaemic pain in critical limb ischaemia, preferably by reperfusion of the limb, or by using analgesic medications if this isn't feasible or is unsuccessful. Amputation may be considered in those with severe chronic limb ischaemia with rest pain, tissue ulceration, gangrene, or infection. However, treatment in all patients with chronic limb ischaemia should be on the guidance of the vascular multidisciplinary team.

Information Requirements for People with Peripheral Arterial Disease

Individuals with PAD require relevant information (oral and written) regarding their condition, treatment and disease progression, to guide and support them in making informed decisions about available therapeutic interventions and to enable their understanding of the disease progression. Based on four qualitative studies (n=131),⁴⁻⁷ NICE recommends that information on the cause, severity, associated risks, risk factors, pain management, treatment options, and psychosocial support should be available at diagnosis and subsequently as requested.

Secondary Prevention of Cardiovascular Disease in People with PAD

PAD is strongly associated with cardiovascular disease, sharing its modifiable and non-modifiable risk factors - the severity of which is a prognostic indicator of cardiovascular risk. However, even asymptomatic individuals with PAD are at a

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Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II)

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Introduction

The Trans-Atlantic Inter-Society Consensus Document on Management of Peripheral Arterial Disease (TASC) was published in January 2000¹ as a result of cooperation between fourteen medical and surgical vascular, cardiovascular, vascular radiology and cardiology societies in Europe and North America. This comprehensive document had a major impact on vascular care amongst specialists. In subsequent years, the field has progressed with the publication of the CoChAs document² and the American College of Cardiology/American Heart Association Guidelines for the Management of Peripheral Arterial Disease.³ Aiming to continue to reach a readership of vascular specialists, but also physicians in primary health care who see patients with peripheral arterial disease (PAD), an other consensus process was initiated during 2004. This new consensus document has been developed with a broader international representation, including Europe, North America, Asia, Africa and Australia, and with a much larger distribution and dissemination of the information. The goals of this new consensus are to provide an abbreviated document (compared with the publication in 2000), to focus on key aspects of diagnosis and management, and to update the information based on new publications and the newer guidelines, but not to add an extensive list of references. Unreferenced statements are, therefore, to be found, provided they are recognized as common practice by the authors, with existing evidence. The recommendations are graded according to levels of evidence. It should also be emphasized that good practice is based on

a combination of the scientific evidence described below, patients' preferences, and local availability of facilities and trained professionals. Good practice also includes appropriate specialist referral.

Process

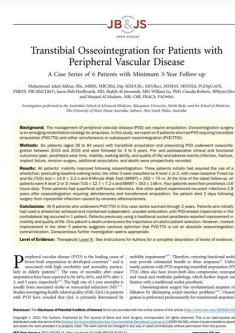
Representatives of sixteen societies from Europe, North America, Australia, South Africa and Japan were elected from their respective society and were called together in 2004 to form the new Working Group. Specialists in health economics, health outcomes and evidence-based medicine were also included to elaborate on the text for the following sections: history, epidemiology and risk factors; management of risk factors; intermittent claudication; critical limb ischaemia; acute limb ischaemia; and techniques (intervention/revascularization and imaging).

The Working Group reviewed the literature and, after extensive correspondence and meetings, proposed a series of draft documents with clear recommendations for the diagnosis and treatment of PAD. Each participating society reviewed and commented on these draft consensus documents. The liaison member from each society then took these views back to the Working Group, where all of the amendments, additions and alterations suggested by each participating society were discussed, and the final Consensus Document was agreed upon.

The participating societies were then again invited to review the final document and endorse it if they agreed with its contents. If an individual participating society did not accept any specific recommendation, this is clearly indicated in the final document. Therefore, except where such specific exclusions are

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PAPER

Peripheral vascular disease in systemic lupus erythematosus

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With increasing longevity of lupus patients, peripheral vascular disease (PVD) has become an important cause of morbidity. With no systematic study of PVD in systemic lupus erythematosus (SLE), this study was undertaken to define the frequency and spectrum of PVD in SLE and factors affecting such an occurrence. All medium-sized peripheral arteries of bilateral upper and lower extremities were studied in 50 SLE patients using Doppler ultrasonography. PVD was defined clinically as one or more of intermittent claudication, absent/unequal pulses, gangrene or ischemic ulcers and sub-clinically as asymptomatic patients with Doppler abnormalities, with $\geq 50\%$ reduction in diameter considered hemodynamically significant. Mean (SD) age of the patients was 31.6 (10.1) years. Forty-one percent were hypermetabolic. Dyslipidemia was found in 62%. Fifteen (30%) had Raynaud's phenomenon. Fourteen (28%) patients had PVD, of whom three had positive markers for anti-phospholipid antibody (APLA) and six were asymptomatic. Ischemic ulcers were seen in eight (16%), gangrene in three (6%), femoral artery plaques in two (4%), stenosis in four (8%) and intermittent claudication in none. Dyslipidemia was found to independently affect occurrence of PVD (Odds Ratio = 5.37, 95% Confidence Interval 1.05–27.5, $P = 0.05$). The causes of PVD overlap significantly and further studies are needed to ascertain the relative contribution of each. *Lupus* (2007) **00**, 1–4.

Key words: atherosclerosis; Doppler; lupus; peripheral; vascular

Introduction

A wide array of vascular manifestations has been associated with systemic lupus erythematosus (SLE), including vasculitis, vasospasm and thromboembolism.^{1,2} Increasing attention has been drawn to late complications of lupus like atherosclerotic vascular disease. About 6–10% of lupus patients have clinically recognized premature atherosclerosis.³ When screening studies are performed, the prevalence appears to be even greater, approaching 40%. Women with lupus have a high frequency of coronary artery disease and those in the 35–44 year age group have a 50-fold higher rate of ischemic heart disease than women without SLE.³ Adding to the atherosclerotic burden is the fact that Asian Indians as an ethnic group have a higher incidence of insulin resistance and the resulting metabolic syndrome.⁴ Though there is a significant amount

of literature on coronary artery and cerebrovascular complications, data on another important component, peripheral vascular disease (PVD) in these patients, is scarce. We undertook a prospective study to find the frequency and spectrum of PVD (clinical and subclinical) in patients with SLE and to study the factors influencing such an occurrence.

Material and methods

This was a cross sectional, observational study of 50 consecutive cases of SLE attending the rheumatology clinic of a tertiary care hospital catering to a large population spread across north India. Cases were defined by the 1997 American College of Rheumatology (ACR) criteria for SLE⁵ and formed part of an earlier study reported by us.⁶ Exclusion criteria included essential hypertension (blood pressure > 140/90 mm Hg, diabetes mellitus, lupus overlap with other connective tissue diseases such as scleroderma, rheumatoid arthritis, and polymyositis and childhood lupus (age < 16 years). Hypertension and diabetes with disease onset prior to diagnosis of lupus were excluded as these conditions are

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[PMC free article] [PubMed] [Google Scholar]Page 2Potential Mechanisms of Functional Impairment and Benefits of Exercise in PADPathophysiologic ProcessFunctional ConsequenceEffect of ExerciseArterial ObstructionReduced blood flowMinimal increase in collateral flowEndothelial DysfunctionDecreased vasodilator functionImproved nitric oxide-dependent vasodilationIncreased arterial stiffnessImpaired hyperemic responseImpaired arterial remodelingIncreased inflammatory activationMitochondrial DysfunctionImpaired energy productionImproved mitochondrial energeticsImpaired oxygen utilizationIncrease in mitochondrial biogenesis in animal modelsIncreased reactive oxygen speciesReduced skeletal muscle contentInflammatory ActivationAdverse skeletal muscle remodelingDecreased markers of systemic inflammationIncreased atherosclerotic progression

05/09/2015 · Physiotherapy Management of Vascular Disorders: prev. next. out of 55. Post on 05-Sep-2015. 225 views. Category: Documents. 0 download. Report. Download; Facebook. Twitter. E-Mail ... Disturbances of structure or function of the circulatory systems are broadly classified as acute or chronic PERIPHERAL VASCULAR DISEASE (PVD) DISORDERS OF THE ... Place the client's legs in a dependent position in relation to the heart to improve peripheral blood flow. Avoid raising the client's feet above heart level unless specifically prescribed by the health care providers. Keep the client in a neutral, flat, supine position if in doubt about the nature of his peripheral vascular problems. 21/06/2022 · Peripheral artery disease is related to reduced blood flow to the limbs. So, medicines may be given to improve blood flow. Aspirin or another medication, such as clopidogrel (Plavix), may be used to prevent blood clotting. Medications for leg pain. The drug cilostazol thins the blood and widens blood vessels. Complications of peripheral vascular disease. Severe cases of PVD can lead to limb ischaemia (lacking blood supply), when blood flow to the limbs is severely restricted by fatty deposits on artery walls. It is very serious. A severe burning pain in your legs and feet even when you are resting; the pain often occurs at night and episodes of pain ... Several large clinical trials have demonstrated the benefits of lipid-lowering therapy in patients with PAD who have coexisting coronary and cerebral arterial disease. 17 - 25 Simvastatin (Zocor ... 05/09/2015 · Physiotherapy Management of Vascular Disorders; Click here to load reader. Post on 05-Sep-2015. 236 views. Category: Documents. 0 download. Report. Download; ... Disturbances of structure or function of the circulatory systems are broadly classified as acute or chronic PERIPHERAL VASCULAR DISEASE (PVD) DISORDERS OF THE ARTERIAL SYSTEM ... In regards to Peripheral Vascular Disease, one of the most common symptoms is lower leg cramps occurring with activity that stops with rest (intermittent claudication). These symptoms may occur in one or both legs. The symptoms of PVD may look like other conditions, so be sure to see your health care provider for a diagnosis. Diagnosis. Careful history and clinical examination remain the initial means of diagnosing PAD. Ankle-brachial index measurement should be the initial diagnostic tool used in general practice, although nurse-determined oscillometric ABI has been shown to lack sensitivity. 11. For atypical exertional leg pain, post-exercise ABI should be measured. Treatment. There's no cure for peripheral arterial disease (PAD), but lifestyle changes and medicine can help reduce the symptoms. These treatments can also help reduce your risk of developing other types of cardiovascular disease (CVD), such as: Treatment is very important, because having PAD is a sign that your blood vessels are unhealthy. 05/09/2015 · Physiotherapy Management of Vascular Disorders: prev. next. out of 55. Post on 05-Sep-2015. 225 views. Category: Documents. 0 download. Report. Download; Facebook. Twitter. E-Mail ... Disturbances of structure or function of the circulatory systems are broadly classified as acute or chronic PERIPHERAL VASCULAR DISEASE (PVD) DISORDERS OF THE ... 05/07/2022 · VII. Management: Exercise. Exercise Stress Test needed before vigorous activity. Peripheral Arterial Disease is a marker for Coronary Artery Disease. Efficacy. Walking improves Claudication distance. Average increase in walk distance of 5 minutes and 113 meters. Benefits are sustained for more than 2 years. 17/04/2017 · 1. Management of Peripheral vascular diseases/Thrombosis Sunil Kumar Daha. 2. Peripheral vascular diseases Arterial (i) Chronic lower limb arterial disease - Intermittent claudication - Critical limb ischemia - Thromboangitis obliterans (Buerger's disease) (ii) Chronic upper limb arterial disease - Arm claudication (rare) - Atheroembolism ... Peripheral vascular disease is the reduced circulation of blood to a body part other than the brain or heart. It is caused by a narrowed or blocked blood vessel. The main cause is atherosclerosis, which is the build-up of fatty deposits that narrow a blood vessel, usually an artery. The narrowed blood vessel reduces the circulation of blood to ... 05/09/2015 · Physiotherapy Management of Vascular Disorders; Click here to load reader. Post on 05-Sep-2015. 236 views. Category: Documents. 0 download. Report. Download; ... Disturbances of structure or function of the circulatory systems are broadly classified as acute or chronic PERIPHERAL VASCULAR DISEASE (PVD) DISORDERS OF THE ARTERIAL SYSTEM ... 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