



## **Periorbital Ecchyomosis Followed by RTA Treated with Jaloukavacharana – A Case Study**

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### **ABSTRACT**

*Periorbital ecchymosis is caused by blood tracking into periorbital tissues, which is frequently observed after head trauma but is also observed in systemic diseases, such as amyloidosis, neuroblastoma, and surgical interventions. Leech therapy (Jaloukavacharana) is a type of Raktamokshana indicated in Raktapradoshaja and pittajavikaras. Periorbital ecchymosis and periorbital hematomas are the commonest presentations in the cases of road traffic accident injuries. Periorbital ecchymosis or hematoma is due to extravasations or collections of blood into the periorbital skin and the subcutaneous tissues around the eyes. Jaloukavacharana is an ancient treatment mentioned in ayurvedic classics in the management of vitiated Raktavikaras. One among such condition is abnormal accumulation of blood in a particular area due to varied reasons. The leech therapy helped in relieving inflammation, pain and discoloration as compared to any other therapies.*

**Keywords:** Periorbital ecchymosis, Jaloukavacharana, Leech therapy

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### **INTRODUCTION**

Periorbital ecchymosis is produced by blood tracking into periorbital tissues, causing bluish or purple discoloration of the upper and lower eyelids, which is frequently observed after head trauma but is also observed in some systemic diseases, and also surgical interventions. Leeches are used in medicine since ages. In Ayurveda ancient textbook Sushruta Samhita described details of Jalouka. Jaloukavacharana is the one of the important treatments mentioned to treat Rakthajavikara (disorders related to blood). The definition and varieties of leeches are explained in the sutrasthana of Sushrutasamhita [1]. broadly they are classified as Savish and Nirvishjalouka. Nirvishjalouka are used for the treatment purposes. In the treatment of abscesses, certain glandular inflammatory swellings, inflamed scrotal swellings, Acharya Sushruta has indicated Jaloukavacharana (leech therapy) as a prerequisite for incision and drainage in order to localized abscess [2-4].

### **Case presentation report:**

A 56-year-old man presented with a history of a fall from two-wheeler, 5 hours previously. Examination revealed swelling around the right eye ball with gross lid and periorbital swelling chief complaints of headache, heaviness of the head, and discoloration of periorbital area, Penetrating injury and fracture of skull bone was suspected, and it was ruled with radiological investigations. On physical examination, he was conscious well oriented responding well to oral commands. With vitals normal and revealed mild tenderness over the periorbital area. After all investigations when there were no fractures in skull bones, we managed the case with the Jaloukavacharana with wonderful results in just 24 hours.

**ROUTINE INVESTIGATIONS**

INVESTIGATIONS	OBSERVED VALUE	NORMAL VALUES
HAEMOGLOBIN	13.gm/dl	Men (13.2 to 16.6gms)
RBS	118mg /dl	(80 to 130 mg/dl)
URINE ROUTINE	Albumin-Nil, Sugar-Nil Pus,Epithelial Cells- 1-2 /HPF	( NIL )
CT/BT	3.5 min/sec / 3.8 min/sec	C T - 2-6 min/sec B T - 1-4 min/sec
HIV / HBSAG	Non-reactive	NON - REACTIVE
PNS X-RAY	Normal reported from Radiologist	NORMAL

**Treatment procedure details:**

After investigation, leech therapy was planned as a first line treatment. Written consent was taken. Preparation of the leech - an unused leech of medium size was taken and activated using turmeric water. Activated leech is made to bite over lateral aspect of right canthus. After 45 minutes leeches were removed using turmeric powder. Bite site was applied with turmeric and tightly covered with gauze piece to prevent further bleeding. 1 leech was applied over the side of lateral aspect of right canthus for 45 minutes.

**OBSERVATIONS**

Symptoms were taken into consideration under grading system according to their severity. After the first sitting of Jaloukavacharana 60% reduction in the reddish discolouration was noted; about 30% reduction in pain over right periorbital region and mild reduction of oedema attained. After second sitting almost 80% reduction in the reddish discolouration was noted; 80% reduction in pain and oedema was noted. Pain and oedema resolved completely on the 3<sup>rd</sup> day hence leech therapy was stopped and oral medicines were continued for period of week.

**RESULT:**

As soon as the leech application was commenced patient got relieved of periorbital pain. His discomfort level got reduced, after second sitting, redness was also reduced. after third sitting of Jaloukavacharana: patient was completely relieved of all symptoms and was satisfied with the treatment.

**Probable Mode of action:** Through their sucking effect, leeches stimulate

1. Circulation of cells at risk of necrosis and maintain
2. Oxygenation of the tissue [4]
3. They therefore promote restoration of capillary anastomosis [5]
4. They accelerate the sub conjunctiva haemorrhage decongestion process.

**2. Before Treatment photo****3. After Treatment photo****DISCUSSION**

Rakthmokshana: 'Rakta' means coloured, dyed, tinged, painted, red, crimson, blood red in colour. 'mokshana' derived from the root moksha means to relieve or to let 'raktasyamokshanamraktasrava' letting out the impure blood from the body is known as raktamokshana. Raktamokshana refers to bloodletting procedures. It is the process of elimination of vitiated dosha that accumulated in the body. jalaukavacharana is an effective blood purification therapy, acharya sushruta calls blood vessels as 'sarvavahasira' since

rakta, vata, pitta, or kapha all these doshas flows via these vessels. And hence raktamokshana is an ideal treatment for any doshik imbalance caused in rakta dhatu. Jaloukavacharana (leech therapy) removal of small quantity of blood is conducted to neutralize accumulated vitiated pitta and rakta dosha of many blood borne diseases [6-8].

**JALOUKAVACHARANA:**

Jaloukavacharana involved with initial bite of leeches, which is usually a painless, followed by the sucking of 5 to 15 ml of blood which has thrombolytic effect (clot destruction). when leeches bite, they create a tunnel in the lymphatic system and removes toxins from the lymph system. Jaloukavacharana acts as Anti-inflammatory, Immunostimulating, raises nutrient, strengthens tissues locally. Leech sucks blood sends out hirudin, prevents blood coagulation and acts as a Antiisechemic (improving blood supply to tissues and organs).ant hypoxia (improving blood supply oxygen to tissues and organs)draining the blood and lymph system of toxins and blood clots restoration of micro circulation and restores vascular permeability also recovers the neuromuscular impulse transmission.[7] Leech therapy is Para surgical procedure which does not needs OT / Local or Spinal Anaesthesia and does not needs antibiotics or analgesics after the procedure. Jalauka has Ability to suck only impure blood and from Bottom deep level and purify Doshas, decreases Swelling, hastens repining of swelling, jalauka has ability for quick transform Due to the qualities of its anticoagulant, vasodilator, thrombolytic, anti-inflammatory substances, leeches have been proved as medically effective.

**CONCLUSION**

Raktamokshana derives its name from Rakta meaning blood and Mokshana meaning liberation this treatment literally releases impure blood from the system. Raktamokshana is adopted mainly in Pitta predominant diseases and also in Raktapradoshaja vikaras. Though the action is localized, it affects the whole body by releasing many factors like hirudin, eglin, hyaluronidase, collagenase and apyrase into blood, through saliva of the leech increases blood circulation<sup>7</sup> and breaks the up-blood clots. And also, it anesthetizes the wound area (rendering the bite virtually painless) and dilates blood vessels to increase blood flow to the site of the bite. Leech saliva also contains an enzyme that promotes a quick dissipation of substances in the leech saliva away from the bite site. Less time-consuming cost effective and easily adopted for patients. Raktamokshana<sup>8</sup> is one of the most beneficial and delicate treatments. It is very cheap and short procedure without obstructing patient's daily routine. Raktamokshana is the best one because it's delicate easily applicable, easily available, quick reliever and purificatory nature. Leech therapy is Para surgical procedure precautions like Anaesthesia, antibiotics are not necessary and also patient can leave the hospital in no time. Patient does not ever feel that a major surgery is done with him. Leech is a sort of boon in rural areas also acts as a cosmetic instrument.

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