

## Leech Anaesthesia For Incision And Drainage - A case study

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### Abstract:

Leech application in various surgico – medical diseases has been reported from time to time from various researchers from all corners of the world. Leech Application to host for approximately 30 to 45 minutes and its almost painless. There must be something which make leech bite site anaesthetise. This fact can be used for small and superficial surgical procedures so we decided to check this fact on Abscess. **Aims-**To demonstrate Anesthetic activity of Leech application **Objective-** To demonstrate management of Bahya Vidradhi (Abscess) By Ayurvedic procedure Bhedan karma **Methods And materials -** Leech Application Was carried out on Abscess which was Located on postero lateral aspect of Neck of 6 month yr old child who was Unfit for general anaesthesia. Bhedan Karma At the site Of leech Application Subsequent Vrankarma Hiruda Manillensis Aka Buffalo Leech Was used For leech Application **Conclusion -** Leech can be very well used for anesthesia purpose for small superficial conditions like Incision and drainage of abscess. It is simple affordable and easy way of giving anesthesia It can be used where other forms of anesthesia are contraindicated With this leech anesthesia Hospital stay is less patients can be treated on Opd basis and can be discharged after few hours after

procedure, Leech therapy is very effective in managing Vidradhi (Abscess).

**Keywords:** Leech, Vidradhi, Abscess, Anesthetic activity

### Introduction

Leech application in various surgico – medical diseases has been reported from time to time from various researchers from all corners of the world. Leech Application to host for approximately 30 to 45 minutes and its almost painless . There must be something which make leech bite site anaesthetise. This fact can be used for small and superficial surgical procedures so we decided to check this fact on Abscess.

### Aims

To demonstrate Anaesthetic activity of Leech application

### Objective

To demonstrate management of Bahya Vidradhi ( Abscess) By Ayurvedic procedure Bhedan karma

### **Methods And materials**

- Leech Application Was carried out on Abscess which was Located on postero lateral aspect of Neck of 6 month yr old child who was Unfit for general anaesthesia.
- Bhedan Karma At the site Of leech Application Subsequent Vrankarma
- Hiruda Manillensis Aka Buffalo Leech Was used For leech Application

### **Case Study**

20th. Nov 2018 11 month Child presented with huge Abscess on left post auricular area occupying complete length of neck. In fact whole neck got buried in the abscess. Immediate Incision and drainage was needed under General Anaesthesia.

But real difficulty was...

- 1) child was suffering from running nose, common cold making him unfit for General Anaesthesia. .
- 2) position of Abscess was such that it has to be operated in prone position

which made General Anaesthesia more difficult.

So Anaesthesia was out of question for this baby.

विद्रधी त्वग्रक्तमांसमेदांसि प्रदुष्यास्थी  
समाश्रिताः दोषः॥

दोषः शोफं शनै घोरं जनयत्युच्छ्रीतःभृशं ॥

महामुलं रूजावंतं वृत्तं चाप्यथवा आयतम् तमाह  
विद्रधीं धिरा॥ सु. सु. 9/4-6

Treatment

Classical text book of Surgery love and belly quotes.....

Where ever there is pus.... Let it out first  
i.e. Incision And drainage

Ayurveda Says the same thing -  
Bhedan karma .

यतो यतो गतिम् विद्यात उत्संगो यत्र यत्र च।

तत्र तत्र व्रणं कुर्यात् यथा दोषो न तिष्ठति॥

सुश्रुत संहिता

विद्रधी सर्वमेवाम् शोफवत् समुपाचरेत्

प्रततं च हरेत् रक्तं पक्वे तु शोफवत् क्रियां॥

अ. हु.13/3

आ. जलौकापातनं शस्तं सर्वस्मिन्नेव विद्रधी  
॥ वंगसेन

Previous studies and experience in treating painful conditions like Herpes Zoster, Thrombosed Piles gave us insight to use leech as an anaesthetist. Searching Modern literature it was Found that Leech Saliva contains Some anaesthetic substance similar to lidocain So it was decided to use leech As Anaesthetist For Bhedan Karma on Vidradhi (Abscess)

During the whole procedure child remained calm in mother's womb and was receiving feed (most secure feeling position for a child)

After leech application artery forceps was introduced through Wound of leech bite which was anaesthetised by leech, removing all the pus by breaking all the pus pockets, ...and after procedure pt was sent home with oral antibiotics and analgesics with advice follow up daily for dressing. In the next 8 days i.e. on 28 the Nov 2018 abscess and the bhedan karma wound was completely healed.

If Child would have been given modern General Anaesthesia in this case

- the expenditure of that poor family Would be many fold
- hospital stay would have been minimum 2 to 3 days ,

- Intracath in the hand making child irritable more cry.
- Child would Have been receiving so many injectable drugs and
- Risk factor - Risk of endangering the life of kid would have been many fold.

Photographic evidence as follows.....'



Figure 1 20/11/2018



Figure 2 Bhedan Karma 20/11/2018



3 Complete cure 28/11/2018



Figure 4 Follow up Vran Karma 26/11/2018

### **Discussion :-**

In Ayurveda it has been stated that leech Sucks vitiated Blood and that's why patient gets relief . But According to Modern Science this is Partly true only. In fact while Biting leech Secretes its Saliva in to the Host . And this Saliva Contains different Enzymes . and Due to effect of this enzymes results are Seen .

1. Hirudine - Inhibits blood Coagulation by binding to Thrombin
2. Caline - Inhibits blood coagulation b blocking the

binding of Von Willebrand factor to collagen inhibites collagen mediated platelet aggregation

3. Destabilise - Dissolves Fibrine Thrombolytic effects ,
4. Hirustasin - Inhibits Kallikren, Trypsin, Chymotrypsin, Neutropholic cathepsin G
5. \_Bleddines - Anti inflammatory inhibits Trypsin , Plasmin and Acrocin
6. Hyaluronidase - Spreading Factor - Increases interstitial Viscosity , Antibiotic.
7. Leech Derived Tryptase inhibitor - Tryptase inhibitor Inhibits photolytic enzymes of host mast cells
8. Eglins - Anti inflammatory, inhibits the activity of alpha chymotrypsin
9. Factor Xa Inhibitor - Inhibits the activity of Coagulation Facyor Xa
10. Carboxy peptidase - Increases the inflow of blood at the bite site

Suspected Saliva Components

11. Histamine Like Substances ---  
Vasodilators . Increases the  
inflow of blood at the bite site
12. Acetylcholine --- Vasodilator
13. Anesthetic Substance ----  
Anesthesia.

From above table it is very clear that leech saliva is very beneficial in treating Abscess in many ways .

1. Antibiotic effect
2. Anti inflammatory , analgesic effect
3. Vasodilator increases blood flow towards Abscess
4. Hyaluronidase reduces edema surrounding the Abscess
5. Anesthesia at the bite site-----

The mouth of the medicinal leech is located in anterior Sucker .just within in the oral cavity there are three jaws in the shape of Mercedes Benz Symbol . Each Jaw Contain around 60 to 100 teeth .in between these teeths There are interdental pores in which Discrete Scattered Salivary Glandular cells pour their secretion

The leech Secrets Saliva into the wound through the interdental pores while sawing its teethes deeper and deeper in to the skin this sawing like action of teethes has its advantage , it

requires less force and secondly patient perceives less discomfort and less likely to notice the bite . There may also contain a substance with anesthetic Properties that enhance this painless bite (Incision).

Mechanically Speaking, the anatomical Structure works like extremely efficient Micropipettes that injects Pharmaceutically active substances into the wound. No other microsurgical tool can perform such complex functions with such high precision.

### **Conclusion**

1. Leech can be very well used for anesthesia purpose for small superficial conditions like Incision and drainage of abscess.
2. It is simple affordable and easy way of giving anesthesia
3. It can be used where other forms of anesthesia are contraindicated
4. With this leech anesthesia Hospital stay is less patients can be treated on Opd basis and can be dischared after few hours after procedure .
5. Leech therapy is very effective in managing Vidradhi (Abscess)
6. Principles of management of Abscess and Vidradhi are both

Allopathic And Ayurved  
Systemm are similar and effective

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