



A Review on Leech Insect Treatment for Acne

¹Pratiksha Shivaji Batwal, ²Assist. Prof. Sushil Patil.

¹At Ashok Nagar, Post – Satpur, Tal- Nashik, Dist- Nashik, Post Code- 422012, INDIA

²Shree Mahavir Institute of Pharmacy

Abstract

Acne is skin disease or skin condition that occur when your hair follicle become plugged with oil and dead skin cell .acne occurs by hypersensitivity of the sebaceous gland to a normal circulating level of androgens, which are aggravated by P.acnes(propionibacterium acne) and inflammation. Modern science described that acne is chronic inflammatory disease .acne vulgaris is formation of comedone, papules, pustules, nodules and cysts as a result of obstruction and inflammation of pilosebaceous units (hair follicle and their accompanying sebaceous gland). Acne develops on the face and upper trunk. It most often affects adolescents. Acne vulgaris is a disease that affects almost 80% of individuals. According to the journal of clinical and aesthetic dermatology, 22% of adults women are affected by acne, compared to less than 5% of adult men. Between 30% and 50% of adolescent experience psychological difficulties associated with acne, including concern about their body image ,embarrassment social impairment ,anxiety, frustration, anger ,depression and poor self-esteem . Acne typically occurs on your face, forehead, chest, upperback and shoulder because this area of skin has the most oil (sebaceous) gland.

Key words acne vulgaris, papules, comedone, inflammation, sebaceous gland

Introduction

In ayurveda leech therapy use as jalaukavacharana. Since Ancient times leech were used to treat many illness and disease with the help of bloodletting process. Sushrut include bloodletting process under fine biopurification process state that the removal of impure blood from body and absorb excess oil from skin surface. Other instrument or technique are also use for raktamokshana like shringa, alabu but jalaka is frequently use and easy to use give better result.

Leech therapy is use for many diseases Ex- arthritis varicose veins, Deep vein Thrombosis, ulcer & acne. etc

Treatment for vitiated Rakta is Raktamokshana. Leeches by sucking the impure blood improves circulation of the affected area & helps in faster healing.

The bloodletting with the help of leech is painless and non invasive way of bloodlettings.

Zoological classification of leech

- 1.1. Phylum: Annelida
- 1.2. Class- Hirudinea
- 1.3. Order: H.limnoblatta
- 1.4. Genus: Hirudinaria
- 1.5. Species: H.medicinalis



Aim and objectives of leech therapy

- To test and Examine the Application of Leech Therapy.
- To study role of leech in Cosmetology.
- To highlight the benefit of leech Therapy.
- To highlight the importance of bloodletting technique.
- To examine effect of leech therapy in the management of acne vulgaris.

- To study the clinical resembles of acne vulgaris.
- Describe the epidemiology of acne vulgaris.
- Identify some of the topical and systemic treatment option for acne vulgaris.
- Describe how interprofessional team member can collaborate to improve the evaluation. Management and counseling of patient with acne vulgaris.

Characteristics of acne

Acne Characteristics into following parts

1.1. Comedones

Comedone are small, flesh colored, white or dark bumps that gives skin a rough texture. Papule A papules is a solid or cystic raised spot on the skin that is less than 1 centimeter (cm) wide. It is type of skin lesion.

1.2. Nodules

A nodules are a type of inflammatory acne it causes firm, painful lumps to form under your skin and red bumps to appear on your skins surface. Nodular acne required help from health care provider. It can't treat by yourself. Untreated, it can lead to severe scars

1.3. Pustules

A Pustule are small, inflamed, pus filled blister like sores (lesion) on the skin surface.

1.4. Bumps

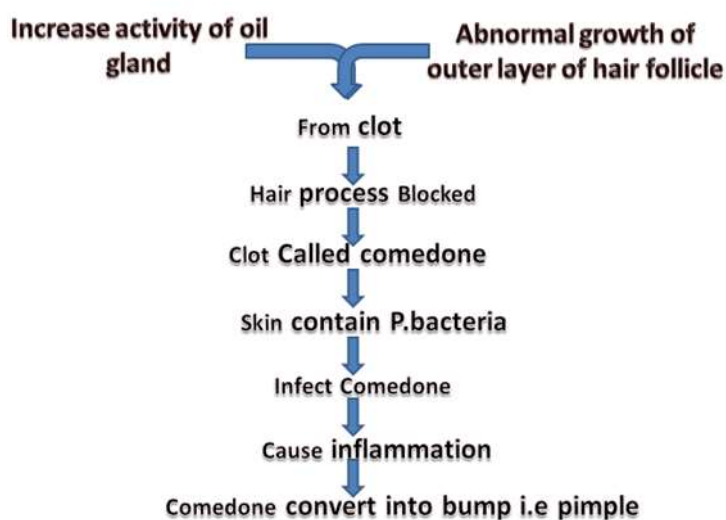
The bumps are caused by acne. They are found at the opening of skin pores. a solid core can often be seen in the middle of the small bumps. when excess oil, bacteria, and dead skin cells push deeper into the skin and cause inflammation (redness, swelling), you'll see small red bumps.

How acne forms

Acne occurs in pores containing

Hair follicle a shaft or opening on the surface of your skin through which hair grows.

- 1.1. **Hair shaft** it is a visible part of your hair that stick out of the skin.
- 1.2. **Oil Gland:** Oil glands are any of variety of skin structure that secrete oil or greasy substance of various functions.
- 1.3. **Surrounding Skin:** It is a tissue surrounding a wound.



Grading of acne

Grade 1 Whiteheads, blackheads, few or no red papules and inflammation of skin.

Grade 2 Multiple red papules (2- 4mm) with some pustules and slight inflammation of skin.

Grade 3 Papules and pustules in greater number, red nodules, Inflammation on skin chest, shoulders and upper back. Chances of scarring are high.

Grade 4 numerous papules, pustules, nodules and cysts. Inflammation is pronounced. It is very painful affect the entire back, shoulder and upper arms. Scarring is a prominent feature.

Grading	Pain	Inflammation	Redness	Tenderns	Papules	Pustules	Nodules
0	No pain	No Inflammation	No Redness	No Tenderns s	No Papules	No Pustules	No Nodules
1	Mild	Mild	Mild	Mild	Mild	Mild	Mild
2	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
3	Severe	Severe	Severe	Severe	Severe	Severe	Severe

Causes for Acne:

- 1.1. Intake of fried & junk food via ties kapha and pitta ,leads to blood vitiation and acne formation
- 1.2. Night awakening.
- 1.3. Over use of cosmetics – direct impact on facial skin.
- 1.4. Stress & anxiety – leading to metabolism imbalance and produce toxins.
- 1.5. Physiological changes taking place during adolescence.
- 1.6. Excess intake of non- vegetarian food due to above reasons kapha,vatadosha vitiation of rakta and this cause constant irritation in the localized area like face ,neck, chest and back and multiple small lesions are manifested which are known as acne .

Treatment for acne

Morphology of leech —leech was first named by Linnaeus in 1758. There are

Two species of leech

- 1.1. Hirudo Medicinalis
- 1.2. Hirudo Mychaelseni

leech size varies among with families I.e. up to 20 cm in length Some leech such as Amazonian leech Haemenaria Ghiliani which is 50 cm in length Typically leech has Anterior & Posterior suckers leech breath through skin Leech Can suck 5-15ml blood during feeding

Application of leech therapy

1.1. Collection of leech

According to sushruta, Samhita leech should be collected from ponds or lakes. With the help of piece of wet leather. The best time for collection of leeches is autumn season. In autumn, water become hot during day time due to exposure to sun, cools in the night and is well detoxified. A popular method is collecting leeches in certain regions is by using a large tin can. The bait, a head of fish or piece of raw chicken is kept inside the can. The top of the can is crushed leaving the mouth opening of an inch or two wide. The can sunk in the water over night and pull out in the morning.

1.2. Selection of leech

Selection of leeches-According to Sustruta Samhita leeches who are having an expanded middle part of the body , ugly , flat and dull in movement , do not bite , they suck only a small quantity of blood . Poisonous leeches are not suitable for leech therapy. The leeches who are bulky, stout, fast blood suckers who move quickly live in fresh water and of non –poisonous varieties are suitable for application.

1.3. Storage

According to ayurveda collected leeches should be stored in new big wide pot containing clean water and mud from tanks or ponds. Powder of moss, dried meat and aquatic tubers should be given for feeding. Straw and aquatic plants should be provided for making their bed. Every three days water should be changed and pot should be changed weekly. Leech Store in dark place about temp 50°F or close to 40°F Never place them in direct sunlight.

1.4. Purification of leech for Application

Medical leech should be carefully identify and properly purified before using in bloodletting therapy. Various methods are practiced by different physicians to purify leeches. According to ayurveda, a paste prepared with mustard, turmeric and water should be applied on the body of the leech. They should then be kept in a vessel of water for about 48 minutes till they get rid of their exhaustion. Leeches should be purified by keeping them in medicated water. This may be prepared by (a)mixing turmeric powder with water (b) water in which uncooked rice is washed (c) butter milk for a short time. After purification, the leeches should be kept in pure water. At Ayurveda Teaching Hospital, Borelli, Sri Lanka, the purification of leeches is done by keeping them in medicated water for ten minutes. This medicated water is prepared by adding 2 gm of powder of dried rhizome of *Curcuma domestica* (Family: Zingiberaceae) to 100 ml of water. As turmeric powder is an effective antimicrobial agent, it may destroy the harmful bacteria in the leeches thus reducing the risk of infections.

1.5. Preparation of patient –

The patient's suggested to take heat wash for 3 days at home. On fourth day patient was given mild steam for the few minute to facilitate bloodletting- Patient's Face was then cleared by dry cotton to remove all greasiness over the face. After that patient was made Lie in Comfortable position

1.6. Procedure for applying leech

The area to be treated is thoroughly cleaned with warm water without applying soap or cleansers. The purified leeches are then applied to the selected area to suck vitiated blood. Once the leeches take hold, they are covered with wet cotton wool so as to facilitate the sucking of blood by keeping them cool and moist. it is mentioned that the physician can understand whether leeches are sucking blood by observing the elevation of middle portion of the leech's body. Sometimes leeches do not bite or start sucking blood. Then a drop of milk or blood should be applied to the site or scratching the site with a scalpel to bring out blood should be done to persuade the leech to suck blood. When the leeches have finished sucking blood, they will fall off. Sometimes pricking pain and itching may develop at the site of bite.

1.7. Care of Patient

After assessing amount of bleeding, the wounds should simply be anointed with ghee that has been washed one hundred times or should be compressed with gauze. Then, the wounds caused by the leeches are rubbed with bees' honey. Otherwise, cold water should be sprinkled over it or ingredients with the properties of astringent, sweet, greasy and cold paste should be applied over the wounds. Currently, the common practice in Sri Lankan Ayurveda hospitals is to treat these leech bites by applying turmeric powder with bees honey, powder or traditional Srilankan oil Seethodaka. After performing leech application, patient is made to rest.

Complications of leech therapy

- 1.1. Soreness after the bite but rarely happens
- 1.2. The histamine released by Leech may cause Allergic reactions
- 1.3. Biting scar may remain for weeks
- 1.4. Poisonous leech can cause Septicemias, Gastroenteritis etc.
- 1.5. Leech can be carrier of Infectious diseases

Side Effects of Leech Therapy:

- 1.1. Infection Leech for medical treatment , termed leech therapy ,may result in prolonged bleeding and bacterial infection
- 1.2. Anemia leech attach to mucus membrane and ingest blood. Thought leech infestation is uncommon , patients infected may develop severe anemia because of too much blood loss
- 1.3. Leech migration Medicinalis for medical treatment ,termed leech therapy , may result in prolonged bleeding and bacterial infection
- 1.4. Allergic reaction. A severe allergy is rare, but it's best to be on the lookout for symptoms, including: painful and persistent rash around the bite area. Swelling near the bite Dizziness.