



Case Study

INTRAMARGINAL EXCISION OF KELOID WITH APPLICATION OF *KSHARA TAILA*

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ABSTRACT

The destruction/ break/ rupture/ discontinuity of body/tissue/ part of body is called “*Vrana*”. The definition of *Granthi* is very well described by Acharya Vagbhata and Acharya Sushruta which seems to be more or less the same. According to Vagbhata, *Malas (Doshas)* of which *Kapha* being predominant, vitiating the *Medas* (fat), *Mamsa* (muscle) and *Asra* (blood) gets localised in these tissues and produce a round elevated growth, compact in nature which is called *Granthi*. Acharya Sushruta has explained that “the scars of a wound never disappear even after complete healing and its imprint persists lifelong and it is called *Vrana*. This phenomenon of *Vrana* is not only limited to cutaneous lesion but may also extend upto muscles blood vessels, ligaments, bones, joints, visceral organs and other vital parts of body. According to Sushruta, *Granthi* is a *Vrita* (round), *Unnata* (elevated), *Vigrathita* (hard) swelling by pathological involvement of *Mansa*, *Rakta* and *Meda*. Modern science compares *Vranagranthi* to keloid. It is a tumour arising from fibro proliferative disorders of the dermis. The main phenomenon is the excessive deposition of extracellular matrix proteins, which is composed by collagen fibres. It develops exclusively in humans. There is no proven, efficient treatment for keloid. This case study will lead to the development of new and improved keloid treatment methods.


INTRODUCTION

Keloids represents an overabundance of fibroplasia in the dermal healing process.^[1] Keloids rise above the skin level, but extend beyond the border of the original skin level as well, and often regress over time.^[2] Keloids occur after trauma to the skin and may be tender, pruritic, and cause a burning sensation. Men and women are equally affected. Genetically, the predilection to keloid formation appears to be autosomal dominant with incomplete penetration and variable expression. Keloids can result from surgery, burns, skin inflammation, acne, chickenpox, zoster, folliculitis, laceration, abrasion, tattoos, vaccinations, injections, insect bite, or ear piercing, or may arise spontaneously. Keloids tend to occur 3 months to years

after the initial insult, and even minor injuries can result in large lesions. They vary in size from a few millimeters to large, pedunculated lesions with a soft to rubbery or hard consistency.^[3]

While they project above surrounding skin, they rarely extend into underlying subcutaneous tissues. Certain body sites have a higher incidence of keloid formation, including the skin of the earlobe as well as the deltoid, presternal, and upper back regions.^[4] They rarely occur on eyelids, genitalia, palms, soles, or across joints. Keloids rarely involute spontaneously, and surgical intervention can lead to recurrence, often with a worse result.

Keloidal fibroblasts have a normal proliferation parameter but synthesize collagen at a rate 20 times greater than that observed in normal dermal fibroblasts, and 3 times higher than fibroblasts derived from HTS. Abnormal amounts of extracellular matrix such as fibronectin, elastin, and proteoglycans also are produced. The synthesis of fibronectin, which promotes clot generation, granulation tissue formation, and re-epithelialization, decrease during

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the normal healing process; however, production continues at high levels for months to years in keloids. This perturbed synthetic activity is mediated by altered growth factor expression. Keloid fibroblasts have enhanced expression of TGF-beta 1 and TGF-beta 2, VEGF, and plasminogen activator inhibitor-1 and an increased number of PDGF receptors; they also have upregulated antiapoptotic gene expression, which can be differentially expressed within different areas of the same scar. [5] The underlying mechanisms that cause keloids are not known. The immune system appears to be involved in the formation of keloids, although the exact relationship is unknown.

Ayurveda, the Indian system of medicine gives many answers of unresolved medical problems. Keloid can be correlated with the concept of *Vranagranthi* described in the distinguished classics of Ayurveda.

Acharya Vagbhata, in *Ashtanga Hridaya* and *Ashtanga samgraha*, has explained in detail about *Vranagranthi* (Keloids). [6]

Acharya Sushruta and Acharya Charaka have explained the aetiology and pathology of the same under the concept of *Granthi*. [7] Acharya Sharangdhara, in *Sharangdhara Samhita* has described *Vranagranthi* while explaining the concept of *Granthi*. [8]

MATERIALS AND METHODS

Case Report

A young male patient of age 23 years presented with complaints of swelling at chest region visited the Shalya tantra OPD of Rishikul campus, Uttarakhand Ayurved University. The growth was associated with occasional itching and pulling sensation in the adjoining muscle. A thorough history of the patient was taken and systemic as well as local examination was carried out by the treating physician.

The patient, a college student, who was normal six years back, is said to have noticed a swelling at sternal region of chest. The patient was not able to appreciate the gravity of the problem and neglected the scar tissue. After a few months, he noticed that there was an increase in the area of the scar tissue formed. As he noticed that the scar was increasing in size over time, he started to experience tightness in the region along with itching. For this he approached nearby hospital, where a clinical diagnosis of keloid was made and he was advised a course of injections with sclerosing agents. He had been administered a single-shot injection which was very distressing and patient discontinued it for the same reason. He then approached the OPD of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, for further evaluation and treatment.

History of Past illness: No history of any major illness/hospitalization.

Family History: No relevant Family history was found.

Treatment History: Took injection of sclerosing agents.

Surgical History: No relevant surgical history.

Personal History:

Diet	Mixed
Appetite	Normal
Bowel	Clear
Micturition	Normal, no burning sensation present
Thirst	Normal, 3-3.5 L/day
Sleep	Disturbed
Addiction	Smoking-3 cigarettes/day-from 6 years

Local Examination

1. Inspection

Site- Sternal region

Size- 5*2 cm

Colour- Dark brown

Surface- Smooth

Margins- Irregular

2. Palpation:

Temperature- Same as body temperature

Consistency- Firm

Tenderness- Not present

3. Percussion- N/A

4. Auscultation- N/A

Diagnostic Focus and Assessment

The case was diagnosed as that of *Vranagranthi* i.e., keloid and was thus endorsed clinically.

Therapeutic Focus and Assessment

Considering the limitations of medical intervention in the treatment of *Vranagranthi*, in present day, *Kshara taila* was applied after intramarginal excision of keloid. *Kshara* is known to be one of the effective para-surgical procedures described in the classics of Ayurveda.

Therapeutic Intervention

In this study, *Kshara taila* was used. Preparation of *Kshara taila* as per explained in *Bhaisajya Ratnavali*.

Method of Preparation of drug: *Shukti Bhasma*, *Shambook Bhasma*, *Shankha Bhasma*, *Shyonak Bhasma kshara*, *Patala Bhasma Kshara*, *Khar mutra*, mustard oil. Each drug taken in equal quantity of 40 grams and *Khar Mutra Bhavana* was given to form *Kalka*, then mustard oil 8 times of *Kalka* was added along with 10 litres of water. Then it was cooked on medium flame until the arrival of *Taila paka lakshana*.

Procedure**Fig-I: Before treatment****Fig-II: Intramarginal excision****Fig-III: After treatment with application of *Kshara taila*****Purva Karma**

- Inj. T.T.-0.5ml IM
- Inj. lignocaine sensitivity 2%-0.5ml SC
- Inj. Amikacin 500mg IV
- Inj. Pantop 40mg IV
- Inj. Periset 4mg IV

Pradhan Karma

- The patient was allowed to lie down in supine position.
- Proper cleaning using 5% betadine solution was done followed by draping.
- Local anesthesia was injected at the site.
- Keloid was cut using monopolar electrocautery leaving the margins behind.
- Then, *Kshara taila* was applied and dressing was applied.

Paschat Karma

- Patient was instructed to apply *Kshara taila* at the affected site regularly twice a day till complete healing.

DISCUSSION

Keloid scar is a dermal benign fibroproliferative growth that extends beyond the original wound edges and invades the adjacent normal dermis. Furthermore, once this scar happens the regression is very rare. Keloid scarring appears as fixed, irregular, mildly tender and pink to purple in colour with well circumscribed margins and a shiny

surface with occasional telangiectasia. Keloid is classified as dermal benign growth, it behaves like malignant cells in term of invasion and demonstrate biological features similar to malignant tumor cells, including hyper-proliferation. In this case, keloid was removed using monopolar electrocautery and margins were saved in order to prevent its growth. There are several contents in *Kshara taila* which have their own pharmacological actions like *Shukti* have calcium carbonate, phosphate, sulphate of calcium and magnesium, oxide of iron, aluminium and silicon. It has anti-inflammatory, analgesic and anti-microbial effect. *Shambook* have calcium carbonate and magnesium oxide- it has anti-inflammatory, analgesic and antimicrobial properties. calcium carbonate has anti-spasmodic, anti-inflammatory, anti-oxidant and anti-microbial effect. *Shyonak* have baicalein, flavonoids, caprylic, lauric, linoleic, myristic, oleic, palmitic, emodin, baicalein-7-glucuronide, scutellarein-7-glucuronide, sitosterol. It has Anti-inflammatory, Spasmogenic and Anti-fungal activity. *Patala* have lapachol, stereolensin, 7-glucuronide, 6-glucosylalyleuteolin, Scutellarein, sitosterol, n-triacontanol, dehydroctol, ceryl alcohol, oleic, palmitic and stearic acids. It has anti-inflammatory, anticancer activity. *Khar mutra* is effective antibacterial, antifungal, and antiviral. Mustard oil has sulpho cyanide of allyl, traces of carbon sulphide, sinapinic acid, sinapic acid ethyl ester, crinosterol, campesterol, daucosterol. It has analgesic, anti-inflammatory, anti-microbial and anti-pruritic activity.

CONCLUSION

Keloid is defined as excessive abnormally stretched (type III) collagen tissue bundles arranged with aligning in the same plane as the epidermis but extend beyond the original scar margin. Often it is familial. There are many treatment modalities like-intrakeloid triamcinolone injections at regular intervals, intralesional excision, silicone gel sheeting, laser therapy, steroid, excision and skin grafting etc. but the recurrence rate with these are very high about 50%. Utilising *Kshara taila* in conjunction with intramarginal keloid excision produced positive outcomes because *Kshara taila's* anti-inflammatory, anti-cancer, and anti-oxidant qualities prevent keloid growth beyond its boundaries and show promise in treating symptoms like itching and inhibiting future growth.

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