Concepts of Parasurgical procedure in treatment of eye disease:

An Ayurvedic discussion.

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Abstract:
The parasurgical procedures have been given special place in shastrakarma by Acharya Sushruta & these procedures are more helpful and effective where medicine or surgery will not give those results what we expect. As we all know the father of surgery Acharya Sushruta has described parasurgical procedures are Agni Karma, Kshara karma Raktamokshana are amongst these parasurgical procedures. In modern science it is used as heat cauterization,alkali burn and bloodletting. This article deals with various aspects of parasurgical process and its use in presentcontext.

Keyword:
Parasurgical process, Agnikarma, Kshara karma, Raktamokshana, Cauterization, Blood Letting.

Introduction:
In Indian system of ayurveda medicine, Acharya Sushruta explained parasurgical procedures are Bheshaja Karma (Medicinal use), Kshara karma (Chemical cauterization), Agni Karma (Heat cauterization) and Raktamokshana (Bloodletting) etc. parasurgical procedures explain to treat eye diseases like pakshmakopa,puyalasa, Abhisyanda and Adhimantha etc. The true meaning of this article to discuss the various basic concepts of para-surgical to treat eye diseases.

In modern science surgeons get trained in various techniques and now a days equipments become more advance but the basic principle are already explained very earlier in ayurveda in vedic era. The procedures like heat cauterization and
chemical burn used to remove the affected tissue from infectious area to prevent spread of organisms. Bloodletting procedure to wash out impure blood and increase immunity against infective foci.

Indications when to perform parasurgical procedures

- The disease contraindicated for surgery
- The patent is in balyavastha, or very stressed for any procedure
- Surgical instruments are not available
- Possible treatment without surgical treatment

Materials and Methods:

All the references of para-surgical procedures are collected and complied from Sushruta Samhita and other Ayurvedic Scriptures, research papers and Journals of Ayurveda.

Acharya Sushruta described yantra in sutrasthana along with upyantra and Anushastra. Agni, Kshara and Raktamokshana by jaluka are described under upyantra as well as anushastra.

Aims and Objectives:

Aims- To discuss the concept of the parasurgical procedures in eye diseases.

Objectives-

To understand the concept of parasurgical procedures in treatment of eye diseases.

To elaborate the ancient science and it's effects which replicate also in modern science.

Agnikarma and Ksarakarma

Agnikarma will cure the otherwise incurable conditions with medicines, or surgery. The diseases cured by Agnikarma will not reoccur.

Type of Agnidagdha

- Twak dagdha: Burning up to skin level
- Mansa dagdha: Burning deeper into muscle tissues
- Sira Snayu Sandhi Asthi dagdha: Burning much deeper up to bones.

Indications of agni karma in netra roga

- Vartmagata roga (Disease of eyelids): Krichronmila (difficulty in opening of eyes), lagana (cystic swelling), Arbuda (Tumor), and Paksmoparodha (Misalignment of eyelashes)
- Sandhigata roga( Disease of various junction of eyes): Puyalsa, Alaji (Dacrocystitis)
- Sarvagata roga (Disease of all part of eyes): Abhisyanda (Conjunctivitis) and Adhimantha of Vataja type. (Painful condition of eyes).

In the diseases of eye lids and eye lashes

Eye should be covered by wet gauze piece and the root of eye lashes in the lid margin should be burnt. Instruments like Jambavosta, needle or shalaka should be
used for *agnikarma*. By dipping in heated liquids like honey, beewax, jaggery or other oily substances, the diseases of *vartma*, *upapakshma*, *lagana* and *linganasha* should be burnt. The burning should be as deep as the blood vessels.

**Kricronmela** (difficulty in opening of eyes): The treatment with *snigdha nasya*, *dhuma*, *anjana*, *tarpana*, *putpaka*, *basti* and *sweda* should be done initially. If it does not respond to these measures *agnikarma* should be done by touching the hot needle in row. The gap between one burn to the another should be the size of green gram. The *bindu* type of *agnikarma* should be done only upto the level of skin.

**Bisa vartma, Slista vartma** (Porous edema of lids) is not treated with *lekhna karma* then use of *Agni* and *Kshara* is mentioned by Vaghabhatta.

**Paksmakopa** (Misalignment of eyelashes) if other treatment measures are not useful, then the eyelid should be everted and the fold affected with the *dosha* should be burnt. In *bisa vartma*, *slista vartma* and *paksmakopa*.

**Paksmoporodha** (Misalignment of eyelashes)-Affected lid should be everted; *lekhana* and *pratisharana* should be done. If it does not respond, then it should be burnt with a hot needle or *shalaka yantra*.

**Upapaksma** (Extra row of eyelashes): Second row of eye lashes should be pasted with *laksha rasa*. Lifted with *sandamsa yantra*. A fine needle is heated red hot and the *romakupas* should be burnt with it. Later *parisheka* and *nasya karma* is done.

**Bahya Alaji** (Cystic swelling): *Agnikarma* should be done and treated like a burnt wound.

**Lagana** (Cystic swelling): If *Pratisarana* and *anjana* is not responding then *agnikarma* is the choice of treatment.

**Abhisyanda and Adhimantha** (Conjunctivitis and painful condition of eyes): *Agnikarma* should be done above the eyebrows, as a last measure. *Agnikarma* should be done only in *vataja* type of *abhisyanda* and *adhimantha*.

**Puyalasa** (Acute Dacrocystitis): if the disease is recurring after all the treatment measures, than *agnikarma* should be done with the help of fine needle.

**Kshara Karma**
*Kshara karma* is important among all the parasurgical procedures, due to its advantage of destroying *tridoshaja* disorders by excision and scraping action. It is effective in eye lid diseases like *lagana*, *arsho vartma*, *shushka arshas*, *vartmarbuda*, *pakshmakopa*, and *upapakshamala*.

Different *Kshara* is used in different disease-  
**Lagana** (Cyst) - *Yavakshar, Tuttha, Gorochana, Pippali* with honey  
**Arsho vartma, Shuskarsha**, (Trachoma) -  
*Eranda bija majja* or *vibhitaki kshara* with honey  
**Pakshmakopa, Upapakshma mala** (Misalignment of eyelashes) - *Gunja kshara* mixed with honey.

**Raktamoksana**
*Raktamoksana* is an important therapeutic procedure in *Shalya tantra*. It prevents skin diseases, swollen glands, general swelling and diseases of the blood, if done at regular
intervals. Sira vyadha and jaloukavcharan are useful in eye diseases.

**Best time for raktamoksana**
- Cloudless day in rainy season
- Cool day in summer
- Noon in winter

**Indications**
Following eye diseases are treated with Raktamoksana:
- Puyalasa (Acute dacrocystitis)
- Complicated condition of Arma (Pterygium)
- Savarna sukla (Corneal ulcer)
- Pittaj timira (Painless loss of vision e.g. Hemorrhagic retinopathy)
- Kaphaja timira (Painless loss of vision e.g. Macular oedema)
- Abhisyanda of all type (Conjunctivitis)
- Adhimantha of all type (Painful condition of eyes like congestive glaucoma, Uveitis)

**Contraindications**
- Very young, old, emaciated, exhausted
- Suffering from high fever, convulsions or unconscious patients
- General swelling in whole body
- Wasting due to unhealthy diet
- Anemia
- Piles
- Pregnant woman

**Site of Raktamokshan in eye diseases**
- Frontal area
- Outer canthus or inner canthus

**Procedure**
To open the veins in the head and neck, the patient is asked to put his fists on his neck and an assistant then puts a bandage around the neck and fists, and pull on it to make the vein stand out. Patient is then asked to blow out with his mouth closed.

- In Puyalasa: Siromoksana should be done followed by upnaha and other measures mentioned for akshipaka
- In Savrana sukla: first sarpipana than later siromoksana is done, followed by jaloukavcharana, if remnants are not cleared.
- In Pittaja timira: After sarpipana, sira vyadh is done.
- In Kaphaja timira: After sarpipana, sira vyadh is done.
- In Vataja abhisya and: Sira mokshan is done when pain is not subsided
- In Pittaja and Kaphaja abhisyand: firstly Ghritpan than Sira vyadh is done.
- In Raktaja abhisyand: Repeated Shiravydhya is done. Jaloukavcharan is also useful.
- In chronic diseases of eye (Pilla rog): Shiravydhya and virechan is done for completerecovery.
- In Pothaki: Jaloukavcharan is recommended.

**Probable mode of action of agni karma**
The local thermo therapy may increase tissue metabolism which may leads to excretion of the unwanted metabolites and toxins. Heat may stimulate lateral spinothalamic tract (SST) which leads stimulation of descending pain inhibitory fibre (DPT) which release of endogenous opioid peptide which binds with opioid receptors at substantia gelatinosa rolandi which inhibit release of P-substance (Pre-synaptic inhibition) and blockade of transmission pain sensation occurs.
Probable mode of action of kshara karma
Kshara has shodhana, ropana, shoshana, stambhan, vilyana and lekhana properties. Shodhana property helps in elimination or expulsion of unwanted and harmful substance from the wound. It helps in desquamation of sloughs (debridement) and draining of pus. Ropana property helps in healing of wound due to anti-septic action of kshara. Shoshana property helps in drying up and absorption of mucus discharge that gets collected in ulcer bed promoting the granulation. Stambhan property of kshara helps contraction of opposing edges of ulcer to promote healing and vilyana property cause liquefaction and dissolving of localized unhealthy tissue. Hence by all these properties of kshara, healing property becomes faster.

Probable mode of action of raktamokshana karma Raktamokshana removes vitiated doshas which cause the aliment. This modality falls under purificatory therapies, which cleanse the body and helps in maintenance of health.

Discussion:
Disease which is not curable by Bhesaja, Shastra, Ksarakarma in that place Agnikarma plays major role to cure those disease. Agnikarma is one of the methods to control Haemorrhage when other procedure is failed and also agni has prime role for sterilization. Dalhana has mentioned Agnitapta sastra prevent sepsis in surgical procedure. Agnikarma is also useful after Sastra karma to avoid recurrance. Vata kapahaja vyadhisare best managed by this as vata and kapha possess sheeta guna, for this to neutralize the vata and kapha dosha require opposite guna treatment that is ushna chikitsa, ushna guna and agni having anyonyasritabhava, hence agnikarma virtue of its ushna, tikshna

sukshma and laghu property breaks srotovarodha, which produced by vata and kapha dosha. Thus nirama kapha and vata dosha are neutralized. it also acts like a dosha dushya vighatana karaka because ushna guna performs two functions. Firstly by stimulating i.e. utkleshana of dhatura agni and due to this action sama dhathu (localized ama) is digested and secondly ushna guna dilated the channels of srotas. Due to this srotovarodha removed (clearing the respective srota channel), which was formed by dosha – dushya samurchana in khavaigunya at dhathu (tissue).

Conclusion:
Its applications are widely practiced in modern surgical practice-viz cauterization, laser, radiation etc. Acharya Sushruta has advocated five Upakarma for the management of Sira, out of them Agnikarma is the best one. It is an ambulatory treatment modality and affordable to the common man. It deals with the action of thermal energy in the human body. It is a potent and minimally invasive para surgical procedure which has wide application in pain, recurrent occurrence and in unwanted growth conditions. Even today we can practice safely with all precaution in case of recurrent Trichiasis, and for same management in chronic glaucoma. It is hypothetically stated that it is probably capable to break down various cycles of painful adhesions. For this
final conclusion more clinical research will be necessary (such as animal experiment).

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