

MANAGEMENT OF BUERGER'S DISEASE BY LEECH APPLICATION: A CASE STUDY

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ABSTRACT

Buerger's disease is a chronic, nonatherosclerotic segmental inflammatory disease, also called as Thrombo – Angitis obliterance (TAO). TAO is of the cause of chronic lower limb ischemia or CLI (chronic limb ischemia). The exact cause of TAO is still not known but smoking is strongly associated with disease course and progression, so called as smokers disease. Symptoms includes severe cramps like pain in affected limb during walking (ischemic pain also called intermittent claudication), rest pain, gangrenous patches of skin, gangrene of distal part like toes, non healing deep painful ulcer at the most distal part of the body like tip of toes, coldness of limb, colour changes from pale,

reddish to blue, loss of hairs, dry bristal nails. Modern management of this disease includes conservative with use of vasodilators, pentoxifylline and low dose aspirin. Surgical management includes lumbar sympathectomy, omentoplasty, and if gangrenous stage is there then amputation is the choice. Conservative amputation of gangrenous toe is done. Treatment is bessically aimed at reliving pain, healing of ulcer if present, & stopping progress of disease. In *Ayurveda*, the disease is not mentioned as it is but the features can be correlated with the *strotodushti lakshanas* like *sanga* and *siranam granthi*. The management included *leech* therapy, *Kaishor guggulu* and *Guduchighan vati* orally along with modern treatment regimes. All these means gave satisfactory results and the patient was able to do his daily activities without any trouble.

KYEWORDS: Buerger's disease, *leech* therapy, *Kaishor guggulu*, *Guduchighan vati*.

INTRODUCTION

Buerger's disease is a chronic, nonatherosclerotic segmental inflammatory disease, also called as Thrombo – Angitis obliterance (TAO). TAO is of the cause of chronic lower limb ischemia or CLI (chronic limb ischemia).^[1] The exact cause of TAO is still not known but smoking is strongly associated with disease course and progression, so called as smokers disease. Symptoms includes severe cramps like pain in affected limb during walking (ischemic pain also called intermittent claudication), rest pain, gangrenous patches of skin, gangrene of distal part like toes, non healing deep painful ulcer at the most distal part of the body like tip of toes, coldness of limb, colour changes from pale, reddish to blue, loss of hairs, dry bristal nails.

Modern management of this disease includes conservative with use of vasodilators, pentoxyfylline and low dose aspirin. Surgical management includes lumbar sympathectomy, omentoplasty, and if gangrenous stage is there then amputation is the choice.^[2] Apart from these chemical sympathectomy or surgical sympathectomy, omentoplasty are tried but not done know a days as the results are not satisfactory & procedure related complications are more & may prove fetal to the life of patient.^[3] Conservative amputation of gangrenous toe is done. Amputation below knee or above knee is not needed generally but in severe cases not responding to any treatment may be the last option to get rid of pain. Treatment is bessicaily aimed at reliving pain, healing of ulcer if present, & stoping progress of disease. Inspite of all these treatment measures the patients of TAO have severe pain, they spend sleepless nights & some have suicidal tendancy due to severe pain.(cases are on record that the patients have commited suicide by jumping from 2nd floor of hospital). So there is still need for effective management of disease by alternative means.^[4]

In *Ayurveda*, the disease is not mentioned as it is but the features can be correlated with the *strotodushti lakshanas* like *sanga* and *siranam granthi*.^[5] Hence, based on this references the further treatment was planned. The management included *leech* therapy, *Kaishor guggulu* and *Guduchighan vati orally* along with modern treatment regimes. They helped to improve the vitiated *rakata*, maintained the collateral circulation and increased the micro circulation. All these means gave satisfactory results and the patient was able to do his daily activities without any trouble.

CASE STUDY

A 58 yrs old male patient named Sidharth Mahadevrao Ambhore (OPD no- 18010, IPD no- 1034) came to our shalya opd at Ayurved hospital station road, Akola complaining of severe in Lt. Lower foot since last two months, deep painful ulcer at lateral margin of sole near 5th toe since last one month, mummified black 3rd toe since last 20 days. He was very restless, anxious, not able to walk properly. He was so irritable & sensitive that he didn't allowed us to touch his wound for dressing.

H/P/I---patient was apearantly alright 2 months before suddenly he got pain in his Lt leg in calf region which was gradually increasing. He took treatment from general practioner but didn't get relief. He developed deep ulcer at lateral margin of Lt.sole at 5th toe. There after he developed gangrene of 3rd toe. Intensity of pain was very sever in late night hours. He was spending sleepless nights. Finally he consulted an orthopaedic surgeon he gave him following treatment--- Tab.zifi (cefixim) 200mg 1 BD,Tab.rantac150mg 1 BD, Tab.trental (pentoxiphyllin) 400mg 1 TDS, Tab.contramol (tramadol) 1 BD, Tab.Ecosprin 150mb 1 OD. since last 7 days but didn't get relief. There was occlusion of rt. femoral artery in arterial Doppler report. very minimal blood flow at dorsallis pedis. So he was avoided below knee amputation. As the patient was poor, due to lack of fund he came to our hospital for further management.

P/H:-- no major illness in past

F/H:-- not specific

Personal history:-- chronic smoker 15-20 Bidi per day

D/H:- allergy to any drug yet not known

O/E- GC-mod, afeb pallor +, no ecerus, no cyanosis, P-92/min, BP-140/90, CVS NAD, CNS-NAD, P/A-soft

L/E- gangrene at Lt.3rd toe +, circular, deep ulcer over lateral border of Lt sole near 5th toe, floor – exposed tendon + covered with slough, discharge-mild purulent, size-2*3

With above finding & history diagnosis of TAO was made(already diagnosed as TAO by an orthopaedic surgeon).He was admitted to shalya IPD & posted for amputation of gangrenous 3rd toe & debridment of ulcer on next day.in post operative period he was kept on same treatment as he was receiving from last one week.i.e- Tab.zifi200mg 1 BD, Tab. rantac150mg 1 BD, Tab.Ecosprin150 mg OD, Tab. trental(pentoxiphyllin) 400mg 1 TDS, Tab.contramol(tarmadol) 1 BD.Apart from these Tab.*Kaishor guggulu*

2TDS, Tab. *Chandrakala ras* was added. Patient felt comfortable whole day. but pain was severe since evening not responding to injectable *contramol*. On 3rd post operative day leech application was started. 4 leeches were applied. 2 at the wound site & 2 at sole near amputated toe. He got significant relief in pain immediately after leech application whole day he was comfortable & intensity of pain reduced in night hours. He was able to walk some distance with bearable pain. Leech application was done after every 3rd day. Day by day there was an improvement in pain intensity. Regular dressing of wound with *betadin* & hydrogen peroxide was done wound was improving with healthy granulation tissue. 12 settings of leech application at the interval of 3 days was done. After 7th post operative day allopathic medication was stopped; only *Kaishor guggulu*, *Guduchighan vati* & leech application on every 3rd day was done. Amputation stump healed completely after 15 days, & wound near 5th toe was almost healed by one and a half month. patient was able to walk properly. Pain in the wound reduced to great extent. There was tenderness only during dressing. patient was discharged after 15 days & called every day for dressing & leech application after every 3rd day.

RESULT AND DISCUSSION

In cases of PAD like Buerger's disease in spite of modern treatment regimen patient is very restless due to burning pain. If modern treatment is added with Leech application, *Kaishor Guggulu*, & *Chandrakala ras*, and *Guduchi ghan vati* Considerable relief in pain can be observed. Wound healing is also good with this approach. Saliva of leeches have *Hirudin* which is having better anticoagulant (platelet aggregation inhibitory action) than *heparin*.

Anaesthetic & anti-inflammatory components (*Hyaluronidase*, *Lipase* & *esterase*, *Bdellin*, *Eglin* has anti-inflammatory effect) in saliva helps in reducing pain & inflammation. A substance similar to histamine has vasodilator effect. Local blood supply improves, this helps in pain management & accelerating wound healing.^[6] *Kaishor Guggulu* mentioned in *Sharangdhara samhita*^[7] contains *guduchi* (*Tinospora cordifolia*), *Triphala*, *Sunthi* (*Zingiber officinalis*), *Guggulu* (*Commiphora mukul*), *pippali* (*Piper nigrum*) etc. Over all it has analgesic, anti bacterial, anti-inflammatory, mild laxative property. It is best drug in lowering uric acid in gout patients. It has good action on walls of blood vessels. Effect of *Kaishor Guggulu* & leech application on varicose vein was observed in our department (thesis of PG student)^[8]. It gives good results.

Chandrakala rasa mentioned in *Siddha yogsangraha*^[9] is considered to be best medicine for *Pitta Dosha*. It contains drugs having *shit virya* (having cool action). It is useful in *Raktapitta*, diabetes & its neuropathic complications.

According to *Ayurveda guduchi (tinospora cordifolia)*^[10] is *shonitavibandha nashini*. This *guna* helps in the removal of vitiation of blood.

Condition before treatment.



Leech application 1st sitting on 3rd post operative day.



Wound on 10th post operative day.



Amputation stump on 15th post operative day.



After wound healing 30th postoperative day.



CONCLUSION

1. In Buerger's disease, leech application, *Kaishor Guggulu & Chandrakala rasa* along with modern treatment can give good results in pain management & in healing of wound.
2. Minimises the chances of surgical interventional procedures.
3. Considering result in single case, this treatment regimen can be applied to larger sample to draw appropriate statistical conclusion.
4. Leech application, *Kishor Guggulu & Chandrakala rasa* should be tried in every cases of PAD like Renold's disease, atherosclerotic peripheral arterial disease, diabetic wound.

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