

COSMETIC APPROACH OF JALAUKAVACHARAN (MEDICINAL LEECH THERAPY) IN THE TREATMENT OF ACNE VULGARIS – A CASE REPORT

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ABSTRACT

Purpose: Acne Vulgaris is characterized by the formation of papules, pustules, open or closed comedones and nodules as a result of inflammation and obstruction of pilosebaceous unit. Acne vulgaris affects about 85 % of adolescent leading to psychological, emotional and social impairment. Female are more prone to depression as acne directly affects the beauty of their face. Existing treatment of acne vulgaris such as retinoid, isotretinoids, salicylic acid, antibiotic therapy, anti-androgen treatment are having poor cure rate alongwith several adverse effects. As per sign and symptoms acne vulgaris can be compared with *Yuvanpidika* in Ayurveda. *Yuvanpidika* is a *RaktapradosjaVyadhi* caused due to vitiation of morbid *Kapha*, *Vata* and *RaktaDosha*. In Ayurveda *Jalaukavacharan* (Medicinal Leech therapy) is clearly indicated in all the diseases arising from the vitiation of *Rakta*. **Method:** This is a single case study of 22 years old male suffering from pustular eruptions diffused over face. Pustules were associated with burning sensation and itching. Few nodules and comedones were present over cheek and forehead. The symptoms had been progressive for 3 years. As per Ayurveda the case was diagnosed as *Yuvanpidika* and treated at PG department of Panchakarma, NIA, Jaipur. 4 sitting of *Jalaukavacharan* (Medicinal Leech therapy) was done. Assessment was done on the basis of sign and symptoms. **Result:** The therapy provided marked relief in acne. Pustules gradually got subsided and burning sensation was completely cured. After follow-up the patient had no break out of any type of pustules or cysts. No any adverse effect was reported during the course of treatment. **Conclusion:** On the basis of this case study it can be concluded that *Jalaukavacharan* (Medicinal leech therapy) is effective in the management of acne vulgaris. Since the single case is not enough more rooted study in this is required.

Keywords – *Jalaukavacharan*, Medicinal Leech therapy, Acne Vulgaris

Introduction

Acne Vulgaris may be defined as chronic inflammatory condition of the skin whose initial pathology is microscopic microcomedo. Later microcomedo evolving into open comedones (black head's) and closed comedones (whitehead's). Although acne may occur in any age but most commonly occurs during puberty when sebaceous gland activate. Beauty and look is directly reflected by the face of individual. And acne remains untreated it finally disfigure the face leaving permanent scars. In 2015, acne was estimated to affect 633 million people globally making it the 8th most common disease worldwide. Genetic is found to be the primary cause of acne in 80% cases.

Acne Vulgaris resembles with *Yuvanpidika* described in Ayurveda under the heading of *Kshudraroga*. *Yuvanpidika* occurs due to vitiation of *Kapha*, *Vata* and *Rakta*.¹ Acharya Vagbhata defined it as, the eruptions like *Shalmali* thorn, on the face during adolescence caused by vitiated *Kapha*, *Vata* and *Rakta*.² *Tarunyavastha* (adolescent) is also considered as one of the causative factor. Common allopathic treatment includes topical retinoids & antibiotics, oral antibiotics, OCP, anti androgen hormones, laser therapy, chemical peel and steroid injections.

Case report

22 year old male presented with a 3 years history of Pustular eruptions diffused over face along with few nodules (lumps) and comedones over cheek and forehead came to OPD of Panchakarma Department, NIA, Jaipur. Pustules were associated with burning sensation and itching. The symptoms had been progressive for 3 years.

Symptoms was aggravated by oily and spicy food. Patient was using topical ointments occasionally for 2 years. He had undergone few few courses of antibiotics in past 2 years. Patient left all the medications since 2 months. There was past history of excessive consumption of oily, spicy foods, curds and ghee. There was no any past history of trauma, diabetes, hypothyroidism, surgery and addiction. There was no family history of venous thrombosis.

Examinations-

Patient was treated at *Panchakarma* Department of NIA. *Astavidha Pariksha*, systemic local and examination was done. [Table 1, Table 2, Table 3]. Routine Examination such as CBC, ESR, Serum Uric acid, RA factor, CRP, FBS, LFT, RFT, Lipid profile, TFT, CT, BT and Urine RE was within normal limit. Along with the pustules erythema was present on the surrounding skin. Few healed scars (~1mm to 4mm) diffused over facial skin were present. The patient was treated in the line of management of *Yuvanpidika*.

Table 1 “AstavidhaPariksha”

<i>AstavidhaPariksha</i>	
<i>Nadi</i>	76 bpm
<i>Mala</i>	<i>Samayak</i>
<i>Mutra</i>	<i>Samayak</i>
<i>Jivha</i>	<i>Niram</i>
<i>Shabda</i>	<i>Spasta</i>
<i>Sparsha</i>	<i>Samshitoshana</i>
<i>Drik</i>	<i>Spasta</i>
<i>Akriti</i>	<i>Madhyam</i>

Table 2 “Systemic Examination”

Systemic Examination	
BP	130/90 mm of hg
Temp	98.8 F
Pulse	76 bpm
Resp. Rate	18/min
Wt.	78 kg
Ht.	5'7"
Sleep	Sound

Table 3: "Local Examination"

Local examination of facial Skin	
Pustules	++
Comedones	++
Pain	++
Itching	++

Burning sensation	++
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Interventions-

Patient was subjected for *Jalaukavacharan* [Table 4]. Patient was explained about the procedure and written consent was taken. All the necessary investigations like BT, CT, HB%, HIV, HBsAg etc. were done and vitals of the patient were noted. *Jalauka* (Medicinal Leeches) were kept in *Haridra* Solution for 5 minutes before the application. Patient was kept in comfortable position and 2 *Jalauka* were applied over face. As soon the *Jalauka* started sucking the blood small thin piece of wet cotton was kept over them.

After *Jalauka* got detached from the sucking points they were again kept in *Haridra* solution and proper *Vamana* (Emesis) was done. After *Sodhana*, *Jalauka* were kept in a container containing fresh water. Container was duly labelled with patient name so that they can be reused. Proper bandaging at the bleeding site was done. 4 seating of *Jalaukavacharan* was done each followed by one week gap. The bite area was observed routinely for any swelling, ulcer or inflammations. Proper position of the legs and *Pathya* regimen was advised to the patient.

Table 4 “*Jalaukavacharan* (Leech Therapy)”

Date	Intervention	No of <i>Jalauka</i>	Seatings
08/07/2017	<i>Jalaukavacharan</i> (Application of Medicinal leeches)	2	1 st seating
15/07/2017	<i>Jalaukavacharan</i> (Application of Medicinal leeches)	2	2 nd seating
22/07/2017	<i>Jalaukavacharan</i> (Application of Medicinal leeches)	2	3 rd seating
29/07/2017	<i>Jalaukavacharan</i> (Application of Medicinal leeches)	2	4 th seating

Assessment Criteria

Assessment was done on the Sign and symptoms [Table 5].

Table 5. “Grading of Subjective Parameters”

S. N	Symptom	Criteria	Grade	S. N	Symptom	Criteria	Grade
1.	Comedones	Absent	0	2.	Burning	Absent	0

		Mild	1		Sensation	Mild	1
		Moderate	2			Moderate	2
		Severe	3			Severe	3
3.	Pustules	Absent	0	3.	Itching	Absent	0
		Few Pustules	1			Mild itching occasionally	1
		Pustules with erythema	2			Mild itching persist all day	2
		Diffused Pustules with erythema and itching	3			Moderate continuous itching	3
		Pustules with severe itching, crusting, oozing out	4			Severe itching with scratch marks	4
5.	Pain by VAS						

Results-

Soon after the 1st seating of *Jalauka* pain and burning sensation subsided by 50%. Pain, burning sensation and itching were negligible when assessed after follow up.

There was marked relief in pustules and comedones. Nodules got subsided by the end of treatment. Few small scars are present even after follow up. No any adverse effect was noted during the whole course of treatment [Table 6].

Table 6. “Assessment before and after treatment”

	Before	After 28 days	After 3 months
Comedones	3	1	1
Pustules	3	1	1
Itching	3	1	0
Pain(by VAS)	5	1	0

Discussion-

Yuvanpidika is considered as *RaktapradosajVyadhi* also containing the *GrathitRakta* below the comedones, hence *Jalaukavacharan* is the choice of treatment as it helps in *RaktaNirahan*, *Sodhana* and also removes the *Avaghadh* and *GrathitRakta*.

Acharya *Susuruta* mentioned *Raktamokshan* as a line of treatment in all types of *RaktaDusti* out of which *Jalaukavacharan* is considered as the mildest and safest method. *Yuvanpidika* is considered as *RaktapradosajVyadhi*,

Probable cause of acne includes three factors: abnormal desquamation of the follicular epithelium which causes obstruction of sebaceous glands, stimulation of sebaceous secretions by androgen and inflammation and colonization of the follicle by bacteria.³

Acharya *Susuruta* mentioned *Raktamokshan* as a line of treatment in all types of *RaktaDusti* out of which *Jalaukavacharan* is considered as the mildest and safest method.

Leech saliva contains more than 100 different types of bio active materials which acts as anti-inflammatory, analgesic and helps to restore damaged vascular permeability of tissue.⁴ Leech salivary secretions blocks certain steps of regular

pain evolving cascade by counteracting cytokines and thus triggering analgesic actions. Eglin C found in leech saliva appears to suppress cell mediated inflammatory reactions thus prevents new comedones and pustules formations.⁵ Hirudin, acetylcholine and Histamine found in leech saliva acts as anti-coagulant and vasodilators which increases the blood and oxygen supply to the facial skin.⁶ Hirudin has bacteriostatic and bactericidal action thus inhibits the growth of bacteria. Leech salivary secretion, increases local immunity and helps in dissolution of organized clot, increases local immunity thus decreases the nodular swelling and erythema.⁷

Cosmetic value of leech is growing nowadays as bioactive substances present in saliva also eliminate micro circulation disorders, eliminate hypoxia, increases blood flow and increases the bioenergetics status thus helps to maintain skin complexion and texture.^{8,9}

Conclusion-

The case indicates that when treatment is done on the base of Ayurveda guidelines Acne Vulgaris can be effectively managed and patient quality of life can be enhanced. The results need to be studied in more numbers of populations and with longer duration follow up for the better assessment.

Legends-

Figure 1: Before *Jalaukavacharan* (Leech Therapy)



Figure 2: *Jalaukavacharan* (Application of Leech Therapy)



Figure 3: After *Jalaukavacharan* (Leech Therapy)



REFERENCES

1. Vagbhatta, AṣṭangaHṛudaya, with the commentaries, Edited by Pt. HariSadashivaShastri-ParadakaraBhisagacharya, Published by ChaukhambaSurbharatiPrakashana, Varanasi, 2007, Uttaratontra, 31/5, Page 888

2. Cordain L, Lindeberg S, Hurtado M, Hill K, Eaton SB, Brand-Miller J. Acne vulgaris: a disease of Western civilization. Archives of dermatology. 2002 Dec 1;138(12):1584-90.

3. Baskova IP, Kostjukova ES, Vlasova MA, Kharitonova OV, Levitskiy SA, Zavalova LL, et al. Proteins and peptides of the salivary gland secretion of medicinal leeches *Hirudo verbana*, *H. medicinalis*, and *H. orientalis*. Biochemistry (Mosc) 2008

4. Haycraft JB. On the action of a secretion obtained from the medicinal leech on the coagulation of the blood. Proc R Soc Lond. 1883

5. Electricwala A, Sawyer RT, Jones CP, Atkinson T. Isolation of thrombin inhibitor from the leech *Hirudinaria manillensis*. Blood Coagul Fibrinolysis

6. Abdulkader AM, Ghawi AM, Alaama M, Awang M, Merzouk A. Leech therapeutic applications. Indian Journal of Pharmaceutical Sciences. 2013 Mar;75(2):127-137.

7. Porshinsky BS, Saha S, Grossman MD, Beery li PR, Stawicki SP. Clinical uses of the medicinal leech: A practical review. J Postgrad Med. 2011.

8. Green PA, Shafritz AB. Medicinal leech use in microsurgery. J Hand Surg Am. 2010