

## MANAGEMENT OF PERI-ORBITAL CELLULITIS BY LEECH THERAPY- A CASE STUDY

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### ABSTRACT

A male child aged 11yrs presented with swelling and localized pain, tenderness, erythema, edema over left eye lids with no any history of trauma or insect bite. He was diagnosed with periorbital cellulitis which is a bacterial infection characterized by acute or chronic diffuse, spreading, edematous non suppurative inflammation of inner layers of the skin namely dermis and subcutaneous. According to Ayurveda this can be correlated with *Vranashopha*. The modern line of treatment of periorbital cellulitis is antibiotics, anti-inflammatory, vitamins & if condition does not subside surgical interference is required. *Acharya Sushruta, Charaka, Vagbhata, Chakradatta* has described *Raktmokshan* for the management of *Vranashotha*. So patient was

treated with *Jalaukavacharan*, 2 settings each after an interval of 1 day. The complaints gradually subsided after 2 settings. Thus this patient was successfully treated with *Jalaukavacharana* with no recurrence or any complication.

**KEYWORDS:** *Vranashopha, raktamokshan*, periorbital cellulitis.

### INTRODUCTION

The aim of all medical sciences is to provide better health to every human being so as to have a disease free life. Peri-orbital cellulitis is one of the common but potentially serious clinical conditions which come across in our day to day life.

Peri-orbital cellulitis is a non-necrotizing inflammation of subcutaneous tissue of skin and subcutaneous caused by staphylococcus pyogenes (mainly) often followed by a scratch over the eye lid. The main signs of peri- orbital cellulitis are swelling, redness, pain and local

temperature. It can cause mild discomfort to severe complications like sepsis, local gangrene, fever, slightly blurred vision, teary eyes. Cellulitis can be compared to *Vranashopha* which is in detail described by *Sushruta* in the earlier phase of *Vrana*. *Vranashopha* is the preliminary stage of *nija vrana*. The term *shopha* refers to swelling disorders.

*Sthanika shopha* is referred to as *Vranashopha*. *Amawastha* (early stage of inflammatory phase), *pachyamanawastha* (true inflammatory phase), and *pakwawastha* (suppurative stage) are 3 progressive stage of *vrnashopha*. Based on the vitiation of *dosha*, 6 different types of *vrnashopha* are explained by *Acharya* on their *lakshanas*, such as color, pain etc. the sufferer experience more pain in *Ama* and *Pachyamanawastha*. Hence patient wants instant relief in these stages.

*Shashti-upakrama* (sixty procedures) in which first 12 procedures for management of *vrnashopha* and rest of the procedure for *vrana* are told by *sushruta*.

But these all are grossly included in Seven pillars for the management of inflammatory lesion (*vrnashopha*) are described by *Sushruta*. Out of the seven pillars *avasechan* i.e, bloodletting (*Raktamokshan*) is an ideal treatment. Leech therapy (*Jalaukavacharan*) is a well-known and admired therapy in the treatment of Cellulitis (*vrnashopha*).

## CASE STUDY

### Material and Method- Pre-Procedure

- Patient's well informed written consent was taken.
- Following routine investigation was done CBC with ESR, BT, CT, HIVI & II, HBsAg which were under normal limits.
- Leeches were transferred to a bowl containing turmeric paste to activate them.
- Later to another bowl containing fresh water.

### Procedure

- Leech was applied over the most prominent part of the swelling.
- Leech got attached and was covered with cotton and sprinkling of cold water over it was done.
- After some time of blood sucking the leech detached from the site.

**Post- Procedure**

- The site was cleaned.
- Turmeric powder sprinkled to the bleeding site and bandaging was done.
- And further 1 more leech application was repeated the next day.

**OBSERVATION**

**Fig. 1- On the day of visit.**



**Fig. 2- First leech application on the day of visit.**



**Fig. 3: After 2 leech setting(total healing).**

## RESULT

In a total 2 sittings of Leech therapy. It is found that leech therapy in Peri-orbital cellulitis is highly effective and has less complication.

## DISCUSSION

Present study dealt with efficacy of Leech application in Peri-orbital Cellulitis. This is an emergency and requires intravenous antibiotics. *Acharya Sushrut, Vangasena* etc. has mentioned simple method of leech application in the management of *Vranshotha* to reduce pain & to avoid suppuration.

Various stages of *Vranashotha* i.e. *ama, Pachya & Pakwa awastha* are decided according to history of illness.

Upto 0-3 days Condition is considered *Amawstha*

From 3-6 days Condition is considered *Pachyamanawastha*

After 6 days Condition is *Pakwawstha*.

Detail result of the patients were shown in the observations. It was observed that in leech application in the stage of *amawstha* symptoms were subsided.

## Mode of Action

The *samprapti* of *vranashopha* is characterised by *raktadushti* and localized accumulation of *dushit rakta*. *Raktamokshana* procedure by its mechanism arrests the progress of *vranashopha* and removes the vitiated *rakta* from the disease site. Leech therapy involves an

initial bite, which is usually painless (leech saliva contains a mild anesthetic), and its therapeutic benefits are derived from the blood removed during the biting, and also from the vasodilator contained in the leech saliva. Salivary glands of a medical leech contain more than 100 bioactive substances and the salivary gland secretion has anti- edematous, bacteriostatic, and analgesic effects; it possesses resolving activity, eliminates microcirculation disorders, restores the damaged vascular permeability of tissues and organs, eliminates hypoxia (oxygen starvation), reduces blood pressure, increases immune system activity, detoxifies the organism by antioxidant pathways. The molecules existing in leech saliva and the most studied to date include:

- Hyaluronidase (spreading factor): Facilitates the penetration and diffusion of pharmacologically active substances into the tissues, especially in joint pain and has antibiotic properties.
- Bdelins: Anti-inflammatory effect and inhibits trypsin, and plasmin
- Chloromycetin: Potent antibiotic
- Trypsase inhibitor: Inhibits proteolytic enzymes of host mast cells
- Eglins: Acts as anti-inflammatory
- Anesthetic-like substances: Reduce pain during biting by a leech
- Histamine-like substances: A vasodilator increases the inflow of blood at the bite.
- Carboxypeptidase-A inhibitors: Increase the inflow of blood
- Acetylcholine: Vasodilator

## CONCLUSION

- This study has provided cheap, safe & effective method for the treatment of Peri-orbital Cellulitis without any side effect.
- It can be used where minimum facilities of treatment are available.
- Leeches can be an important tool in the hands of today's Surgeons to treat various medico-surgical conditions.
- Application of leeches has been found very effective in the management of various stages of *Vranashopha*

## REFERENCES

1. Sushruta samhita; Shastri Ambikadatta; Ayurvedatatva Sandipika commentary, Sutrashtan 17/3; Chaukhamba Sanskrit sansthan, Varanasi; Edition 2007, p. 70.
2. Sushruta samhita; Shastri Ambikadatta; Ayurvedatatva Sandipika commentary,

Sutrasthan 17/6; Chaukhamba Sanskrit sansthan, Varanasi; Edition 2007, p. 71.

3. Fitzpatrick's Dermatology in General medicine, 5<sup>th</sup> edition, volume-2, Chapter 197, p. 2214-2229.