



CASE REPORT

LEECH THERAPY IN THROMBOANGIITIS OBLITERANS (BUERGER'S DISEASE)

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Summary

Leech therapy or hirudotherapy has been in use in various disciplines of medicine ranges from reconstructive and plastic surgery to vascular and general surgery. Leech inflicts a painless bite from a sucking disk at each ends of its body. The leech saliva injected in to the wound possesses various metabolically active substances causing beneficial effects locally and systematically. Leech therapy in the patients of Buerger's disease was performed and the therapeutic benefits were evaluated.

Buerger's disease is also known as thromboangiitis obliterans is a disorder of peripheral arteries affecting commonly the lower limb. Extensive thrombosis leads to reduced blood supply. Initial claudication follows severe pain and disability to walk. Leech therapy has been found very useful in cure of the diseases as well as in improvement of quality of life.

Keywords: Leech therapy, Hirudotherapy, thromboangiitis obliterans, Buerger's disease

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INTRODUCTION

Sushruta has clearly advocated the use of leech in two clinical conditions, first in vitiation of pitta and second in coagulated stage of blood. [1] Sushruta has mentioned various tools for bloodletting in different clinical conditions. [2] Jalaukavacharana or leech application for bloodletting is the painless and minimally invasive method. [3] Leech contains anaesthetic agent in its saliva along with hirudin, the anticoagulant. [4] Since both ancient and modern views suggest the anticoagulant property of leech bite; therefore, I chose therapeutic bloodletting in Buerger's disease. Buerger's disease or thromboangiitis obliterans is a disease of medium and small sized arteries particularly involving lower extremity. [5] Male patients with history of chronic smoking in age group of 30-40 years suffer more. [6] As the name suggests, thromboangiitis obliterans, there is inflammation in vessels wall leading to thrombosis and obliteration of caliber. [7] It is characterized by claudication in the initial



Fig. 1 Buerger's disease with sign of dry gangrene

stage which becomes continuous and excruciating with the advance in the disease process. Pain is due to ischaemia, inflammation in wall and neuritis. [8]

For the therapy, medicinal leech was selected and the medicinal leech is a non-poisonous leech. Remarkable clinical improvement was noticed. Long term follow up confirmed non recurrence of the symptoms of the disease treated by leech therapy.

CASE REPORT

The patient named xxx aged 45 years came with the complaint of severe pain not relieved by conventional opioid and non opioid analgesics. He could not even able to put the foot on earth and came with the help of a stick. On examination, the affected foot was colder than opposite one and there was discoloration on the tip of great toe. The toe was severely tender, blackish in colour with sign of dry gangrene. The edges were demarcated and there was ulcer below the edge of gangrene.

The careful history revealed that he was a chronic smoker. He was taking allopathic treatment for about a year but no relief was noticed in the symptoms. There was not any co-morbidity such as diabetes mellitus, hypertension etc. The patient was advised colour Doppler arterial study of the lower limb.



Fig 4 Condition of wound after application of leech

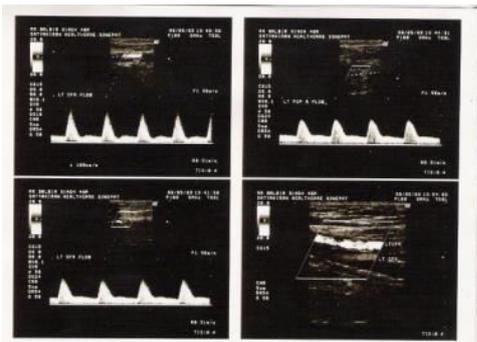


Fig 5 Colour Doppler study after 2 yrs of therapy

Report said, 'common femoral artery (CFA) is normally seen and it is dividing in to superficial femoral artery (SFA) and deep femoral artery (DFA). Normal flow and flow velocity is seen in these arteries which is also normal in popliteal artery (PA).

DISCUSSION

Leech possesses various metabolically active substances in its saliva. [11] It has hirudin, the anticoagulant and an anesthetic also. Its bite is totally painless. It is also having proteolytic substances such as hyaluronidase and bdellin along with several others. [12] When a leech bites, it causes prolong bleeding and reduction in clotting capacity of body. The effects are not

The patient came for follow up after 6 months and then after 2 years. He was advised a color Doppler arterial study to rule out any recurrence; however, he was completely free of symptoms of Buerger's disease.



Fig 6 Report of the patient after treatment only localized but generalized in the body. It is the base of effects of leech bite in the patient. Keeping in view the above benefits of leech and on the basis of ancient literature, I started using leeches in thrombotic disorders. It started in Buerger's disease. It was evident from the initial sitting of the leech therapy, that the severe excruciating rest pain was relieved very much in the patient. He was feeling good after each session of leech therapy. The symptoms were vanished in a few sittings and the patient had claudication only. The wound was healed gradually and the patient was able to move freely without the help of stick.

I planned long term follow ups and I instructed the patient to come for follow ups in December each year. His family members were asked to monitor the addiction of smoking and every time he visited the hospital, the counseling was given to him. The colour Doppler was carried out again after a gap of 2 years, which showed considerable and permanent improvement.

Based on the above observation, it is concluded that jalaukavacharan or leech therapy is a very good procedure for dealing with the Buerger's disease. The improvement in symptoms is permanent and recurrence in symptoms is negligible. The blood flow speed in artery improves and patients remain symptom free for year.

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