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DIABETES-ASSOCIATED PERIPHERAL ARTERY DISEASE: PATHOPHYSIOLOGY, DIAGNOSIS, AND MANAGEMENT

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ABSTRACT

Diabetes mellitus-associated peripheral artery disease (PAD) is a severe complication driven by hyperglycemia-induced vascular damage. This overview covers its pathophysiology, diagnosis, and management based on recent guidelines. Peripheral artery disease (PAD) is one of the major cardiovascular diseases that afflicts a large population worldwide Peripheral arterial disease (PAD) represents a progressive manifestation of systemic atherosclerosis, affecting more than 200 million individuals worldwide and primarily occurring in older adults and those with a smoking history, or chronic kidney disease. Peripheral arterial disease (PAD) refers to partial or complete occlusion of the peripheral vessels of the upper and lower limbs. It usually occurs as part of systemic atherosclerosis in the coronary and cerebral arteries. "Diabetes mellitus in peripheral artery disease (PAD)" goes beyond being just a risk factor, acting as a major accelerator of disease, worsening severity, and dramatically increasing risks of amputation, cardiovascular events, and mortality through mechanisms like inflammation, endothelial dysfunction, and abnormal blood flow, requiring aggressive, multi-faceted management. It's a complex interaction where hyperglycemia and insulin resistance promote atherosclerosis and impair healing, making PAD more aggressive and harder to treat, often leading to silent progression or severe diabetic foot complications.

KEYWORDS: Diabetes mellitus,Peripheral artery disease, Atherosclerosis, Endothelial dysfunction, Lower limb amputation.

INTRODUCTION

Peripheral artery disease (PAD) is a prevalent condition characterized by narrowed arteries that restrict blood flow to the limbs, particularly the arms or legs. This condition, also known as peripheral arterial disease, often results in insufficient blood supply to the legs, leading to symptoms such as leg pain during walking, known as claudication. PAD is typically indicative of atherosclerosis, a condition marked by the accumulation of fatty deposits in the arteries. Diabetes mellitus, a chronic metabolic disorder, has become a major global public health issue due to its rapidly rising prevalence. It is linked to numerous macrovascular and microvascular complications, with peripheral artery disease (PAD) being a significant contributor to morbidity and mortality. Individuals with diabetes are 2-4 times more likely to develop PAD, which can progress to critical limb ischemia and necessitate amputation. In the context of diabetes, PAD represents a crucial convergence of metabolic and vascular issues, greatly increasing the risk of morbidity and limb loss. This review delves into the epidemiology, pathophysiology, diagnosis, and management strategies of PAD in diabetes.[1]

Stages of peripheral artery disease

There are four main stages

Stage I – Asymptomatic PADI In this initial stage, patients experience atherosclerotic narrowing of the peripheral arteries without any noticeable symptoms. Peripheral artery disease (PAD) is often discovered by chance through irregular ankle–brachial index readings.

Stage II – Intermittent Claudication This stage is marked by muscle pain, cramping, or fatigue during physical exertion, typically affecting the calves, thighs, or

buttocks, which subsides with rest. It indicates diminished blood flow during activity.
Stage III – Critical Limb Ischemia (Rest Pain) At this stage, persistent ischemic pain is present even when at rest, especially at night or when the limb is elevated, signifying severe arterial blockage and impaired tissue perfusion.
Stage IV – Tissue Loss (Ulcers or Gangrene) This is the most advanced stage, characterized by non-healing ulcers, ischemic wounds, or gangrene, posing a significant risk of infection, limb loss, and amputation.[2]

Etiology

Atherosclerosis (Primary Cause) Peripheral artery disease (PAD): primarily arises from atherosclerosis, a long-term condition where lipid-laden plaques build up in the arterial walls, resulting in the gradual narrowing (stenosis) or blockage of peripheral arteries, particularly in the lower extremities. This restricts blood flow and leads to ischemic symptoms.

Smoking is a major modifiable risk factor for PAD, as it directly harms arterial walls and speeds up plaque development. Many individuals with PAD are either current or former smokers.

Diabetes Mellitus Diabetes greatly heightens the risk of PAD by causing endothelial dysfunction, vascular damage due to glycation, and accelerated atherogenesis.

Hyperlipidemia (High Cholesterol)High cholesterol levels, especially LDL, encourage plaque accumulation within arteries, a crucial step in the development of PAD.

Hypertension (High Blood Pressure) Persistent high blood pressure adds stress to arterial walls and causes endothelial damage, promoting the formation of atherosclerotic lesions.

Overweight/Obesity Carrying excess weight increases cardiovascular risk and leads to metabolic changes that favor the onset of PAD.

Age The risk of PAD rises with age due to prolonged exposure to atherosclerotic risk factors and vascular changes over time.

Sex (Male Predominance) PAD is more commonly observed in males, although its prevalence in females increases with age.

Race/Ethnicity Certain racial and ethnic groups, such as Black individuals, exhibit a higher prevalence of PAD, likely due to a combination of biological and socioeconomic factors.[3]

Risk factors for PAD include

- **Diabetes mellitus:** Diabetes mellitus is a chronic metabolic disorder characterized by persistent hyperglycemia (high blood glucose levels) due to defects in insulin secretion, insulin action, or both.
- **Age (≥65 years):** Increasing age (≥65 years) is a non-modifiable risk factor for PAD because aging is associated with progressive atherosclerosis, arterial wall stiffening, and endothelial dysfunction, which reduce blood flow to peripheral arteries and increase the likelihood of arterial occlusion.
- **Hypertension:** Hypertension is a major modifiable risk factor for PAD, as persistently elevated blood pressure damages the vascular endothelium, accelerates atherosclerosis, and promotes arterial wall thickening and narrowing, leading to reduced blood flow in peripheral arteries.
- **Hyperlipidemia (especially elevated LDL):** Elevated LDL accelerates atherosclerosis in peripheral arteries, increasing the risk of PAD.
- **Chronic kidney disease:** CKD increases PAD risk by promoting vascular calcification and accelerated atherosclerosis in peripheral arteries.
- **Obesity:** In diabetes, obesity increases PAD risk by worsening insulin resistance and promoting atherosclerotic changes in peripheral arteries.
- **Sedentary lifestyle:** In diabetes, physical inactivity increases PAD risk by aggravating metabolic abnormalities and reducing vascular health.
- **Family history of PAD, heart disease or stroke:** In diabetes, a family history of cardiovascular disease increases PAD risk due to inherited and shared risk factors promoting atherosclerosis.
- **High blood pressure:** In diabetes, high blood pressure increases PAD risk by accelerating endothelial damage and atherosclerosis in peripheral artetry.[19]

Epidemiology of PAD in Diabetes

Peripheral artery disease is frequently observed in individuals with type 2 diabetes mellitus. In observational studies, more than half of those with PAD also have diabetes, and nearly one-third of these patients struggle with poor glycemic control. The presence of diabetes not only increases the prevalence of PAD but also significantly deteriorates clinical outcomes, such as tissue loss, cardiovascular complications, and a five-year mortality rate that surpasses 20% in those affected. Additionally, diabetes increases the risk of severe PAD-related complications threefold compared to those without diabetes.[4]

Pathophysiology

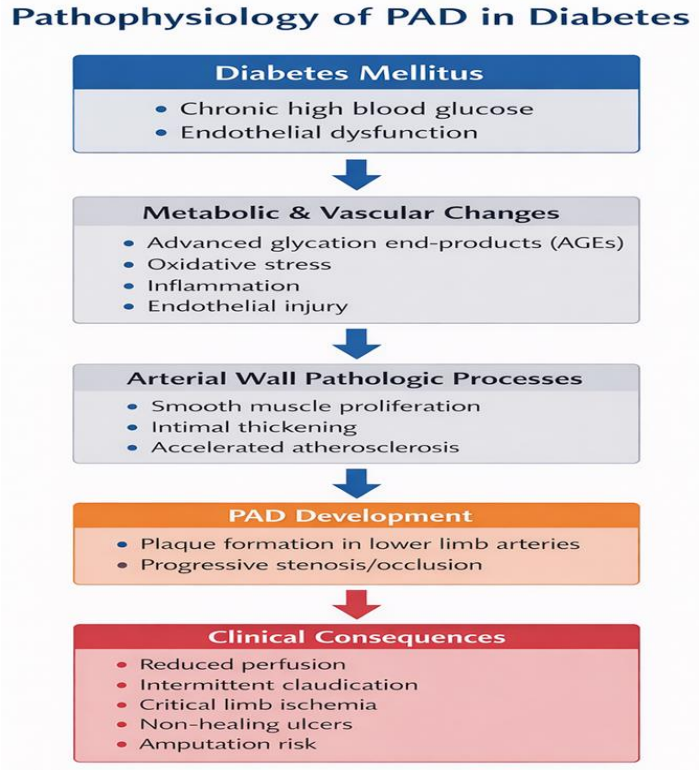

Fig. 1: Pathophysiology of Peripheral Artery Disease.

In diabetes, persistent high blood sugar levels result in endothelial dysfunction and metabolic issues, including oxidative stress, inflammation, and the formation of advanced glycation end-products. These alterations contribute to the remodeling of arterial walls, hasten the development of atherosclerosis, and lead to plaque buildup in peripheral arteries. As arteries progressively narrow, blood flow to the limbs is diminished, causing peripheral artery disease. This condition can manifest clinically as intermittent claudication, critical limb ischemia, non-healing ulcers, and an elevated risk of amputation.[5]

Symptoms

1. Intermittent Claudication: This refers to pain, discomfort, heaviness, or cramping in the legs that occurs during activities like walking or climbing and subsides with rest. It is the most prevalent symptom of PAD, typically experienced in the calves, thighs, buttocks, or feet.

2. Coldness or Temperature Difference: One leg or foot might feel colder than the other due to diminished blood circulation.

3. Changes in Skin Color: When blood flow is restricted, the foot or leg may look pale, discolored, or have a bluish tint.

4. Weakness or Numbness: Leg weakness or numbness can arise, making it challenging to maintain balance or walk.

5. Pins and Needles or Pain at Rest: In advanced stages, some individuals may feel tingling sensations, often described as "pins and needles," or experience pain even when at rest.

6. Critical Limb Ischemia: In severe cases of PAD, persistent pain without physical activity signals critical limb ischemia and inadequate blood supply.

7. Non-Healing Sores and Wounds: Sores or wounds on the toes, feet, or legs that heal slowly or not at all may appear and have the potential to become infected.8. Loss of Hair and Poor Nail GrowthOver time, hair on the legs may cease to grow, and toenails might grow slowly, indicating chronic poor circulation.[6]

Diagnosis and tests

The diagnosis of peripheral artery disease (PAD) in patients with diabetes mellitus is often delayed due to atypical symptoms and diabetic neuropathy. Clinical evaluation includes assessment of risk factors, leg symptoms, and physical findings such as reduced peripheral pulses and skin changes. The ankle–brachial index (ABI) is commonly used to confirm PAD, with values ≤0.90 indicating disease; however, arterial calcification in diabetes may cause falsely normal results. In such cases, the toe–brachial index and Doppler ultrasonography provide more reliable assessment. Tests

help your provider diagnose PAD and determine its severity. These include:

- **Vascular ultrasound:** This test measures the speed of blood flow through your arteries .Providers may use it if ABI results are normal, but they still think you might have PAD.
- **Pulse volume recording{PVR}:** This test measures blood flow in your legs. It can show how much blood is reaching your tissues**.**
- **CT angiogram:** This test makes detailed pictures of your blod vessels. It lets your provider see narrow spots or blockages.
- **Ankle -branchial inde{ABI}**: Provides use this test to screen for PAD in people with risk factors. Its also usually the first test they do to check for PAD if you have symptoms. It compares blood pressure in your arms versus your ankle.[7]

Surgery and Procedures

Peripheral artery disease (PAD) is prevalent and often more severe in individuals with diabetes, necessitating careful selection of procedures to restore circulation, heal ulcers, and prevent limb loss.

In diabetic PAD, interventions are typically advised when there is:

- Lifestyle-limiting claudication despite optimal medical treatment and exercise
- Critical limb ischemia (CLI) / chronic limb-threatening ischemia (CLTI)
- Rest pain, non-healing ulcers, gangrene
- Ineffectiveness of conservative and medical management In diabetic patients, PAD frequently results in critical limb ischemia (CLI) or non-healing ulcers

Surgical and procedural goals include:

- ✓ Restoring blood flow (revascularization) ü Preventing limb loss/amputation
- ✓ Alleviating pain and enhancing mobility
- ✓ Treatment selection is influenced by: ü The location and severity of arterial blockage
- ✓ The patient's overall health and comorbidities
- ✓ The availability of veins for bypass (if necessary)

❖ Endovascular [minimally invasive] procedures:

1. Percutaneous Transluminal Angioplasty [PTA]: PTA involves the dilation of a narrowed artery using a balloon to enhance blood flow.
2. Stent placement: This procedure involves inserting a small mesh tube (stent) into a narrowed or blocked artery to keep it open and maintain blood flow.
3. Drug-Coated Balloons [DCB]: A Drug-Coated Balloon is a specialized angioplasty balloon coated with medication that, when inflated in a narrowed artery, delivers drugs to the vessel wall to prevent restenosis (re-narrowing) without leaving a stent behind.
4. Atherectomy: Atherectomy involves removing plaque from a blocked artery to improve blood flow.

❖ **Surgical [open] procedures**

1. Bypass surgery: This surgical procedure uses a graft (vein or synthetic) to create a new pathway around a blocked or narrowed peripheral artery, restoring blood flow to the affected limb.
2. Endarterectomy: Endarterectomy is a surgical procedure that removes the inner lining of a diseased artery, along with atherosclerotic plaque, to restore normal blood flow.

Limb-saving and adjunctive procedures

1. Debridement
2. Minor Amputation
3. Major Amputation[7]

Management and Treatment

Individuals with peripheral artery disease (PAD) face an increased risk of systemic cardiovascular complications and limb-related health issues. Effectively managing PAD necessitates a holistic approach that includes lifestyle modifications, such as quitting smoking and engaging in regular exercise, alongside optimal medical treatment. The pharmacological interventions for PAD aim to address general risk factors for significant cardiovascular events and to lessen limb-related complications. Observational studies indicate that recommended pharmacological treatments are significantly underused in PAD, highlighting the necessity for better patient identification and care delivery. Current trials exploring new therapies for PAD patients will provide further insights into pharmacological strategies to mitigate both systemic cardiovascular risks and limb-related issues.[9]

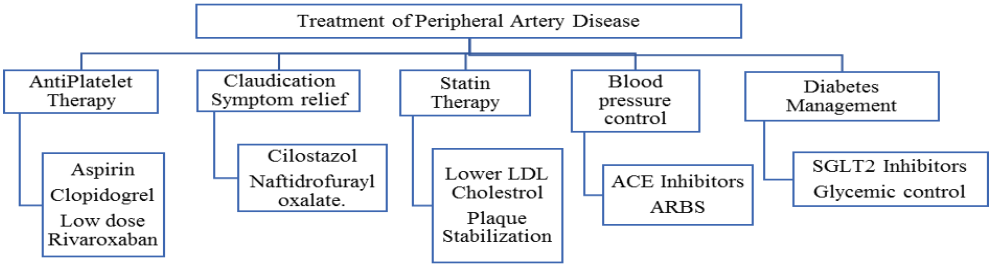

Fig. 2: Representing the treatment of Peripheral Artery Disease (PAD).[10]

ANTIPLATELET THERAPY

Antiplatelet therapy is a fundamental component in treating symptomatic peripheral artery disease (PAD). Low-dose aspirin helps lower the risk of heart attacks and other cardiovascular incidents in these patients. The 1996 CAPRIE trial (Clopidogrel Versus Aspirin in Patients at Risk for Ischemic Events) demonstrated a 23.8% relative risk reduction in vascular events with clopidogrel alone compared to aspirin alone in PAD patients. Since then, other antiplatelet drugs like ticagrelor and vorapaxar have also shown cardiovascular benefits for PAD patients. The evidence regarding dual antiplatelet therapy (DAPT) in PAD is less definitive.

The CHARISMA trial (Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management, and Avoidance) assigned patients to either DAPT with clopidogrel and aspirin or aspirin with a placebo. In a subgroup analysis of PAD patients, DAPT lowered the risk of heart attacks and hospitalizations for ischemic events. However, DAPT did not significantly reduce the primary endpoint of major adverse cardiovascular events (hazard ratio, 0.85 [95% CI, 0.66–1.08]; P=0.18). The PEGASUS-TIMI 54 trial (Prevention of Cardiovascular Events in Patients With Prior Heart Attack Using Ticagrelor Compared to Placebo on a Background of Aspirin–Thrombolysis in Myocardial Infarction 54) found that ticagrelor plus aspirin, as opposed to aspirin alone, decreased major adverse limb events (hazard ratio, 0.65 [95% CI, 0.44–0.95]; P=0.026). Nonetheless, a combined analysis of the 60 and 90 mg doses of ticagrelor plus aspirin indicated a more modest reduction in major adverse cardiovascular events that was not statistically significant (hazard ratio 0.75 [95% CI, 0.55–1.01]).[11]

Antiplatelet therapy is crucial in managing peripheral artery disease (PAD) because platelet activation is central to atherothrombosis. Medications like aspirin and P2Y12 inhibitors (e.g., clopidogrel) decrease platelet aggregation, thereby reducing the risk of arterial thrombosis, heart attacks, and strokes. Aspirin irreversibly inhibits cyclooxygenase-1 (COX-1), reducing thromboxane A_2 production and platelet activation for the platelet's lifespan, while clopidogrel blocks the P2Y12 ADP receptor, preventing ADP-mediated platelet aggregation. Clinically, antiplatelets enhance cardiovascular outcomes in symptomatic PAD and are advised as long-term therapy, either as single antiplatelet therapy or in combination (dual antiplatelet therapy) after revascularization, balancing thrombotic risk against bleeding risk.[12]

STATIN THERAPY

Statins are the most frequently prescribed medications for lowering plasma cholesterol levels. They work by inhibiting the enzyme 3-hydroxy-3-methylglutaryl-coenzyme A reductase, which is crucial in the liver's production of cholesterol. By reducing this production, statins lower circulating LDL-C and enhance its uptake by the liver. Additionally, these drugs boost the liver's absorption of very low-density lipoproteins, thereby reducing plasma triglyceride levels. They also elevate plasma HDL-C, decrease the number of small, dense LDL particles, and may enhance HDL functionality. Numerous studies have demonstrated that statins can decrease cardiovascular morbidity and mortality.

Currently, they are essential in both the primary and secondary prevention of cardiovascular disease. Their positive impact is independent of initial LDL-C levels. However, there are no studies in the literature that exclusively examine patients with PAD to establish specific LDL-C targets for this condition. In fact, the targets outlined in the guidelines are based on research conducted on individuals with coronary heart disease. Despite this, statins remain a fundamental component of medical treatment for patients with either symptomatic or asymptomatic PAD. The beneficial effects of statins are primarily due to their ability to lower LDL-C levels, which slows the progression of atherosclerosis and can even lead to the regression of atheroma plaques. However, the advantages of statins extend beyond improving the lipid profile.

These drugs possess other antiatherogenic and cardioprotective effects through their pleiotropic actions, which collectively contribute to reducing cardiovascular events and enhancing lower extremity functionality. Statins have antioxidant properties, improve endothelial function, exhibit antithrombotic and immunomodulatory actions, inhibit the growth of smooth muscle cells, cell adhesion, and C-reactive protein (CRP) secretion, and reduce inflammation of the vascular wall, helping to stabilize atheroma plaques. They also decrease systemic inflammation and have vasodilatory effects by enhancing the endothelial activity of nitric oxide synthase and the release of nitric oxide, which acts as a vasodilator and inhibits platelet aggregation. Furthermore, they inhibit endothelin-1, a potent vasoconstrictor.

At the femoral level, high-dose statins reduce intima-media thickness and improve plaque composition or cause plaque regression. Statins have been shown to enhance endothelial function and neovascularization by increasing the number and function of endothelial progenitor cells. The authors of the SISOPAD study, which demonstrated an improvement in ABI values in patients with intermittent claudication treated with simvastatin for one year, suggest that this drug likely improved endothelial function and reduced femoropopliteal atherosclerosis. Additionally, studies in mice indicate that statins have the potential for therapeutic angiogenesis by improving blood perfusion in the extremities of animals experiencing acute ischemia through mechanisms independent of their lipid-lowering actions.[13]

BLOOD PRESSURE CONTROL

Hypertension and peripheral artery disease (PAD) are two common cardiovascular disorders that frequently occur together and have a significant effect on patient health outcomes. Hypertension, often referred to as high blood pressure, is a long-term condition marked by increased arterial blood pressure, whereas PAD involves the narrowing or obstruction of peripheral arteries that deliver blood to the legs, arms, stomach, or head. Individuals with PAD frequently also suffer from other cardiovascular diseases.

Angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARB) operate through a similar pathway. ARBs displace angiotensin-2 from its receptor sites, reducing its systemic effects, such as vasoconstriction, sodium reabsorption, water retention, sympathetic activation, and cardiovascular remodeling via aldosterone. ACE inhibitors prevent the enzyme that transforms angiotensin-1 into angiotensin-2, thereby stopping these downstream effects. These drugs, through their shared mechanisms, promote progressive vasodilation and natriuresis, thereby improving hypertension. The HOPE study demonstrated that patients on ramipril experienced significantly fewer adverse cardiovascular outcomes.

The ONTARGET (Ongoing Telmisartan Alone and in Combination With Ramipril Global End Point Trial) trial found no significant difference between telmisartan and ramipril regarding primary cardiovascular events, such as myocardial infarction, stroke, or hospitalization for heart failure. Another randomized controlled trial involving 36 patients on telmisartan with mild to moderate hypertension showed notable improvements in walking distance and ABI values. In cases of concurrent renal artery disease, renin-angiotensin-aldosterone antagonists, CCBs, BBs, and diuretics are effective in managing blood pressure, but ACE inhibitors and ARBs have demonstrated a mortality benefit in this group. This evidence also suggests a potential patho-pharmacologic mechanism for vascular preservation. According to the 2024 ACC/AHA guidelines, ACE inhibitors and ARBs are considered first-line treatments for patients with hypertension and PAD.[14]

DIABETES MANAGEMENT

Clinical practice guidelines for management of PAD recommend both SGLT2 inhibitors and GLP-1RA for people with PAD and type 2 diabetes for their broader cardiovascular and kidney benefits. Trials of SGLT2 inhibitors have shown benefits for reducing heart failure, cardiovascular death, and kidney complications in patients with diabetes. An early concern for risk of amputation with canagliflozin was not confirmed in subsequent studies and has not been reported for other SGLT2 inhibitors. However, closer attention to amputation risk may have introduced bias into who was enrolled in those later studies. To date, no study has shown that SGLT2 inhibitors reduce MALE or improve function in patients with PAD. Trials of GLP-1RA, including liraglutide, injectable semaglutide, tirzepatide, and oral semaglutide, have found that these reduce MACE. Additional trials of GLP-1RA have shown that they have broader benefits, including reducing kidney complications and cardiovascular risk in those with comorbid kidney disease, as well as improved heart failure symptoms and outcomes in patients with heart failure and preserved ejection fraction. Benefits of semaglutide for reducing major adverse limb events were confirmed in the SOUL (Semaglutide Cardiovascular Outcomes Trial), where hospitalization for acute or chronic limb ischemia was reduced by approximately 30%.In addition, use of GLP-1RA also causes weight reduction, improves glycemic control and blood pressure, and decreases inflammation.[15]

CLAUDICATION SYMPTOM RELIEF

Cilostazol

Cilostazol is a phosphodiesterase III (PDE3) inhibitor. PDE3s are enzymes that utilize a catalytic core to hydrolyze cyclic guanosine monophosphate (cGMP) and cyclic adenosine monophosphate (cAMP). Phosphodiesterase III enzymes are primarily located within the cardiac sarcoplasmic reticulum and in the smooth muscle of arteries and veins, where they regulate cardiac and vascular smooth muscle contractility. Cilostazol exerts its action by inhibiting phosphodiesterase activity and suppressing cAMP degradation. The inhibition of PDE3 allows for a rise in cAMP in platelets and blood vessels. Increased concentrations of cAMP subsequently lead to increase concentrations of the active form of protein kinase A (PKA), and increased PKA is directly related to the inhibition of platelet aggregation. Elevated concentrations of intracellular PKA also elicit a vasodilatory effect on smooth muscle cells by preventing contraction through the inactivation of myosin light-chain kinase. Cilostazol improves walking function in patients with intermittent claudication, irrespective of diabetes. It is contraindicated in patients with heart failure and has a high incidence of gastrointestinal adverse effects. Nonetheless, it should be considered for eligible patients with PAD and diabetes with intermittent claudication.[15,16]

Naftidrofuryl oxalate

It is a vasodilatory agent commonly used in the management of peripheral vascular diseases, specifically intermittent claudication associated with chronic occlusive arterial disease. Naftidrofuryl oxalate exerts its therapeutic effects primarily through two main mechanisms: vasodilation and metabolic modulation. The vasodilatory action of naftidrofuryl oxalate is primarily mediated by its ability to antagonize serotonin receptors, specifically the 5-HT2 receptors. Serotonin, a neurotransmitter, plays a significant role in vascular tone regulation by causing vasoconstriction. By blocking these receptors, naftidrofuryl oxalate prevents serotonin-induced vasoconstriction, leading to dilation of blood vessels.

This vasodilation effect helps increase blood flow, particularly to the peripheral tissues that are often compromised in conditions like intermittent claudication.[17]

NON PHARMACOLOGICAL THERAPY

There are things you can do to help manage peripheral artery disease (PAD). Try these tips to manage PAD and stop symptoms from getting worse:

- **Don't smoke or use tobacco.** Smoking damages the arteries. It increases the risk of peripheral artery disease. If you have PAD, smoking can make the condition worse. If you smoke and need help quitting, ask your care team about methods that can help.
- **Get regular exercise.** Regular exercise is an important part of peripheral artery disease (PAD) treatment. Exercise helps improve blood flow to the arms and legs. So it can improve symptoms of PAD. Usually, healthcare professionals recommend supervised exercise therapy for people with PAD. It's a program of exercise and education. It can help increase the distance you can walk pain-free.
- **Eat nutritious foods.** Choose plenty of fruits, vegetables and whole grains. Reduce sugar, salt and saturated fats.
- **Check medicine labels.** Products that contain pseudoephedrine (Advil Cold and Sinus, Claritin D, others) are often used to treat a stuffy nose due to allergies or colds. But this ingredient tightens blood vessels. It may increase PAD symptoms.
- **Check leg position.** Try sleeping with the head of the bed raised a few inches. Keeping the legs below the level of the heart usually reduces pain. Some people find that hanging their legs over the edge of the bed or walking may temporarily reduce leg pain.[8]

Foot care

It's important to take good care of your feet. PAD can make it harder for cuts and sores on the lower legs and feet to heal. This is especially true if you have PAD and diabetes.

Here is how to properly care for your feet

- Wash your feet every day. Dry them completely.
- Use moisturizer on the feet to prevent cracks that can lead to infection. But don't moisturize between the toes. This can help fungus grow.
- Wear thick, dry socks and well-fitting shoes.
- Quickly treat any fungal infections of the feet, such as athlete's foot.
- Take care when trimming your toenails.
- Check your feet daily for cuts, sores or other injuries. See a healthcare professional if you find any.
- Have a foot doctor, called a podiatrist, treat bunions, corns, or calluses.[18]

CONCLUSION

Peripheral artery disease in diabetes is a common, serious, and progressive condition that significantly increases the risk of foot ulcers, infections, cardiovascular events, and limb loss. Because the disease is often diffuse and affects small distal vessels, early detection and prompt management are essential. Optimal care requires strict control of blood glucose and other cardiovascular risk factors, lifestyle modifications, meticulous foot care, and appropriate medical therapy. When necessary, timely revascularization and wound management can preserve limb function and improve quality of life. A multidisciplinary, patient-centered approach with regular follow-up is crucial to reduce complications, prevent amputations, and improve long-term outcomes in people with diabetes and peripheral artery disease**.**

REFERENCES

1. Zemaitis MR, Boll JM, Kato M, Golla MSG. Peripheral arterial disease. In: StatPearls. Treasure Island (FL): StatPearls Publishing, 2025.
2. Hullett A. The stages of peripheral artery disease (PAD): An easy guide [Internet]. Healthline. Healthline Media; 2024 [cited 2026 Jan 9]. Available from: https://www.healthline.com/health/stages-of-peripheral-artery-disease
3. Mandaglio-Collados D, Marín F, Rivera-Caravaca JM. Peripheral artery disease: Update on etiology, pathophysiology, diagnosis and treatment. Med Clin (Barc) [Internet], 2023; 161(8): 344–50. Available from: http://dx.doi.org/10.1016/j.medcli.2023.06.005
4. Mdpi.com. [cited 2026 Jan 13]. Available from: https://www.mdpi.com/2077-0383/14/4/1383
5. Yang S-L, Zhu L-Y, Han R, Sun L-L, Li J-X, Dou J-T. Pathophysiology of peripheral arterial disease in diabetes mellitus: J Diabetes [Internet], 2017; 9(2): 133–40. Available from: http://dx.doi.org/10.1111/1753-0407.12474
6. Nhlbi, NIH [Internet]. NHLBI, NIH. [cited 2026 Jan 13]. Available from: https://www.nhlbi.nih.gov/health/peripheral-artery-disease/symptoms
7. Peripheral artery disease (PAD) [Internet]. Mayoclinic.org. [cited 2026 Jan 13]. Available from: https://www.mayoclinic.org/diseases-conditions/peripheral-artery-disease/diagnosis-treatment/drc-20350563
8. Alves MJ de NN, Souza FR de. Aspects of non-pharmacological treatment in peripheral arterial disease. Arq Bras Cardiol [Internet], 2019; 113(3): 417–8. Available from: http://dx.doi.org/10.5935/abc.20190208
9. Bonaca MP, Creager MA. Pharmacological treatment and current management of peripheral artery disease. Circ Res [Internet], 2015; 116(9): 1579–98. Available from:

http://dx.doi.org/10.1161/CIRCRESAHA.114.303505

10. Zemaitis MR, Boll JM, Kato M, Golla MSG. Peripheral arterial disease. In: Stat Pearls. Treasure Island (FL): StatPearls Publishing, 2025.
11. Aday AW, Gutierrez JA. Antiplatelet therapy following peripheral arterial interventions: The choice is yours: The choice is yours. Circ Cardiovasc Interv [Internet], 2020; 13(8): e009727. Available from: http://dx.doi.org/10.1161/CIRCINTERVENTIONS.120.009727
12. De Carlo M, Di Minno G, Sayre T, Fazeli MS, Siliman G, Cimminiello C. Efficacy and safety of antiplatelet therapies in symptomatic peripheral artery disease: A systematic review and network meta-analysis. Curr Vasc Pharmacol [Internet]. 2021; 19(5): 542–55. Available from: http://dx.doi.org/10.2174/1570161118666200820141131
13. Jansen-Chaparro S, López-Carmona MD, Cobos-Palacios L, Sanz-Cánovas J, Bernal-López MR, Gómez-Huelgas R. Statins and peripheral arterial disease: A narrative review. Front Cardiovasc Med [Internet], 2021; 8: 777016. Available from: http://dx.doi.org/10.3389/fcvm.2021.777016
14. Abraham AT, Mojaddedi S, Loseke IH, Bray C. Hypertension in patients with peripheral artery disease: An updated literature review. Cureus [Internet], 2024; 16(6): e62246. Available from: http://dx.doi.org/10.7759/cureus.62246
15. Das SR, Bonaca MP, Creager MA, Maruthur N, Nordanstig J, Pop-Busui R, et al. Management of peripheral artery disease in adults with diabetes: 2025 ACC scientific statement: A report of the American college of cardiology. J Am Coll Cardiol [Internet]. 2025; Available from: http://dx.doi.org/10.1016/j.jacc.2025.11.027
16. Balinski AM, Preuss CV. Cilostazol. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2025
17. What is the mechanism of Naftidrofuryl Oxalate? [Internet]. Patsnap.com. [cited 2026 Jan 12]. Available from: https://synapse.patsnap.com/article/what-is-the-mechanism-of-naftidrofuryl-oxalate
18. Peripheral artery disease (PAD) [Internet]. Mayoclinic.org. [cited 2026 Jan 12]. Available from: https://www.mayoclinic.org/diseases-conditions/peripheral-artery-disease/diagnosis-treatment/drc-20350563
19. Causes and risk factors [Internet]. NHLBI, NIH. [cited 2026 Jan 14]. Available from: https://www.nhlbi.nih.gov/health/peripheral-artery-disease/causes