



A CASE STUDY- TO EVALUATE THE EFFECT OF JALAUKA AVACHARAN (LEECH APPLICATION) IN HIDRADENITIS SUPPURATIVA.

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ABSTRACT

Hidradeniti Suppurativa is a painful relapsing and chronic inflammatory dermatological disease affecting follicular epithelium in the apocrine group of sweat glands preferentially including skin in axilla, perineum, Mon's pubis, scrotum groin and buttocks. Hidradenitis Suppurativa causes painful abscess and pus with Malodourous discharge that can eventually progress to interconnected sinus track scarring and contractors of the skin this condition is managed by advising patient to stop smoking and lose weight, where appropriate symptoms can be reduced by the use of antiseptic soap, tea tree oil, non-compressive and aerated underwear's medical treatment include tropical and oral antibiotic and drug and some patient may require excision of the effective skin and subcutaneous tissue with reconstruction. Kaksha Pradesh in Ayurveda is considered one of the important Marma, and surgical trauma or any kind of instrumental trauma should be avoided in this area.hence leech application can prove important modality in management of Hidradenitis Suppurativa. Here presenting a case report of a middle age female patients suffering with Hidradenitis suppurativa since one and a half year patient was given 5 sittings of leech application with the interval of seven days for total duration of 42 days, this bloodletting therapy cause expulsion of vitiated Rakta dosha and toxins pacified the three dosha and impulse the micro circulation in the surrounding area the patient was successfully manage with leech application. It lead to improving in the oxygen and nutrition supply at the site of sinus track and promoting better tissue and wound healing.

KEYWORDS : Jalauka-avacharan, Rakta dosha , Hidradenitis suppurativa, leech therapy.

INTRODUCTION:

Hidradenitis suppurative is a chronic inflammatory disease culminating in separative skin abscess sinus track and scarring it is most commonly occurs in the skin of the axilla and the groin which contains apocrine gland less common side includes the scalp dress and perineum. Hidradenitis Suppurativa appears to have a genetic predisposition with variable penetrance and its strongly associated with obesity and smoking women are four times more likely to be affected then men the pathophysiology involves follicular occlusion followed by folliculitis and secondary infection with skin Flora (usually staphylococcus aureus and Propionibacterium bacterium acne). Clinically patient develops tender, subcutaneous nodules which may or may not point and discharge but with usual progress to chronic inflammation and scarring. This condition is managed by advising patient to stop smoking and lose weight where appropriate. Medical treatment include tropical and oral antibiotic and anti-androgen drug. In selected cases, patients may require radical excision of the effected skin and subcutaneous tissue with reconstruction. Healing by secondary intention more frequently leads to contracture and functional impairment then when plastic surgical technique such as skin graft or transposition are used.

Pathophysiology

Apocrine gland duct obstruction
 Stasis of contents causing Bacterial infection
 Multiple surrounding gland involvement
 Secondary infection by staphylococcus aureus, streptococcus
 Skin oedema Multiple raised pustules
 Multiple communicating fistula formation

Case Report:

A female patient age 47 years having history of diabetes mellitus since 12 years under treatment with controlled blood sugar levels came to M. A. Podar Hospital Surgery OPD with

- throbbing pain and inflammation in the bilateral axillary region left greater than right
- Pus discharge from multiple point from left axillary region with hard nodules

- Itching over bilateral axillary region
- Blackish discoloration of skin

O/E

GC: Fair / Afebrile
 Pulse: 78/m
 BP: 130/90mmhg
 SPO2: 99%
 RR: 18/m
 CNS: Conscious, oriented
 CVD: S1S2 N
 RS: AEBE clear
 P/A: Soft/ nontender

L&E

Left Axilla : Multiple nodules of variable size biggest 4 to 5 mm in diameter with tenderness and inflammation with pulse discharge and other nodules up to 1-2 mm with blackish discoloration and pain.

Right Axilla : Single 3-4mm hard nodules with tenderness and with blackish discoloration of skin.

MATERIALS AND METHODS

Medicinal leech is indicated for the medical bloodletting therapy in Ayurveda, 6 leeches were taken for the treatment 3 for each axillary region, 5 sittings of Jalauka-avacharan (leech application) at interval of one week was done for 5 weeks in 40 days and Kaishor Guggul orally 2 tablet TDS was continued with her Anti Diabetic medication.

Assessment criteria:

- Pain
- Pus discharge
- Itching
- Swelling
- Discoloration of skin
- Scar formation

Leech application

Pre leech application :

Patient was made to sit in comfortable position and right and left axillary reason was cleaned with tap water.

Leech application:

3-3 leeches where applied at bilateral axillary region and they were kept for approximately 35 to 45 minutes and after 45 minutes the leech spontaneously detaches from the skin or haridra (turmeric) is applied

over the mouth of the leech if it caused any irritation to the patients and it helps in detaching the leech from the skin surface.

Post leech application:

After leech have been removed dressing of the wound is done with Haridra powder. and patient is instructed that it may bleed i.e ooze upto 24 hours.

OBSERVATIONS:

	Parameter	Grade 0	Grade 1	Grade 2	Grade 3	BT	AT
1	Pain	No	Mild	Moderate	Severe	Grade 3	Grade 0
2	Pus discharge	No	Watery	Thick	Malodorous pus	Grade 3	Grade 1
3	Itching	No	Mild occasionally	Moderate resistible	Irresistible	Grade 2	Grade 0
4	Swelling	No	Mild 1-2mm	Moderate 2-3mm	Severe 3-5mm	Grade 3	Grade 1
5	Discoloration	No	1 shade darker than skin	2 shade darker than skin	Blackish discoloration	Grade 3	Grade 1

Review of components of medicinal Leech saliva:

- 1.Hirudin- Inhibits blood coagulation by binding to thrombin
- 2.Calin (saratin)- Inhibits blood coagulation by blocking the binding of von Willebrand factor to collagen Inhibits collagen-mediated platelet aggregation .
- 3.Destabilase- Monomerizing activity Dissolves fibrin Thrombolytic effects
- 4.Hirustasin(Serine proteinase)-Inhibits kallikrein, trypsin, chymotrypsin, and neutrophilic cathepsin G
- 5.Bdellins-Anti-inflammatory Inhibits trypsin, plasmin, and acrosin
- 6.Hyaluronidase(“Spreading factor”)-Increases interstitial viscosity Antibiotic
- 7.Leech-derived tryptase inhibitor (LDTI)(Tryptase inhibitor)-Inhibits proteolytic enzymes of host mast cells
- 8.Eglins-Anti-inflammatory- Inhibit the activity of α -chymotrypsin, chymase, subtilisin, elastase, and cathepsin G
- 9.Factor Xa inhibitor- Inhibits the activity of coagulation factor Xa by forming equimolar complexes
- 10.Complement inhibitors- May possibly replace natural complement inhibitors if they are deficient
- 11.Carboxypeptidase A inhibitors-Increases the inflow of blood at the bite site
- 12.Histamine like substances-Vasodilator Increases the inflow of blood at the bite site
- 13.Acetylcholine-Vasodilator.

Mode of Action of Leech Therapy Explaining Its Bio Purificatory Effects

1. After leech application expulsion of impure blood takes place exhibiting its bacteriostatic and bactericidal effects, it sucks the pus and other toxins due to which local inflammation is reduced.
2. Being a good anti-inflammatory agent its results in reducing the itching.
3. Analgesic property lead to the reduction of the pain
4. Improvement in complexion by relieving discoloration
5. The unhealthy granulation tissue and fibrosis tissue were completely removed from the tract.
6. It facilitates fresh blood supply providing oxygen and nutrients to the affected site hence, promoted better wound healing by formation of healthy new tissues.

Observation and Results

Pain, tenderness, pus discharge, purities and swelling started decreasing from day 1, after leech therapy. Thus, patient got complete relief from pain and tenderness after 2nd leech application. Similarly, on local examination, size of nodules and pus discharge was also reducing gradually . After 4th sitting after leech application Patient showed marked improvement from her symptoms almost every symptoms was reduced. The patient got complete relief after fifth sitting of Leech application. Moreover, the present case study revealed that Leech therapy (five sittings at an interval of 7 days for 40 days) has proved effective in the management of Hidradenitis suppurativa.

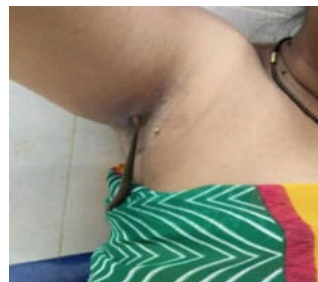
DISCUSSION

The present case study was focused on analgesic, Anti-infective and anti-inflammatory effects of Jalauka-avacharana (Leech application) which proved very effective in managing acute Hidradenitis suppurativa case by reducing pain and other signs of inflammation like tenderness, redness, local temperature, and swelling. The major constituents Leech saliva- Hirudin inhibits blood coagulation by binding to thrombin, Calin inhibits collagen mediated platelet aggregation, Destabilase dissolves fibrin, Bdelin acts as anti-inflammatory and inhibits trypsin, Eglin acts as anti-inflammatory and inhibit activity of cathepsin G, Carboxypeptidase A inhibitors increases the inflow of blood at the bite site, Histamine like substance, acetylcholine acts as vasodilator and Anaesthetic substance which causes anaesthesia at the bite site ,also causes extracellular matrix degradative and antimicrobial effects. Thus, the Leech saliva increase the microcirculation, decrease the inflammation as well as pain, pus discharge, itching and swelling.

CONCLUSION

While conducting the present case study it can be said that this worldwide popular minimally invasive para surgical procedure - Jalouka avcharana (Leech application) plays a very enthusiastic, scientific and competent role providing ultimate solution for Axillary Suppurativa Hidradenitis. The anti-infective, analgesic, anti-inflammatory properties along with the Ease of application, affordability, reduced side effects and acceptability – it proves to have a great therapeutic importance in curing this ailment. There is huge potential for this novel substances and these could be future standard of therapeutics.

Pictures: LEECHAPPLICATION



AFTER LEECH APPLICATION 2ND SITTING:

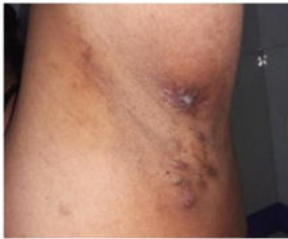


AFTER LEECH APPLICATION 3RD SITTING



POST LEECH APPLICATION :

LEFT AXILLARY REGION:



RIGHT AXILLARY REGION



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