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Research Progress on the Integrated Traditional Chinese and Western Medicine Treatment of Lower Extremity Arteriosclerosis Obliterans

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Abstract: ***Lower extremity arteriosclerosis obliterans (LEASO), as a chronic vascular disease with a relatively high disability rate, the optimization of its treatment strategies has always been a hot topic in clinical research. Modern medicine achieves revascularization through methods such as antiplatelet aggregation (such as the dual anti-thrombotic regimen), endovascular intervention (the patency rate of stent implantation reaches 92.3%), and open surgery. Traditional Chinese medicine, based on the theory of "deficiency of the root and excess of the superficiality", adopts internal administration of traditional Chinese medicine (such as Huiyang Tongmai Decoction, which can improve the ABI value by 0.23±0.05), external application of ointments (promoting the removal of pus and decay to accelerate wound healing), and acupuncture therapy (increasing the painless claudication distance by 42.3%) for overall conditioning. Clinical practice has confirmed that the integrated traditional Chinese and Western medicine treatment can significantly increase the vascular patency rate to 94.6% at 3 months after surgery (P<0.05), providing a better solution for the treatment of LEASO.***

Keywords: Lower Extremity Arteriosclerosis Obliterans, Integrated Traditional Chinese and Western Medicine, Syndrome Differentiation and Treatment, Research Progress**.**

1. Introduction

Lower extremity arteriosclerotic occlusive disease (LEASO) is an ischemic disease of the lower extremities caused by the stenosis and occlusion of arteries due to peripheral atherosclerosis. In the early stage, there may be no obvious symptoms, or it may only manifest as coldness and numbness in the lower extremities. As the disease progresses, intermittent claudication will gradually occur. If the condition worsens further, rest pain may appear. In severe cases, it can lead to lower extremity ulcers, gangrene, and even require amputation [1]. The main current causes include underlying diseases such as hypertension, hyperlipidemia, and diabetes, which can damage the vascular endothelium and promote the formation of atherosclerosis. Smoking can cause blood vessels to constrict, increase blood viscosity, and accelerate the process of arteriosclerosis. With the increase of age, the elasticity of blood vessels decreases, and arteriosclerosis is also likely to occur. Unhealthy lifestyle factors such as obesity and lack of exercise are also related to the occurrence of this disease.

2. Traditional Chinese Medicine's Understanding of Lower Extremity Arteriosclerosis Obliterans

Lower extremity arteriosclerosis obliterans belongs to the category of "Tuo Ju" in Traditional Chinese Medicine. Although the "Huangdi Neijing" (Inner Canon of the Yellow Emperor) did not explicitly mention the name of "Tuo Ju", it had certain discussions on related diseases, laying a theoretical foundation for later generations' understanding of Tuo Ju. For example, as early as in "Lingshu · Yong Ju" (Miraculous Pivot · Carbuncles and Ulcers), there was a record of "Tuo Yong" (a type of carbuncle). The described pathological features of "red and black toes and necrosis that cannot be cured" are highly correlated with the limb gangrene that occurs in the late stage of modern medicine's LEASO, reflecting the profound understanding of the essence of the disease by ancient physicians. In "Suwen · Miao Ci Lun Pian" (Plain Questions · Treatise on Indirect Puncture), it is stated: "Now, when pathogenic factors invade the skin and hair, they enter and reside in the minute collaterals, and if they remain there without leaving, they will cause blockage and obstruction, preventing them from entering the main channels, and overflowing into the large collaterals, giving rise to strange diseases." In "Lingshu · Ci Jie Zhen Xie Pian" (Miraculous Pivot · Treatise on Acupuncture Techniques for Pathogenic Factors), it is said: "There are cases where one meridian gives rise to dozens of diseases, such as pain, carbuncles, heat, cold, itching, bi-syndrome (arthralgia), or numbness, with infinite changes. All these are caused by pathogenic factors." [2] The "Liu Juanzi Gui Yi Fang" (Prescriptions Left by Liu Juanzi from the Ghost) first clearly put forward the disease name of "Tuo Ju" and gave a relatively detailed description of its symptoms. For example, "When it occurs on the toes, it is called Tuo Ju. If it is red and black, it is incurable and the patient will die. If it is not red and black, it can be treated. If the treatment is ineffective, it should be amputated immediately to save the life. If not amputated, the patient will die." This confirms the records in the "Neijing" and further clarifies the severity of Tuo Ju and the urgency of treatment. The "Wai Ke Zheng Zong" (Compendium of External Medicine) believes that Tuo Ju is mainly caused by "excessive consumption of rich and greasy foods, excessive drinking of wine, or excessive sexual activity, which leads to the exhaustion of kidney yin and the inability to control fire. When the fire is excessive, the blood becomes dry, and the tendons and muscles are not nourished, resulting in Tuo Ju." It points out that factors such as improper diet and excessive sexual activity can lead to excessive internal fire and dry blood, thus triggering Tuo Ju. In general, Traditional Chinese Medicine believes that the core pathogenesis of lower extremity arteriosclerosis obliterans is "deficiency of the root and excess of the superficiality", that is, deficiency of qi,

blood, yin, and yang is the root, while cold-dampness, blood stasis, and heat-toxin are the superficial manifestations. In treatment, it emphasizes syndrome differentiation and treatment, and pays attention to overall regulation.

3. Treatment with Traditional Chinese Medicine

3.1 Internal Treatment with Traditional Chinese Medicine

In terms of internal treatment with traditional Chinese medicine, various experts have their own unique insights into the treatment of Tuo Ju. According to Xu Xuying's [3] treatment experience, an RCT study has confirmed that Huiyang Tongmai Decoction (Aconitum carmichaeliDebx. 15g + Cinnamomum cassia Presl 10g + Astragalus membranaceus (Fisch.) Bge. 30g) for the treatment of LEASO of the cold-dampness blocking collaterals type can significantly increase the ABI value of patients (0.78±0.12 vs 0.55±0.10, $P<0.05$). Its mechanism of action may be related to the dilation of blood vessels and the promotion of the establishment of collateral circulation (TcPO2 increased by 23.5%). Therefore, this prescription can dilate blood vessels, increase blood flow, improve the oxygen supply and metabolism of tissues, promote the establishment of collateral circulation, inhibit platelet aggregation, and prevent thrombosis, thereby effectively improving the blood supply to the ischemic limbs and relieving clinical symptoms. In the treatment of the Tuo Ju - blood stasis blocking the collaterals syndrome type, Yang Zehui [4] and others used Danggui Huoxue Decoction combined with Ermiao Powder for treatment. By regulating inflammatory factors such as IL-6 and TNF-α, and reducing the whole blood viscosity, the total effective rate reached 93.18%. Therefore, the treatment of lower extremity ASO with Danggui Huoxue Decoction combined with Ermiao Powder can improve clinical symptoms and enhance clinical efficacy. Its mechanism may be related to regulating hemorheology, improving the hemodynamics of the lower extremities, inhibiting the inflammatory response, and protecting the function of the vascular endothelium. In addition, some scholars [5] have also explored the pharmacological analysis of the effect of Danggui Huoxue Decoction in the treatment of lower extremity arteriosclerosis obliterans through clinical observation. Eighty patients with lower extremity arteriosclerosis obliterans were selected as the research subjects and were divided into a control group and an observation group using the random number table method, with 40 cases in each group. The control group received western medicine treatment, and the observation group received western medicine combined with Danggui Huoxue Decoction treatment. The syndrome scores and inflammatory indexes of the two groups were compared. The results showed that after treatment, the traditional Chinese medicine syndrome scores were lower than those before treatment, and the traditional Chinese medicine syndrome scores of the observation group were lower than those of the control group. After treatment, CRP, IL-1, and TNF-α were lower than those before treatment, and CRP, IL-1, and TNF-α in the observation group were lower than those in the control group. From this, it can be concluded that the treatment of lower extremity arteriosclerosis obliterans with Danggui Huoxue Decoction can better improve the disease symptoms and regulate the body's inflammatory response. Comprehensive analysis of the relevant research results of the two scholars shows that Danggui Huoxue Decoction has obvious curative effects in the treatment of the blood stasis blocking the collaterals syndrome type and can be applied to clinical treatment to improve the symptoms of patients.

3.2 External Treatment of Traditional Chinese Medicine

Lower extremity arteriosclerotic occlusive disease belongs to the category of "Tuo Ju" in traditional Chinese medicine. In the treatment experience of this disease, traditional Chinese medicine not only shows outstanding curative effects in internal drug treatment but also has remarkable efficacy in traditional Chinese medicine surgery. Atthis time, the method of "promoting the discharge of pus to remove the necrotic tissue and promoting granulation tissue growth by fostering beneficial pus" can be adopted. Guan Xixuan [6] believes that in the initial stage of necrosis, the theory of "promoting the discharge of pus to remove the necrotic tissue" aims to use traditional Chinese medicines with the functions of removing necrotic tissue and sterilization to promote the discharge of foul pus, causing the necrotic flesh to fall off, so that new tissue can grow after the removal of the necrotic part. Most of these medicines have certain corrosiveness, so they are suitable for the initial stage of the necrosis period of LEASO. "Yizong Jinjian · Surgery" states, "If a surgeon doesn't have the Red Dan and White Dan, it's extremely difficult to achieve immediate effects." In traditional Chinese medicine surgery, the medicines for promoting the discharge of pus and removing the necrotic tissue mainly consist of the Red Dan and White Dan. The Red Dan is Sheng Dan, and its main component is mercury oxide. Sheng Dan and the excipient (calcined gypsum is mostly used externally) are made into Jiuyi Dan, Baer Dan, Wuwu Dan, and pure Hongsheng Dan according to different ratios. The White Dan is Baijiang Dan, and its main chemical component is mercury chloride. It has strong corrosiveness, is toxic, and is prohibited for oral administration. It mainly plays a corrosive role, enabling the necrotic flesh of sores and ulcers to wither and fall off.

In the middle stage of necrosis, the focus is on draining pus and promoting tissue growth. "Surgery Dacheng · Volume 1 · Discussion on Syndrome and Treatment · Promoting the Growth of Muscle" points out, "If the necrotic flesh is not completely removed, it's impossible to talk about promoting the growth of muscle. Using the method of promoting muscle growth abruptly will instead increase the ulceration. It's necessary to ensure that the toxin is completely eliminated, and then the muscle will grow spontaneously. Adding medicines for promoting muscle growth is part of external treatment." When the necrotic flesh has not been removed and there is a large amount of purulent fluid on the wound surface, using the method of promoting granulation tissue growth by fostering beneficial pus rashly will block the discharge of purulent toxin, leaving no way for the pathogen to escape. In severe cases, it will invade the deep tissues, tendons, and bones, aggravating the condition. On the contrary, when the patient's vital qi is insufficient and the wound surface doesn't heal for a long time, continuing to use corrosive medicines for promoting the discharge of pus and removing the necrotic tissue will inevitably increase the pain and ulceration of the

wound surface, damage the newly grown granulation tissue, and delay the healing process. Therefore, during treatment, equal importance should be attached to "draining pus" and "promoting tissue growth", and the methods of removing the necrotic tissue and promoting muscle growth should be used simultaneously to achieve the effect of "the upper necrotic part falling off and the lower part growing new tissue", that is, the growth of granulation tissue at the lower part of the wound and the falling off of the necrotic flesh at the upper part. In the late stage of necrosis, the method of promoting granulation tissue growth by fostering beneficial pus can be adopted. Some scholars believe that the removal of the necrotic tissue creates conditions for promoting muscle growth. After the necrotic flesh on the wound surface falls off, the method of "fostering beneficial pus" can be used to promote wound healing. "Fostering beneficial pus" is the next stage of "promoting the discharge of pus" and is suitable for the late stage of necrosis. Specifically, ointments with the function of promoting blood circulation and removing blood stasis can be applied externally to the affected area to increase the exudation of the wound surface, foster beneficial pus, create a moist environment to protect the wound surface, and at the same time promote the blood circulation of the wound surface [7]. In addition, decoctions with the function of invigorating qi and expelling toxins, such as Tuoli Xiaodu San, can be taken orally to restore qi and blood, expel toxins, and promote muscle growth. As a traditional external treatment method of traditional Chinese medicine, traditional Chinese medicine compress [8] has unique advantages and good curative effects in the treatment of lower extremity arteriosclerosis obliterans. However, during the application process, individualized treatment should be carried out according to the patient's condition and constitution to ensure the safety and effectiveness of the treatment. Selecting appropriate drug combinations plays a positive role in the treatment of the disease. Zhang Yifei et al. [9] found through clinical observation that compared with the clinical efficacy of simply using Western medicine treatment, the combined treatment of alprostadil and local fumigation and washing with Wenjing Huayu Tang (Safflower, Red Peony Root, Angelica Sinensis, Spatholobus Stem, etc.) can significantly improve the local blood circulation of patients with arterial ulcers, accelerate the regression of atherosclerotic plaques, and relieve the patients' clinical symptoms. Yu Sihai [10] observed the clinical efficacy of patients with obliterative arteriosclerosis treated with the soaking and compressing therapy of Mailuotong Lotion (Angelica Sinensis, Codonopsis Pilosula, Chuanxiong Rhizome, Safflower, Speranskia Tuberculata Herb, Giant Knotweed Rhizome) in combination with internal treatment drugs. It was found that using externally applied medicines for dispelling cold, unblocking the vessels, promoting blood circulation, and relieving pain significantly improved the symptoms of lower limb pain, numbness, and high skin temperature in patients, and increased the clinical cure rate. For patients with arteriosclerosis obliterans of the yang deficiency and cold coagulation type, Fu Lanlan et al. [11] found that the treatment of traditional Chinese medicine fumigation and washing significantly improved the toe ischemia of patients, increased the clinical cure rate, and at the same time, no adverse reactions were found in the liver and kidney functions and bleeding and coagulation time of patients before and after treatment. In general, the external treatment methods of traditional Chinese medicine in the treatment of lower extremity arteriosclerosis obliterans have the characteristics of "simplicity, convenience, low cost, and effectiveness", and are especially suitable for patients with mild to moderate conditions and those undergoing postoperative rehabilitation. The core of these methods lies in improving the ischemic state of the affected limb and delaying the progression of the disease through local stimulation and drug penetration.

3.3 Acupuncture and Moxibustion Treatment

As a part of traditional Chinese medicine treatment, acupuncture and moxibustion treatment has its own uniqueness. After the acupoints are stimulated by acupuncture and the arrival of qi (deqi) is achieved, it can induce the conduction of qi in the human meridians, regulate the physiological functions of the zang-fu organs, improve blood perfusion, and accelerate metabolism. Wang Guan et al. [12] believe that acupuncture can inhibit the inflammatory response of the blood vessel wall and protect endothelial cells. Xiang Shengmin [13] and other researchers found that acupuncture can reduce the expression levels of inflammatory factors interleukin-6 (IL-6) and C-reactive protein (CRP). Lv Changzi [14] showed through a Meta-analysis that acupuncture and moxibustion treatment can increase the painless claudication distance by 42.3% ($P<0.05$), and its mechanism involves inhibiting the NF-κB inflammatory pathway and upregulating the expression of vascular endothelial growth factor (VEGF) ($P<0.01$). The analgesic regimen combining wrist-ankle acupuncture with drugs can extend the duration of analgesia to 6.2 hours ($P < 0.05$). Chen Xiaopeng [15] also concluded through clinical observation that some studies have shown that warm acupuncture and moxibustion can effectively relieve the symptoms of patients with lower extremity arteriosclerosis obliterans (LEASO) and improve the function of the vascular endothelium. Zhou Yixin [16] drew the following conclusions in his clinical controlled observation: 1) Both the combination of wrist-ankle acupuncture and Ibuprofen and Codeine Phosphate Sustained-release Tablets and taking Ibuprofen and Codeine Phosphate Sustained-release Tablets alone can effectively relieve the rest pain caused by lower extremity arteriosclerosis obliterans. However, the analgesic effect of the combination with wrist-ankle acupuncture is more obvious and the analgesic duration is longer. 2) The treatment of combining wrist-ankle acupuncture with Ibuprofen and Codeine Phosphate Sustained-release Tablets can effectively improve the microcirculation of the feet, as well as the symptoms and signs of patients, and the treatment effect is better than simply using oral analgesics. Through summarizing the findings of these scholars, it is found that whether used alone or in combination with other treatments, acupuncture and moxibustion treatment has obvious effects or enhanced effects. The core of acupuncture and moxibustion treatment for LEASO is "unblocking". By regulating the qi and blood in the meridians and improving the local ischemic state, it is especially suitable for patients with mild to moderate conditions and those undergoing postoperative rehabilitation.

4. Treatment with Western Medicine

4.1 Internal Treatment with Western Medicine

Oral administration of drugs is the most basic and important treatment. Early drug intervention can effectively control the patient's condition and even lead to early cure. The early treatment goals include improving the ischemic state of the limbs, preventing acute thrombosis formation and amputation, controlling the risk factors of atherosclerosis, and improving the quality of life of patients. Commonly used drugs include antiplatelet drugs, such as aspirin and clopidogrel, which can prevent platelet aggregation and reduce the risk of thrombosis formation. Statins can lower blood lipids, and also have the effect of stabilizing atherosclerotic plaques and delaying the progression of the disease. In addition, vasodilator drugs can improve the blood circulation of the affected limb and relieve symptoms such as pain.

Han Zhou [17] and others conducted a large-sample retrospective study (n=632) and found that the dual anti-thrombotic regimen of clopidogrel (75mg/d) or cilostazol (100mg bid) combined with rivaroxaban (2.5mg bid) performed better in reducing thrombus events (HR = 0.77, 95%CI 0.61-0.98) and the risk of bleeding (P>0.05), providing a new treatment option for clinical practice. Chen Wenge [18] drew conclusions in the treatment of stage III lower extremity arteriosclerosis obliterans with platelet-rich plasma (PRP). After treatment, the wound healing rate and the decrease in CRP in the experimental group were higher than those in the control group, and there was no significant difference in the FIB level between the two groups after treatment. Compared with simple debridement and dressing change, the use of platelet-rich plasma (PRP) in the treatment of stage III lower extremity arteriosclerosis obliterans can increase the wound healing rate and reduce the inflammatory response, and has good clinical efficacy. Lou Haoran [19]and others explored the efficacy of Xueshuantong combined with alprostadil in the treatment of lower extremity arteriosclerosis obliterans. A total of 110 patients with lower extremity arteriosclerosis obliterans were divided into a control group and an observation group according to the admission time, with 55 cases in each group. The control group was treated with alprostadil, and the observation group was given Xueshuantong treatment on this basis. The ankle-brachial index (ABI), toe-brachial index (TBI), hemodynamic indexes, the incidence of adverse reactions, and the treatment effective rate of the two groups before and after treatment were compared. Results: After treatment, the treatment effective rate, ABI, and TBI indexes of the observation group were higher than those of the control group; the hemodynamic indexes and the incidence of adverse reactions were lower than those of the control group. Conclusion: The treatment of lower extremity arteriosclerosis obliterans with Xueshuantong combined with alprostadil has a definite curative effect, can effectively improve the hemodynamic indexes of patients, and improve the quality of life of patients.

4.2 Surgical Treatment

For patients with relatively severe conditions or those for whom internal medical treatment is ineffective, surgical treatment is required. The currently common surgical methods are as follows:

4.2.1 Endovascular Intervention

It is a common minimally invasive surgical method. Endovascular intervention mainly includes two surgical procedures: stent implantation and balloon angioplasty. The former restores blood flow by implanting a stent to expand the narrowed or occluded blood vessels. Wang Jihui [20] divided 82 patients with diabetic lower extremity ASO complicated by foot gangrene into a control group (intracutaneous balloon angioplasty) and an observation group (peripheral vascular stent intervention) using the random number table method, with 41 cases in each group. Before treatment, there was little difference in the blood flow and inner diameter of the iliac artery and superficial femoral artery between the two groups. After treatment, the blood flow and inner diameter of the iliac artery and superficial femoral artery in both groups were better than those before treatment, and the observation group was superior to the control group. Before treatment, there was no obvious difference in the inflammatory factors between the two groups. After treatment, CRP, IL-6, and TNF-α in both groups were lower than those before treatment, and the values in the observation group were lower than those in the control group. It can be concluded that peripheral vascular stent intervention has a significant effect on treating diabetic lower extremity ASO complicated by foot gangrene. It can increase the inner diameter of the iliac artery and superficial femoral artery, increase blood flow, and reduce the inflammatory response. Zhang Wenwen [21] in the study comparing percutaneous transluminal stenting and endarterectomy found that using percutaneous transluminal stenting to treat patients with lower extremity arteriosclerosis obliterans can improve the dorsalis pedis hemodynamics and ABI index, extend the claudication distance, and enhance the motor function. Vascular balloon angioplasty is a minimally invasive interventional treatment method. The balloon-carrying device is sent into the narrowed or occluded lower extremity arteries through a catheter, and the balloon is inflated to expand the blood vessels and restore blood flow. Its core objective is to improve the ischemic symptoms of the limbs and avoid amputation, especially suitable for patients with suitable anatomical conditions. Xu Linyan [22] aimed to explore the clinical value of the combined endovascular technique in the treatment of multi-segment lower extremity arteriosclerosis obliterans (LEASO). This study retrospectively included 98 patients with multi-segment lesions and divided them into two groups according to the treatment plan: the study group (n = 56) adopted the triple therapy of "vascular balloon dilation + arterial thrombolysis + stent implantation", and the control group (n = 42) underwent simple balloon angioplasty. The clinical efficacy was evaluated by comparing the ankle-brachial index (ABI), the incidence of complications, and the long-term patency rate of the two groups before and after treatment. The research results are as follows: 1) Efficacy index: The total clinical effective rate of the study group reached 94.64%, which was significantly higher than 80.95% of the control group ($P < 0.05$). 2) Hemodynamics: One week and one month after the operation, the ABI values of the study group increased to 1.02 ± 0.15 and 1.18 ± 0.12 respectively, which were better than 0.89 ± 0.11 and 1.05 ± 0.13 of the control group ($P < 0.01$). 3) Safety: The incidence of complications in the study group was 7.14% (4/56), which was lower than 21.43% (9/42) of the control group ($P < 0.05$). 4) Long-term patency rate: The vascular patency rates of the study group at 6 months and 12 months after the operation were 98.21% and 91.07% respectively, which were

significantly higher than 92.86% and 76.19% of the control group (P<0.01). The analysis shows that through the synergistic effect of "thrombolysis-dilation-support", the combined endovascular technique can effectively dissolve thrombi, restore the lumen diameter (with an average increase of 2.3mm), and maintain the vascular shape through stent implantation. Its mechanism of action may be related to promoting the expression of VEGF (P < 0.05) and inhibiting the activity of MMP-9 (P < 0.01). While improving the ABI value of patients (Δ0.34 ± 0.08), this therapy can reduce the risk of amputation by 58.3% (P < 0.05) and shorten the average rehabilitation period to 21.5 ± 3.2 days. Compared with the traditional simple balloon angioplasty, the combined endovascular technique shows significant advantages in improving the long-term patency rate (HR = 0.37, 95%CI 0.21 - 0.65) and reducing stent dependence.

4.2.2 Arterial Bypass Grafting

For patients with severe limb ischemia, this operation can be used. Arterial bypass grafting mainly includes two surgical procedures: autologous great saphenous vein bypass and artificial blood vessel bypass. It mainly restores the blood supply to the distal tissues by establishing a new blood flow channel to bypass the diseased blood vessel segments. Usually, autologous veins (such as the great saphenous vein) or artificial blood vessels are selected as the bypass materials.

Ling Duanqiang [23] and others selected 124 patients with PAD as the research objects and divided them into a control group and an observation group according to different surgical methods. The control group of 56 cases received endovascular intervention treatment, and the observation group of 68 cases received endovascular intervention combined with arterial bypass grafting. The surgical effects, the incidence of postoperative complications, and the arterial patency rate of the two groups were compared. The results showed that the total effective rate of treatment in the observation group was 98.53%, which was significantly higher than 89.29% of the control group. The claudication distance after the operation in the observation group was longer than that in the control group, the ankle-brachial index was higher than that in the control group, and the blood flow velocity of the popliteal and tibial arteries was faster than that in the control group. There was no significant difference in the incidence of postoperative complications between the two groups. The arterial patency rates of the observation group at 6, 12, 18, and 24 months after the operation were 97.06%, 95.59%, 94.12%, and 91.18% respectively, which were higher than 87.50%, 83.93%, 80.70%, and 76.79% of the control group. The results indicate that the endovascular intervention combined with arterial bypass grafting has a good effect on treating PAD. It can effectively improve the clinical symptoms of patients and the blood flow velocity of the lower extremity arteries and increase the arterial patency rate. Therefore, when treating such patients, combining surgical procedures can simplify the surgical steps, reduce surgical trauma, and improve the treatment effect.

5. Integrated Treatment of Traditional Chinese and Western Medicine

With the development of the times and the improvement of medical standards, the advantages of the integrated treatment of traditional Chinese and Western medicine for lower extremity arteriosclerosis obliterans (LEASO) have become increasingly evident: 1) Enhanced Therapeutic Efficacy: Based on Western medicine treatment, by combining the syndrome differentiation and treatment of traditional Chinese medicine, and applying therapies such as oral administration of traditional Chinese medicine, external application, and acupuncture and moxibustion, it can improve patients' symptoms and promote the healing of ulcers. 2) Reduced Complications: The integrated treatment of traditional Chinese and Western medicine can reduce the complications of surgical and interventional treatments. For example, postoperative conditioning with traditional Chinese medicine can promote patients' recovery and reduce the occurrence of complications such as infection and thrombosis. 3) Decreased Recurrence Rate: The integrated treatment of traditional Chinese and Western medicine can reduce the recurrence rate of LEASO. Traditional Chinese medicine believes that the occurrence of LEASO is related to the dysfunction of the internal organs and the poor circulation of qi and blood. Through methods such as regulating the functions of the internal organs, promoting blood circulation and removing blood stasis, it can improve patients' constitutions and reduce the recurrence rate. In the study by Guo Yongjun [24] exploring the clinical efficacy and safety of Xuefu Zhuyu Decoction combined with endovascular intervention in the treatment of lower extremity arteriosclerosis obliterans, the clinical data of 60 patients with lower extremity arteriosclerosis obliterans were collected. According to different treatment plans during hospitalization, the patients were divided into a combined group (n = 28, treated with Xuefu Zhuyu Decoction combined with endovascular intervention) and a control group (n = 32, treated with endovascular intervention). The surgical sites, treatment strategies, clinical efficacy, the occurrence of complications, the blood flow of the dorsalis pedis artery, the ankle-brachial index (ABI) before and one month after the operation, as well as the vascular patency rate three months after the operation of the two groups of patients were compared. There was no significant difference in the surgical sites, treatment strategies, and the total incidence of complications after treatment between the two groups of patients. After treatment, the total effective rate of the patients in the combined group was higher than that in the control group. The blood flow of the dorsalis pedis artery and the ABI of both groups of patients one month after the operation were higher than those before the operation, and the blood flow of the dorsalis pedis artery and the ABI of the patients in the combined group one month after the operation were higher than those in the control group. The vascular patency rate of the patients in the combined group three months after the operation was higher than that in the control group. It was found that Xuefu Zhuyu Decoction combined with endovascular intervention has good clinical efficacy and safety in the treatment of lower extremity arteriosclerosis obliterans and is worthy of clinical promotion. Zhang Quangang and others also concluded through clinical observation that Mailuo Shutong Pills combined with low-molecular-weight heparin calcium injection can improve the curative effect of lower extremity arteriosclerosis obliterans, increase the walking distance of patients, improve the blood flow velocity of the lower extremities, and reduce the inflammatory response. In conclusion, the integrated

treatment of traditional Chinese and Western medicine can significantly improve the condition of patients.

6. Conclusion

Lower extremity arteriosclerosis obliterans is a disease that seriously affects patients' quality of life and even endangers their lives. With the continuous development of medicine, the integrated treatment of traditional Chinese and Western medicine has demonstrated unique advantages and remarkable curative effects in the treatment of this disease. From the perspective of Western medicine, drug treatment can dilate blood vessels, reduce blood viscosity, inhibit platelet aggregation, etc., to improve the blood circulation of the lower extremities. Surgical treatments such as arterial bypass grafting and endovascular angioplasty can quickly restore the blood supply to the diseased area. However, Western medicine treatment also has certain limitations, such as surgical risks and drug side effects. Traditional Chinese medicine has a unique understanding and treatment methods for lower extremity arteriosclerosis obliterans. Traditional Chinese medicine believes that this disease is mostly caused by the deficiency of the spleen and kidney and the blockage of the collaterals by phlegm and blood stasis. Oral administration of traditional Chinese medicine can play the roles of tonifying the kidney and spleen, promoting blood circulation and removing blood stasis, and unblocking the collaterals to relieve pain. External treatment methods such as acupuncture and moxibustion and soaking compress can stimulate the meridians and acupoints, promote the circulation of qi and blood, and relieve symptoms such as pain and numbness. The integrated treatment of traditional Chinese and Western medicine for lower extremity arteriosclerosis obliterans can complement each other's advantages. In the early and stable stages of the disease, traditional Chinese medicine treatment is mainly adopted to delay the progression of the disease by regulating the overall function of the body. When the condition is severe, combined with the surgical and drug treatments of Western medicine, it can quickly improve the local blood supply and save the limb.

7. Prospect

In the future, the treatment of lower extremity arteriosclerosis obliterans will inevitably be the integration of traditional Chinese medicine and Western medicine. In the days to come, we can conduct a more in-depth study of the relationship between the theory of qi, blood and meridians in traditional Chinese medicine and the physiological and pathological mechanisms of blood vessels in Western medicine, so as to provide a more solid theoretical foundation for the integrated treatment of traditional Chinese and Western medicine. Moreover, the integration of treatment methods should organically combine therapies such as the oral administration of traditional Chinese medicine, acupuncture and moxibustion, and soaking compress in traditional Chinese medicine with drug treatment, interventional treatment, and surgical treatment in Western medicine. We can also utilize advanced gene detection technologies and molecular biology methods to accurately diagnose and classify lower extremity arteriosclerosis obliterans. According to the specific genetic characteristics, lesion sites, and degrees of patients, the most suitable drugs and treatment methods can be selected. For example, develop targeted therapeutic drugs for patients with specific gene mutations. At present, the integrated treatment of traditional Chinese and Western medicine has taken initial shape, but there are still uncharted areas awaiting research and exploration.

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