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(A Peer-Reviewed International Journal)

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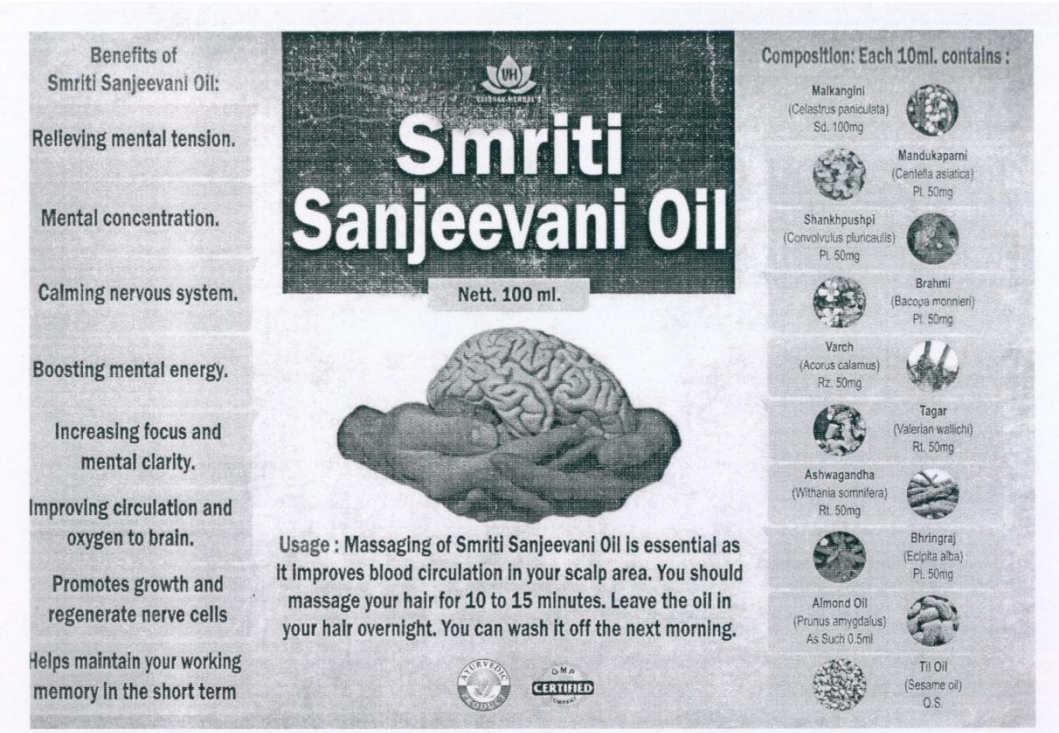
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EDITORIAL

During the 16th National Conference at the Department of Sangyaharan, I.M.S., B.H.U., Varanasi on 17-19th January 2014 at the occasion of celebration of Foudation Day of Department of Sangyaharan the august gathering discussed about the need of Integration of Ayurved with other system of medicine. Resolutions was made and send to the Government of India as well as to the state Governments to proceed for Act Amendment, so that integration of different system of medicine can be implemented in every state and can be practiced by practitioners of each system of medicine.

This year we are celebrating Centenary Year of Banaras Hindu University.Bharat Ratna Pt. Madan Mohan Malviya ji founded Ayurvedic College in the Campus of Banaras Hindu University with following Goal:

- Of the Upavedas, particular attention will be bestowed on the Ayurved.It will be brought up-to-date by the encorporation of the result achieved by other nations in anatomy, physiology, surgery and other department of the medical sciences.
- The ultimate aim of this department will be to provide the whole country with Vaidyas well qualified both as Physician and surgeon.
- Botanical garden will be maintained for the culture of herbs and roots for medical use , Vegetables and Plants for study of fibres, dyes and tans.
- There will be laboratories for teaching and preparation of Rasas, tail, Aswas and other medicines and for carrying on original investigation and experiments.

Eminent graduates and licentiates in European medicine and surgery will be employed to give instruction and training to the students of Ayurved and to help the Vaidyas in preparing works in Sanskrit and Indian vernaculars on Anatamy, Physiology, Surgery, Hygiene and other sciences auxiliary to the Ayurved. (History of the B.H.U., page 66, page125.)**.**

.**Bharat Ratna Pt. Madan Mohan Malviya dreamed Ayurved as a total health system.**

At the occasion of All Indea Ayurvedic Conference Jaipur-1926, Pt.Madan Mohan Malviya ji in his Presidential Speech , addressed about origin of Ayurved, Principles of Ayurved, Swasthvrit, Rsayan etc.He dreamed an Ayurvedic college with-

- A fully equipped Astang Ayurved.
- A research department
- Aushadhalaya
- Ayurvedic journal
- Fresh vegetable drug house
- Sanshodhan Section
- Nursing house

Since my entry in the Department of Shalya Shalakya and opting Sangyaharan as my favored discipline I honestly try my lebel best to follow Malviyaji and to streghthen the surgical discipline by means of stenghthening Sangyaharan. But some of our own disciple and other forces are trying to damage the dream of Bharat Ratna Pt. Madan Mohan Malviya ji.

At the occasion of centenary year of Banaras Hindu University I pray to theDepartment of AYUSH, Govt. of India to create a separate Councile for integrated practitioner so that the question raised by our judiciary regarding cross pactice be answered.Either the namanclature of our Council –C.C.I.M. may be changed as "Centaral Councile of Integrated Medicine". It will serve the longstanding demand and dream of Malviya ji.

JAI HIND JAI SANGYAHARAN JAY AYURVED

Devendra Nath Pande
Chief Editor, Professor & Founder Head, Deptt. of Sangyaharan,
I.M.S., B.H.U., Varanasi.

EFFECT OF UTTAR BASTI WITH BILVA, ARKA AND VASA OIL IN ATYARTAVA

Dr. Shipra* Prof. Neelam**

Abstract: Atyartava (excessive and prolonged bleeding per vagina) may alter the health of woman and causes many complications, so there is a great need to improve her healthy status. The purpose of the present clinical study is to stop excessive bleeding, restore healthy status and prevent complications of such women. The study was conducted on patients of outdoor of the Ayurvedic wing of Sir Sunderlal Hospital, IMS, BHU, in the Department of Prasuti Tantra. Bilva, Arka, and Vasa sidhha Tila taila uttarbasti were given to the patients and found that it helps in decreasing excessive and prolonged bleeding during menstruation along with preventing their complications without taking any striptic drug.

Keywords: Atyartava, Uttarbasti.

Introduction: Amongst various menstrual disorders seen by gynaecologists in day to day practice, excessive and prolonged bleeding per vagina is more common which affect the health of women from menarche to menopause. In Ayurveda, 'Atyaartava' word is used for the excessive menstrual bleeding and is mainly caused by vitiated vata and pitta. Atyaartava is not a disease but is a symptom of many diseases like pittaj, ratkayoni and lohitkshara yonivyapada, kunapgandhi artavadusti, vikuta jataharini and asrigdara. According to modern literature excessive menstrual bleeding is described as Menorrhagia. Menorrhagia is cyclical bleeding at normal intervals which is excessive in amount or duration, for example 5/28 or 8/28. Clinically, menorrhagia is defined as total blood loss exceeding 80 ml per cycle or menses lasting longer than 7 days which deteriorates the health of women and may cause weakness, giddiness, faintness, anaemia like many complications and so there is a great need to improve her healthy status. The purpose of present study was to stop excessive bleeding, restore her healthy status & prevent complications.

All types of yonirogas are caused by vitiation of vata dosha alone or predominancy of vata dosha. Acharya Charaka mentioned that, no any disease of female genital tract occur without vitiation of vata dosha.

नहि वाताÐते योनिर्नारीणां संप्रदुष्यति । (Ch. Chi 39/114)

To subside vitiated vata dosha no any treatment will be beneficial except basti karma.

तस्यातिवृध्दस्य × ामाय नान्यद्वस्ति विना भेषजमस्ति किंचित् । (Ch. Si. 1/39)

Uttarbasti is a unique panchkarma procedure that pacifies vitiated vata, so it is the best treatment for all types of yonirogas.

The **aim of the study** is to evaluate the effect of Uttarbasti with Bilva, Arka and Vasa oil in Atyaartava.

***Senior Resident, PhD Scholar, ** Professor, Deptt. Of Prasuti Tantra, Fac. Of Ayurved, BHU.**

1. Review of literature: All available Ayurvedic classics, modern texts, magazines, journals, M.D dissertations, and research papers were referred to the complete review.
2. Drug review: For this study Bilva (Aegle marmelos), Arka (Calotropis procera), Vasa (Adhatoda vasica), and Tila (Sesamum indicum) are used, which have Kapha-Vata Shamaka,, Kapha-Pitta Shamaka and Tridosha Shamaka properties respectively. All drugs are working by their rasa, guna, virya, vipaka and prabhava.
3. Clinical study: It is discussed under two headings-

(A)Material and Methods

Criteria for selection of drugs: The drugs having properties to pacify the vitiated vata and pitta along with astringent property or able to control bleeding would show beneficial result in Atyaartava. According to Ayurvedic literature, Bilva, Arka and Vasa have Tikta-Kashay, Katu-Tikta and Tikta-Kashay rasa properties respectively, sufficient to pacify the vitiated vata and pitta. Samgrahi and raktapittahara properties of Bilva and Vasa can produce beneficial effect in Atyaartava. The property ushna virya and lekhana karma of Arka responsible for endometrial thinning when applied locally. Due to endometrial thinning, bleeding surface area of endometrium decreases resulting decrease in amount and duration of blood loss during menstruation. Tila taila used as media and has yogvahi and tridosha-shamaka property.

Selection of Cases: Patients coming to the outpatient department of Prasuti Tantra, S.S. Hospital, B.H.U., and Varanasi with complaints of excessive bleeding either in amount or duration or both during menstruation for at least 3 consecutive cycles were randomly selected for the present study.

Inclusion Criteria: Married women of age group 20-40 years who were ready for necessary investigations and agreed to come for follow up regularly.

Exclusion criteria:

(a) Unmarried. ,Women <20 years and >40 years age,Patient using any contraceptive method, Patients with any chronic diseases, organic lesion of reproductive system, Patients giving history of recent delivery or abortion.

Grouping of Cases: After detailed history, complete examination and investigations 40 cases were selected and divided into two groups according to the different treatment schedule.

Table 1: Showing groups of the patient according to the treatment

S. No.	Group	Drug	Dose	Duration
1	Group A (n=20)	Bilva, Arka and Vasa churna	3gm churna oral	Twice daily for 3 months continuously
2.	Group B (n=20)	Uttarbasti with medicated oil (Bilva, Arka and, Vasa siddha Tila taila)	3ml oil Intrauterine	On 9^{th} , 10^{th} and 11^{th} day of menstrual cycle for 3 consecutive cycles

Procudure: In aseptic condition and lithotomy position of patient, 3 ml autoclaved medicated oil was loaded in 5ml disposable syringe. With the help of EB canula and oil loaded disposable syringe, oil was pushed slowly inside the uterine cavity over 10-15 minutes. Patients were called for Uttarbasti on 9^{th} ,10^{th},11^{th} day of menstrul cycle with light diet in morning.

Follow-up: Total four follow-ups were done at a regular interval of one month. *Uttarbasti* was given for 3 consecutive follow-ups and during 4^{th} follow up *uttarbasti* was not given. During each follow-up change in following parameters were observed and noted:

- Amount of menstrual blood loss
- Duration of menstrual blood loss
- Association of associated complaints

(B)Observations and Results:

Table 2: Showing change in amount of menstrual blood loss at different follow-ups in both the groups

Amount of menstrual blood loss		Follow-ups									
		Initial		1^{st} FU		2^{nd} FU		3^{rd} FU		4^{th} FU	
		No.	%	No.	%	No.	%	No.	%	No.	%
Average	Group A	0	0	0	0	4	20	10	50	3	15
	Group B	0	0	0	0	3	15	11	55	15	75
Mod. excessive	Group A	1	5	4	20	9	45	9	45	3	15
	Group B	1	5	1	5	8	40	9	45	4	20
Excessive	Group A	12	60	11	55	6	30	1	5	8	40
	Group B	9	45	10	50	8	40	0	0	1	5
Very excessive	Group A	7	35	5	25	1	5	0	0	6	30
	Group B	10	50	9	45	1	5	0	0	0	0

Table 3: Showing comparison of amount of menstrual blood loss between initial and different follow-ups in both the groups

Values	Groups	In. v/s 1st FU	In. v/s 2nd FU	In. v/s 3rd FU	In. v/s 4th FU
Z	Group A	1.63	3.39	3.94	1.90
	Group B	1.00	3.50	4.02	3.95
P	Group A	>0.05 N.S.	<0.01 H.S.	<0.001 H.S.	>0.05 N.S.
	Group B	>0.05 N.S.	<0.001 H.S.	<0.001 H.S.	<0.001 H.S.

Table 4: Showing comparison of amount of menstrual blood loss in subsequent follow-ups in group A & B

Comparison	Initial	1st FU	2nd FU	3rd FU	4th FU
Group A v/s Group B	0.95 p>0.05 N.S.	2.99 p>0.05 N.S.	0.48 p>0.05 N.S.	1.04 p>0.05 N.S.	19.58 P<0.001 H.S.

Table 5: Showing change in duration of menstrual blood loss at different follow-ups in both the groups

Duration of menstrual blood loss		Follow-ups									
		Initial		1st FU		2nd FU		3rd FU		4th FU	
		No.	%	No.	%	No.	%	No.	%	No.	%
Normal	Group A	0	0	0	0	1	5	3	15	4	20
	Group B	0	0	0	0	1	5	14	70	17	85
Mod. prolonged	Group A	2	10	4	20	9	45	15	75	5	25
	Group B	1	5	1	5	9	45	3	15	2	10
Prolonged	Group A	7	35	11	55	9	45	2	10	7	35
	Group B	9	45	11	55	9	45	3	15	1	5
Very prolonged	Group A	11	55	5	25	1	5	0	0	4	20
	Group B	10	50	8	40	1	5	0	0	0	0

Table 6: Showing comparison of duration of menstrual blood loss between initial and different follow-ups in both the groups

Values	Groups	In. v/s 1st FU	In. v/s 2nd FU	In. v/s 3rd FU	In. v/s 4th FU
Z	Group A	2.27	3.63	3.92	2.81
	Group B	1.41	3.42	4.03	4.02
P	Group A	<0.05 S.	<0.001 H.S.	<0.001 H.S.	<0.01H.S.
	Group B	>0.05 N.S.	<0.01 H.S.	<0.001 H.S.	<0.001 H.S.

Table 7: Showing comparison of duration of menstrual blood loss in subsequent follow-ups in group A & B

Comparison	Initial	1st FU	2nd FU	3rd FU	4th FU
Group A v/s Group B	0.63 p>0.05 N.S.	2.49 p>0.05 N.S.	0.00 p>0.05 N.S.	15.31 p<0.001 H.S.	17.83 p<0.001 H.S.

Result: Table 8: Showing results in total cases and both the groups

Results	Total cases n=40		Group A n=20		Group B n=20		χ^2 Group A v/s Group B
	No.	%	No.	%	No.	%	
Cured	19	47.5	4	20	15	75	16 p < 0.001 H.S.
Improved	6	15	4	20	2	10	
Partially improved	10	25	7	35	3	15	
Unchanged	5	12.5	5	25	0	0	

4. **Discussion:** As evident from table 8 that cured, improved, partially improved and unchanged results were seen in 47.5%, 15%, 25% and 12.5% cases respectively. In group A cured was seen only in 20%, while it was 75% in group B. Improved was also seen in 20% cases of group A, while it was 10% cases of group B. Partially improved and unchanged rate was higher in group A in comparison to group B. On comparison group B shows highly significant result than group A. That is group B shows better result than group A.

In both the groups the drugs given was same but there was difference in procedure. In group A Bilva, Arka and Vasa churna was given orally. The oral ingestion of drugs is the oldest and commonest mode of drug administration but its action is slower. The other facts that some of the drug get destroyed by digestive juices or in liver as they are absorbed in the digestive system and after that goes to circulation then distributed all over the body, including the site of action. So bioavailability of oral drugs is less.

But in group B uttarbasti Bilva, Arka and Vasa oil was given which acts directly on endometrium. Uttarbasti is the topical route of drug administration which is often more convenient as well as encouraging to the patient. Here in uttarbasti drugs are acting directly on endometrium and absorbed by the arterial wall of the endometrium.

5. Summary and Conclusion: Due to the properties of Bilva, Arka and Vasa sufficient to pacify the vitiated vata and pitta and show good results in Atyaartava.

1. Uttarbasti with Bilva, Arka and Vasa siddha Tila tail gives better results than Bilva, Arka and Vasa churna by controlling amount of menstrual blood, reduction in duration of menstrual period, relief in pain and associated symptoms. So, Group B gives better results than group A.

2. In uttarbasti drugs are acting directly on the endometrium and absorbed by the arterial wall of the endometrium alongwith pacify the vata dosha. Further by normalization of vata dosha (generally refers to nervous system), the influence of hypothalamus and the sensory inputs of central nervous system whicsh are governing normal menstrual cycle become normal.

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A Study of Vacha Rhizome *(Acorus calamus* Linn.)

(Research Article)

*** Dr. Jasmeet Singh ** Dr. S. J. Gupta *** Prof. A. K. Singh*****

Abstract: *Medhya Rasayanas* are group of medicinal plants described in Ayurveda (Indian system of medicine) with multi-fold benefits, specifically to improve memory and intellect by Prabhava (specific action). Medha means intellect and/or retention and Rasayana means therapeutic procedure or preparation that on regular practice will boost nourishment, health, memory, intellect, immunity and hence longevity. Yet Vacha *(Acorus calamus)* is not enumerated as medhya rasayana context in Charaka Samhita but this drug has been used with same aim are mentioned elsewhere in the Ayurveda classical textbooks. Charaka has been mentioned Vacha as *Virechana dravya* (su.2/8); *Shirovirechana dravya* (vi 8/158); *Lekhaniya, Triptighna, Arshoghna, Asthapanopaga, Shitprashmana, Sangyasthapana* mahakashaya (su. 4/3,11,12,25,42,48). It is used either in poly-herbal preparations or alone. This herb acts on the basis of antioxidant, adaptogenic or essential trace elements present in them work as *Medhya* and cures *Apasmara, Unmada, Smriti daurabalya.* Morphological and anatomical characters play a vital role in crude drug standardization. However, a proper documentation of *Vacha* is lacking and many times adulterants and sub slandered quality are passed. In present study, the *Vacha rhizome* has been selected for the standardization due to its highly medicinal importance. This paper is an attempt to present update on this drug.

Keywords: *Acorus calamus, Medhya rasayan, Apasmara, Unmada, Smriti daurabalya.*

Introduction: Vacha (botanically recognized as *Acorus calamus* Linn.) is among the rare treatments that finds mention inside the Vedas. Later day's Acharyas worked well on not only with the nervous system and the brain but also to additional parts of the entire body. It has been described for used in Indian and Chinese system of medicine for hundreds of years to cure diseases especially the central nervous system (CNS) abnormalities. In Sanskrit literally means of Vacha 'speaking' as use for clearing of Voice and probably to treat diseases of the nervous system, anti-stuttering drug and other mental disorders. It is demonstrated that it has a strong psycho-pharmacological solutions, which has a favourable impact on the memory as well as the learning process.

Vacha are a herb of choice for use in the case of loud eructation. The powder of vacha and white sandal makes a very effective face-pack in the treatment of blemishes and pimples. In many Indian homes customarily, vacha is administered with honey in a minute quantity to infants on the 11th and 21st days of birth This is also use for Swarnprasana Samskara in South India on Pushya nakshtra up-to age of 16yrs. It is believed that this practice helps the child to be mentally active and vocal.

***Singh Jasmeet, Curator, ***Singh A.K., Professor & Head, Dept. of Dravyaguna,**
****Gupta S.J., Asso. Professor, Dept. of Shalya Tantra, I.M.S., B.H.U., Varanasi.**
I.M.S., B.H.U., Varanasi.

Common Names :*Acore olorant, Acorus calamus, Acorus americanus, Acorus gramineus,* Calamus Root, Cálamo, Cinnamon Sedge, Flag Root, Gladdon, Grass-Leaf Sweetflag, Kalmus, Muskrat Root, Myrtle Flag, Myrtle Grass, Myrtle Sedge, Myrtle Sweet Cinnamon, Singer's, Root, Sweet Calamus, Sweet Calomel, Sweet Cane, Sweet Flag, Sweet Grass, Sweet Myrtle, Sweet Root, Sweet Rush, Sweet Sedge, Vachha, Vach, Vaj, Vacha, Bach, Ugragandha, Golomi, Jatila, Shatgrandhi, Sataparvita.

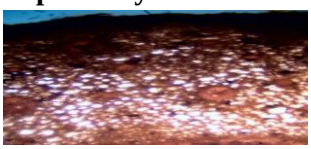
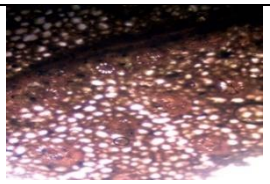
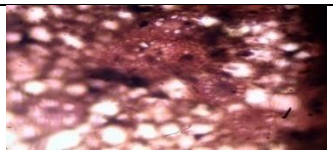
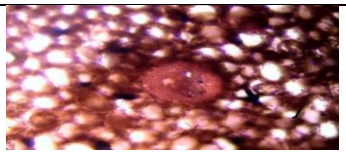
PLANT DESCRIPTION



Vacha consists of dried rhizome *(Acorus calamus* Linn.*)* of Araceae family is a semi-aquatic, semi-evergreen perennial, aromatic herb with its scented rhizome being horizontal, rounded, vertically compressed, spongy, ginger-like base that spreads straight into the soil and leaves grass like and arching tapered reed-like sword shaped; minute yellow-green flowers; wild or cultivated grown in throughout India in marshy areas up-to 1800m above than sea level in the Himalayas.

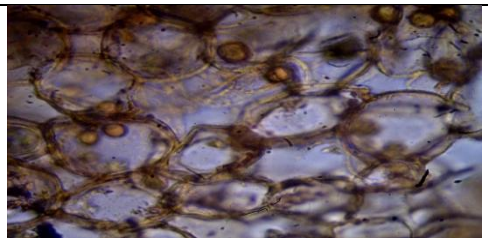
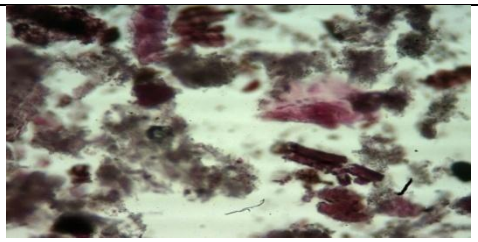
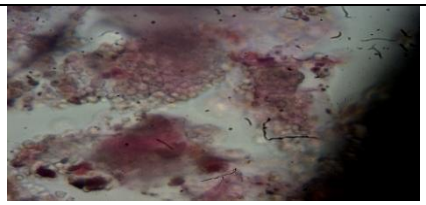
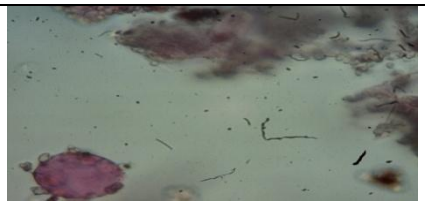
a) Macroscopic study of rhizome of Vacha:

Drug occurs in simple or rarely with thumb-like branches at nodes; sub cylindrical to slightly flattened, somewhat tortuous or rarely straight, cut pieces of 1-5 cm long, and 0.5-1.5 cm thick; upper side marked with alternately arranged, large, broadly, triangular, transverse leaf scars which almost encircle the rhizome; at nodes leaf sheath mostly having an appearance present; lower side shows elevated tubercular spots of root scars; light-brown with reddish-tinge to pinkish externally, buff coloured internally; fracture, short; odour, aromatic; taste, pungent and bitter.

b) Microscopic study of rhizome of Vacha: 	
TS of Rhizome Peripheral region 4x	TS of Rhizome Central region 4x
	
Vascular bundle of Peripheral region 20x	Vascular bundle of Central region 20x

TS of rhizome shows single layered epidermis; cortex composed of spherical to oblong, thin-walled cells of various sizes, cells towards periphery, smaller, somewhat collenchymatous, more or less closely arranged cells towards inner side, rounded and form a network of chains of single row of cells, enclosing large air spaces, fibro-vascular bundles and secretory cells having light yellowish-brown contents, present in this region; endodermis distinct; stele composed of round, parenchymatous cells enclosing large air spaces similar to those of cortex and several concentric vascular bundles arranged in a ring towards endodermis, a few vascular bundles scattered in ground tissues; starch grains simple, spherical, measuring 3-6 µ in dia., present in cortex and ground tissue.

c) Microscopic study of rhizome powder of Vacha

	
Oil globule in ground tissue	Powder microscopy 20x
	
Starch grains 40x	Secretory cells having contents 40x

POWDER - Buff coloured, thin walled round and oval parenchyma cells, with brown oleo-resin content, thin walled polygonal cells with beaded appearance on the cell wall, spherical oil cells with yellowish content, round starch grains, pitted walled fibres and simple, scalariform pitted vessels.

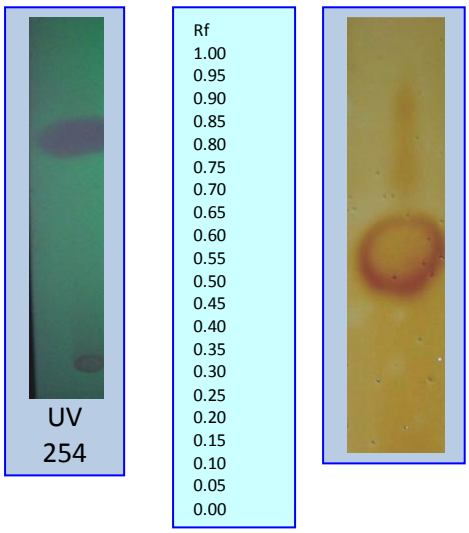
Table-1, IDENTITY, PURITY AND STRENGTH

Parameter	**Results**
Foreign matter	1 %
Moisture content	3.5 %
Total ash	7.8 %
Acid – insoluble ash	1.6%
Sulphated ash	8.4%
Alcohol – soluble extractive	8.5%
Water – soluble extractive	18.8%

Table-2, CHEMICAL TESTS

Steroids	-	+ve
Terpenoids	-	+ve
Alkaloids	-	+ve
Glycosides	-	+ve
Saponins	-	+ve
Tannins	-	+ve
Flavonoids	-	+ve
Carbohydrate	-	+ve

Figure-1, T.L.C. of alcoholic extract of Vacha rhizome



Stationary phase	TLC Aluminium sheet silica gel 60 F 254 plate
Mobile phase	Toluene – Ethyl Acetate – Formic acid (5: 3: 5drops)
Rf value of spots Visualized UV long 254 nm	0.05 & 0.65
Rf value of spots Visualized in Iodine	0.15, 0.65, 0.75 & 0.85

T.L.C. METHODOLOGY: T.L.C. of Vacha Rhizome has been carried out from 10% alcoholic extract by cold percolation method on Silica gel plate (Merck) using in solvent system as mobile phase Toluene : Ethyl acetate : Formic acid (5:3:5drops) used as a mobile phase. After running distance of 10 cm the plate, plate has been air dried for 15 minutes and then it has been kept in the oven for 2 to 5 minutes. After cooling of the plate Iodine reagent spray has been done in thoroughly and heated the plate at 110° C for 1-5 minutes. Under observation of both Rf. values of each spots has been calculated.

PURIFYING PROCESS: Ayurvedic classics have emphasized various methods of *Shodhana* (purificatory procedures) to overcome the undesired effects from various poisonous and nonpoisonous drugs. Even though *Vacha* does not come under poisonous drug category, some Ayurvedic texts and Ayurvedic pharmacopoeia of India have recommended *Shodhana* for *Vacha* rhizome.

ACTIVE CONSTITUENTS:1,8-Cineol, 2-Deca-4,7 dienol, (+)-De-4'-O-methyleudesmin, (+)-De-4'-0-methylmagnolin, (+)-Eudesmin, (+)-Magnolin, 5-Meo-Dmt, 5-Meo-Nmt, 2, 4, 5-Trimethoxy benzaldehyde, 2,5- dimethoxybenzoquinone, A-calacorene, A-selinene, Aceteugenol, Acolamone, Acoradin, Acorenone, Acoragermacrone, Acoramone, Acorenol, Acoric-Acid, Acorin, Acorine, Acorone, Acoroxide, Alpha-Pinene, Alpha-Terpineol, Amino Acid, Aristolene, Arsenic, Asaraldehyde, Asaronaldehyde, Asarone, α-Asarone, Asarylaldehyde, Ascorbic-Acid, Aterpineol, B-gurjunene, B-cadinene, Beta-Asarone, Beta-sitosterol, Borneol, Bufotenine, Bufotenidine, Bullatantriol, Calacolene, Calacone, Calamendiol, Calamene, Calamenene, Calamenol, Calamenone, Calameone, Calamusenone, Calamol, Calamone, Calarene, Camphene, Camphor, Caryophyllene, Cineol, Cis-Isoasarone, Cis-isoelemicine, Cis and trans isoeugenol, Cryptoacorone, Dimethyl-Amine, Elemicin, Erythro-1', 2'-dihydroxyasarone, Ethanol, Eugenol, Eugenol-Methyl-Ether, Galangin, Isoeugenol, Limonene, Linalool, Magnesium, Menthol, Menthone, Methyl ethers, Methyl-Eugenol, Myrcene, Oxalic-Acid, P-Cymene, P-Methoxycinnamaldehyde, Phenol, Preisocalamendiol. Sabinene, Sekishone, Selinene, Shyobunone, Sitosterol, Spathulenol, Terpinen-4-Ol, Terpinic-Alcohol, Teuclatriol, Threo-1', 2'-dihydroxyasarone, Trans-Anethole, Trimethylamine, N,N-Dimethyltryptamine, Zinc, and 1beta, 4beta, 7alpha-trihydroxyeudesmane,

Drug Eff Ects: Vacha contains asarones which may be carcinogenic in large doses. FDA studies have shown that only calamus native to India contains the carcinogen betaasarone. stimulant and possible hallucinogen. Larger doses, considered an aphrodisiac and said to help break nicotine addictions. Vacha pacifies vitiated Vata, Kapha as per Ayurvedic classics,

Short Term Effects : Boost health, buoyant feelings, calming, enhances libido, keep people young, pick me up, reduce stress & fatigue, positive effect - stomach & digestion, refreshing, relaxes nervous system, relaxing, stimulates appetite, strengthen sexual life, CNS depressant, strengthening & improves memory.

Long Term Effects: Dry rhizomes of vacha consist of yellow aromatic oil that is volatile. since ancient times it is reported for beneficial role as brain tonic (*Medhya*). It has also been reported to possess tranquilizing, antimicrobial, antidiarrheal, antidyslipidemic, neuroprotective, antioxidant, anticholinesterase, spasmolytic, antiulcer, anthelmintic, anti-inflammatory, analgesic, abortifacient, anticatarrhal, antiedemic, antifeedant, stimulant, sedative, hallucinogen, antihemorrhagic, antineuralgic, antipyretic, antiseptic, activities. Most of these functions are attributed to the aromatic oil present in the rhizome, Further the essential oil from *Acorus* has been reported to be having antiepileptic activity against seizures induced by various means. such as epilepsy, hysteria, mania, mental retardation, stupor, syncope, headache, eye disorders, insomnia, insanity, and loss of memory, depression, anxiety, aphrodisiac, depressant, digestive, carminative, anorexia, hypertension, sluggishness of the liver, diuretic, nervine tonic, distaste, worms, dull abdominal pain, pain reliever and skin diseases etc. It is also described as carminative, diuretic, emmenagogue, expectorant, fungicide, hemostatic, hypotensive, laxative, stomachic, stomatitis, hoarseness of voice, colic, flatulence, amenorrhea, dysmenorrhea, neuropathy, renal calculi, cough, inflammation, arthritis, kidney diseases, hemorrhoids and general debility.

Negative/Overdose Risk : Vacha is reported as carcinogenic nature, Dizziness, Duodenal, Hallucinations, Hypertensive reactions, Kidney damage, Liver cancer, Nausea, Vomiting, Rashes, Seizures, Shaking, Sweat inducing.

Withdrawal: Withdrawal of vacha intake feeling "strung out" has been reported.

Contraindications / Interactions : It should not be used in pregnancy due to its emmenagogue properties. It should not be taken with mao-inhibitors, benzodiazepines, barbituates, depressants and anticonvulsants. It should not be used if scheduled for surgery in the next two weeks.

Drug properties according to ayurveda:

Rasa: Katu, Tikta **Guna:** Laghu, Teekshna

Virya: Ushna **Vipaka:** Katu

Prabhava: Medhya

Part Use: Underground rhizomes.

Dose : As a single drug the dose of vacha powder is 125 mg to 500 mg. Overdose may induce vomiting and such a situation can be managed by giving the powder of Mishreya (Saunf) with lime water.

Preprations: Sarswatarishta, Sarswata churna, Vacha Churna, Vachadi churna etc.

Conclusion: Vacha is an popular herb and a reported for beneficial role as brain tonic (*Medhya*). It provides neuro-protection and can even stave off speech disorder. Data available so far support procognitive activity of herbs selected for discussion; at the same time demand substantial evidences and revalidation in humans. Mostly the above said herbs act on the basis of essential trace psychoactive substances elements present in them. The results of the present study have established the specifications of the quality profile of the drug Vacha (*Acorus calmus* Linn.) plant rhizome. The drug should be standardized before any research and the results should be within specifications. This drug should be use under registered medical practitioner supervision.

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Commiphora Mukul A Miracoulous Plant

*Dr. Poonam Sharma, **Prof. K.N. Dwivedi

Abstract: Oleogum resin, known as or gum guggul, is obtained from (known as guggul tree) found in India, Bangladesh, and Pakistan. The use of guggul for a wide variety of disease conditions, including atherosclerosis, hypercholesterolemia, rheumatism, and obesity is described in the Ayurveda, the ancient Indian medical system. In fact, the herb is mentioned as early as from 3000 to 10,000 years ago in the Vedas, the holy scriptures of India for treating human illnesses. It has various anti-inflammatory, antioxidant, hypolipidemic activities by various means of mechanism. It has a lot of ethnic importance.

Key wors: Guggul, Oleogum resin, anti-inflammatory.

Introduction: Commiphoramukul, with common names Indian bdellium-tree, gugal, guggul, gugul, or Mukul myrrh tree, is a flowering plant in the family Burseraceae. The guggul plant may be found fromnorthern Africa to central Asia, but is most common in northern India. It prefers arid and semi-aridclimates and is tolerant of poor soil.It is a shrub or small tree, reaching a maximum height of 4 m (13 ft), with thin papery bark. The branches are thorny. The leaves are simple or trifoliate, the leaflets ovate, 1–5 cm (0.39–1.97 in) long, 0.5–2.5 cm (0.20–0.98 in) broad, and irregularly toothed. It is gynodioecious, with some plants bearing bisexual and male flowers, and others with female flowers. The individual flowers are red to pink, with four small petals. The small round fruit are red when ripe.

Traditional medicinal use: *C. wightii* has been a key component in ancient Indian Ayurvedic system of medicine. However, because of its overuse, it has become so scarce in its two habitats in India — Gujarat and Rajasthan - that theWorld Conservation Union (IUCN) has enlisted it in its Red Data List of endangered species.The extract of gum guggul, called gugulipid, guggulipid, or guglipid, has been used in Unani andAyurvedic medicine, for nearly 3,000 years in India. One chemical ingredient in the extract is the steroidguggulsterone, which acts as an antagonist of the farnesoid X receptor, once believed to result in decreased cholesterol synthesis in the liver. However, several studies have been published that indicate no overall reduction in total cholesterol occurs using various dosages of guggulsterone and levels of low-density lipoprotein ("bad cholesterol") increased in many people.

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Hypolipidemic Activity: The hypolipidemic effect of gugulipid and guggulsterone has been consistently demonstrated in various animal species, including rat, mouse, rabbit (Satyavati 1966; Satyavati et al. 1969), chicken (Baldwa et al. 1981), domestic pig (Khanna et al. 1969), dog and monkey (Dixit et al. 1980). The first animal study was conducted in rabbits over a period of 2 years (Satyavati 1966). Rabbits were fed with hydrogenated vegetable oil to raise their cholesterol levels. One group of rabbits was given guggul, whereas the other group served as a control. At the end of the study, rabbits receiving guggul had normal serum cholesterol and lipid levels, whereas in the control rabbits serum cholesterol and lipids were elevated. More importantly, rabbits treated with guggul showed no fatty streaks or plaque deposits in their arteries, whereas such pathology was observed in the control group. These data provided the first experimental evidence to support the claims in the Ayurvedic text that guggul may be effective in the treatment of hypercholesterolemia and atherosclerosis. The encouraging findings in this study caught the attention of the Indian research community and led to more animal experiments, and eventually to human clinical trials.

Antioxidant and Antiinflammatory Effects: It has been well established that LDL is atherogenic and accumulates in atherosclaotic lesions. Although it is not clear how LDL is oxidized *in vivo*, accumulating evidence indicates that LDL oxidation is essential for atherogenesis (Steinberg 1997; Chisolm and Steinberg 2000). Antioxidants that prevent this oxidation may either delay or prevent atherogenesis. The antioxidant activity of guggulsterone was first reported in the 1990s (Singh et al. 1994; Singh et al. 1997). In those studies, the ability of guggulsterone to prevent oxidation of LDL was demonstrated *in vitro*. LDL isolated from human blood was mixed with a free radical promoting agent alone or in combination with guggulsterone. Samples were then analyzed for the presence of LDL oxidation byproducts. The results showed that guggulsterone strongly protected LDL from being oxidized (Singh et al. 1994; Singh 1997). In a more recent study, using several model oxidation systems, Wang et al. (2004) have demonstrated that both gugulipid and guggulsterone significantly inhibit LDL oxidation. Furthermore, gugulipid dose-dependently decreased accumulation of LDL-derived cholesterol esters in mouse macrophages (Wang et al. 2004). Those findings shed light on how guggul or guggulsterone works against “coating and obstruction of channels” described in the ancient Ayurvedic text.

Mechanisms of Actions:

Hypolipidemic Activity: Several possible mechanisms have been proposed for hypolipidemic activity of guggulsterone. Conversion of cholesterol to bile acids and subsequent excretion through the enterohepatic circulation represent a major pathway to remove excessive cholesterol from the body (Russell 2003). The cholesterol 7α-hydroxylase (CYP7A1) is the rate-limiting enzyme in the classic pathway of bile acid synthesis from cholesterol in the liver (Russell 2003; Fuchs 2003). The expression of CYP7A1 is negatively regulated by bile acids through a negative feedback circuit involving several nuclear receptors including bile acid sensor FXR, liver receptor homolog 1 (LRH-1), and small heterodimer partner (SHP) (Lu et al. 2000; Goodwin et al. 2000; Davis et al. 2002). As FXR agonists, bile acids activate FXR and upregulate a myriad of FXR target genes, including SHP. SHP, a transcriptional repressor, in turn strongly represses CYP7A1 expression through heterodimerization with LRH-1, which is required for maximal expression of CYP7A1. Recent studies have established that guggulsterone is an FXR antagonist and downregulates FXR target genes (Urizar et al. 2002; Wu et al. 2002). Such FXR antagonism has been suggested as a mechanism for the cholesterol-lowering effect of guggulsterone (Urizar et al. 2002). In support of such a mechanism, guggulsterone downregulates SHP expression *in vitro* and *in vivo* (Urizar et al. 2002), which presumably leads to increase in CYP7A1 expression and bile acid synthesis. The study also showed that in contrast to the results obtained with wild type mice, guggulsterone failed to exert its hypolipidemic effect in FXR knockout mice, indicating the involvement of FXR in guggulsterone-mediated hypolipidemic action (Urizar et al. 2002). However, inconsistent with this proposed mechanism is the finding that hypolipidemic effects are observed in rats treated with a selective synthetic FXR agonist (Willson et al. 2001). Therefore, it remains unclear whether an FXR agonist or antagonist is beneficial in the treatment of hypercholesterolemia.

Antioxidant and Antiinflammatory Effects:

Although the antioxidant effect of guggul and guggulsterone has been demonstrated *in vitro* and *in vivo*, the underlying mechanism remains largely to be determined. Guggulsterone was found to reverse both isoproterenol-induced production of xanthine oxidase and isoproterenol-mediated decrease of superoxide dismutase (SOD) (Kaul and Kapoor 1989). Xanthine oxidase is an enzyme that promotes the production of reactive oxygen species, whereas SOD is an important antioxidant enzyme catalyzing the conversion of superoxide anion to oxygen and hydrogen peroxide. Based on this preliminary result, it appears that guggulsterone inhibits the production of toxic oxygen free radicals. Further studies are, however, required to dissect the molecular insights into the antioxidant activity of guggulsterone.

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Psychological Aspects In Ayurveda

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Abstract: Ayurveda, an eternal system of medicine, is endowed with unique fundamental principles and the holistic approach. It is not only the system of medicine but the science of life also. It advocates about the wholesome and unwholesome for all the aspects of life. Either it is the matter of health or wealth, passion or salvation; everything is discussed very systematically and scientifically. It is concerned with this world *(Ihalok*) and the other world (*Paralok*)) that's why stated as *Punyatam-veda* in *Charak-Samhita* and other classics. Ayurveda describes in detail about the physical health as well as mental health, individual health as well as social health and sensorial health as well as spiritual health which shows the multidimensional scientific approach towards the health.Ayurveda possesses the well balanced amalgamation and incorporation of multidisciplines like Medicine, Philosophy, Psychology, Astrology, ethics and many more. Psychology occupies the prime position in every aspect of life especially in clinical practice that's why it has been discussed vividly in Ayurveda. Ayurveda recognizes psychological entity responsible at every state of human life either it is the fertilization or development of foetus, personality make up in relation to psychic constitution or mental diseases, clinical examination or treatment. Ayurveda defines *Ayu* as a combination of *Sharir* (body), *Indriya* (sense organs), *Sattwa* (mind) and *Atma* (soul) which reveals its psychosomatic approach at the base level. This research paper is planned to review the Psychological considerations in *Sharir, Nidan* and *Chikitsa,* keeping in view the medical aspect.

Keywords: Psychology, Ayurveda, *Samhita, Sharir, Nidan, Chikitsa*.

Introduction: The word Psychology is made up of two words i.e. Psyche and logos. Here 'psyche' means mind, soul or spirit and 'logos' means knowledge, so the Psychology is the science dealing with the knowledge of mind and soul. It is the scientific study of the human mind and its functions, especially those affecting behavior in the given context or the mental characteristics or attitude of a person. It is the science which reflects the normal or abnormal state of individual and thereby affects the health. That's why it is discussed at the length in Ayurveda. Ayurveda recognizes psychological entity responsible at every state of human life either it is the fertilization or development of foetus, personality make up in relation to psychic constitution or mental diseases, clinical examination or treatment. Ayurveda defines Ayu as a combination of *Sharir* (body), *Indriya* (sense organs), *Sattwa* (mind) and *Atma* (soul) which reveals its psychosomatic approach at the base level. As quoted by Acharya Charak-

शरीरेन्द्रियसत्त्वात्मसंयोगो धारि जीवितम् ।
नित्यगश्चानुबन्धश्च पर्यायैरायुरुच्यते॥ –चरकसंहिता सूत्रस्थान–१/४२

Here *Sattwa* and *Atma* are the psychological entities. Role of *Sattwa* is considered very sincerely in *Trisutra* Ayurveda i.e. *Hetu-sutra, Linga-sutra* and *Aushadh-sutra.* The knowledge of *Trisutra* is considered the best one for healthy as well as diseased persons[1]. In another words *Trisutra* Ayurveda is discussed to maintain or achieve good health. Health is considered as the essential factor in achieving *Purushartha-chatushtaya* (four fold desires of life) in Ayurveda-
धर्मार्थकाममोक्षाणामारोग्यं मूलमुत्तमम् ।

रोगास्तस्यापहर्तारः श्रेयसो जीवितस्य च॥ –चरकसंहिता सूत्रस्थान–१/१५–

Ayurveda advocates all the aspects of health namely physical, sensorial, mental and spiritual at individual level and social health at public level. The concept of mental health and mental ill-health is concerned with Psychology. Psychology plays a pivotal role in procurement of mental health. Psychology is nothing but the hub of different streams of science which includes Clinical Psychology, Cognitive Science, Social Science and Philosophy. Its subfields are Biological Psychology, Clinical Psychology, Comparative Psychology, Developmental Psychology, Personality Psychology, Social Psychology and many others. Ayurveda has discussed about different sub-fields like biological psychology, clinical psychology, comparative psychology and personality psychology. Different animals behave in different ways and their cognitive power and pursuits are not similar. Highly intellectuals think more in comparison to those who are fewer intellectuals. It is due to biological variations. Personality psychology is well discussed in the form of psychic constitution in Ayurveda[2]. Description of *Sattvik, Rajas* and *Tamas* and their predominance in deities, humans and animals are based on Comparative Psychology[3]. Description of Sattwa-pariksha, mano-dosha and Sattwavajaya-chikitsa comes under the heading of Clinical Psychology. The concept of *Hitayu* and *Ahitayu, Sadvritta* etc. are directly related to Social Psychology. Psychological issues are discussed giving prime position in all the aspects either it is the prevention and promotion of health or cure of different diseases. These are discussed in the context of *Sharir, Nidan* and *Chikitsa*. The brief review of the same is being described here.

Psychological aspects in *Sharir:* Human body is the conglomeration of physical as well as psychological entities. Psychological entities are closely related with physical entities in human body right from the time of fertilization to the death. For instance the definition of *Garbha* includes the association of *Atma* or *Jiva*[4] which reveals that psychology is the inseparable part of our life. Definition of *Sharir* also includes psychosomatic approach stating that *Sharir* which is maintained in the state of equilibrium is *chetana-adhithanbhut* (the abode of *Atma*) and conglomeration of factors derived from *Panchamahabhut*[5]. *Sattva* (mind) and *Atma* are considered as two significant components of tripod including body on which life sustains[6]. *Sattwa* and *Atma* are considered among nine *Karan-Dravyas* which are cause of all the *Karya-dravyas*[7]. *Sharir–doshas* i.e. *Vata, Pitta* and *Kapha* are also discussed in relation to Psychology. *Vata-dosha* is stated to be *Rajo-guna pradhan* by *Acharya Sushrut*[8]. *Utsah* (enthusiasm) discussed in normal functions of *Vata*, *prasad* and *medha* in the functions

of *Pitta* and *kshama*, *dhriti*, *alobha* in the normal functions of *Kapha-dosha*[9] are related to mental health. *Vachal and chala-manas* in the characteristic features of *Vata-prakriti*, *dhiman* and *roshanah* mentioned in *Pitta-prakriti* and *gambhir-buddhi* in *Kapha Prakriti* are the psychological attributes[10]. *Dhairya*, *priti* and *harsh* mentioned in the normal functions of *Shukra-dhatu* are related to *Manas* (mind)[11]. Three attributes of *Manas* (mind) have been discussed in Ayurveda and stated to be the *Mahaguna*. Here *Mahaguna* means that which causes the creation of universe and superior than other *gunas*. Different types of Psychic constitution are discussed in Ayurveda which help in maintenance of health as well as cure of diseases[12]. *Sattwasar* mentioned in the context of *Sara*[13] is completely psychological consideration and even one or more symptoms related to state of mind are available in other *Sara* also. *Manovaha srotas* has been discussed by *Acharya Charak* which pervades in entire sentient portion of the body[14]. *Trividha-Sattwa* has been discussed by *Acharya Charak* considering the mental stamina[15]. *Manas* has been accepted as *Atindriya* and *Ubhayendriya*. *Manas* and *Atma* are the significant component of *Ayu* (life). Place or seat, attributes, objects and functions of *Manas* are described in *Sharir-sthan* of *Charak-Samhita*. *Manas* is enumerated in the list of *Adhyatma-dravyas* which is responsible for indulgence in virtuous acts and refrain from sinful acts. Indulgence in virtuous acts causes happiness or sinful acts causes miseries depending upon the state of mind[16]. *Sattwa* is stated to be the *Aupapaduk* (connecting link which connects soul with human body) [17] which reveals its significance in the body. Definition of *Swasth-purush* (healthy person) includes the *manas* etc. psychological entities[18]. *Saumanasya* (cheerful mind) is considered best among those causing production of progeny[19]. Different types of mental faculty are determined by the mental faculty of parents, the sounds heard repeatedly by the pregnant woman, action performed by the embryo in his previous life and frequent desires for a particular type of mental faculty[20]. Pleasant mood is considered best among those which saturate the body and determination among aphrodisiacs[21]. *Manas* (mind) is responsible for repeated birth and indulgence in virtuous or sinful acts[22]. The embryo is an aggregate of mother, father, self, suitability, nutrition and mind is also there as an associate[23]. It is the psyche which always affects the body and its activities every time that's why *Acharya Charak* has stated that body follows psyche and vice versa[24].

Psychological aspects in *Nidana:* Psyche has been stated to be the significant factor in etiopathogenesis of the diseases. Psychological entity plays a crucial role in the pathology. Either it is the causative factors or aggravating factors, substratum of diseases or pathogenesis, type of disease or symptoms, psyche is discussed at every level. *Pragyaparadha* (intellectual blasphemy) is accepted as one of the general causes of diseases[25]. *Rajas* and *Tamas* are stated as *mano-doshas* causing all the psychological disorders[26].*Vishad* (grief) is considered at the top among those which aggravate disease, *shok* (worry) among those causing emaciation and unhappiness among those causing loss of virility[27]. All these grief, worry and unhappiness are psychological conditions which cause ill-health. According to *Acharya Charak*, psychic diseases occur due to the association with agreeable as well as disagreeable things. In another reading of the text, it is stated that these diseases are due to loss of agreeable and attainment of disagreeable things[28]. *Kama* (worldly desires), *shok* (worry) and *bhaya* (fear) vitiate *Vata-dosha* and *krodha* (anger) vitiates *Pitta-dosha* as per *Acharya Charak*[29]. *Acharya Sushrut* has enumerated *Krodha*, *Shok* and *Bhaya* as aggravating factors of *Pitta-dosha*[30]. *Manas* (mind) has been enumerated as *Vyadhi-ashraya* (substratum of diseases) along with body[31]. *Jwar-roga* due to various

psychological emotions like *kama, krodh, shok* and *Bhaya* have been discussed in *Charak-Samhita* which shows the significance of psychological factors in the pathogenesis of diseases[32].Further it has been stated that *Manas Jwar* does not get strength until and unless the body is affected by *Vata* etc. *sharir doshas* and *Sharir-Jwar* does not get strength until the mind is affected with *Kama* etc. [33]. *Manas-rogas* are enumerated by Acharya Sushrut among four types of diseases in general[34]. *Acharya Charak* has also discussed *Irshya* (jealousy), *shok* (worry), *bhaya* (fear), *krodha (*anger), *maan* (ego), *dvesh* (aversion) etc. *mano-vikaras* due to *pragyaparadh*[35]. Diseases are of three types on the basis of involvement of psyche and body viz. Somatic diseases like *Kushtha* etc., psychological diseases like *Kama, Krodha, Irshya* etc. and Psychosomatic diseases like *Unmad, Apasmar* etc[36] .Psychological factors are considered in the types or nomenclature of different diseases e.g. *Kama-Jwar, Shoka-Jwar, Krodha-Jwar, Shokaj Atisar, Bhayaj Atisar, Dvishtartha-Samyogaj Chardi, Manasik Arochak* etc. in *Charak-Samhita*. Symptoms related to psyche are discussed in most of the diseases which shows the gravity of the concept of psychology in *nidan*.

Psychological aspects in *Chikitsa:* If we see the requisite qualities of *Chatushpad*, we find that *Shuchita* (purity both physical and mental) advocated for *Vaidya* and *Paricharak*, Good memory and fearlessness advocated for patient are related to psychic consideration.

Sattwavajaya-chikitsa (Psychotherapy) has been discussed in *Charak-Samhita* to prevent as well as to cure the *Mano-vikaras* (mental diseases)[37]. It has been stated that *Mano-doshas* are alleviated by the spiritual and scriptural knowledge, patience, memory and meditation[38]. Again in the *Tisreshaniya Adhyay* of *Charak-Samhita*, appropriate observance of *Trivarga* i.e. *Dharma* (virtuous acts), *artha* (wealth) and *kama* (desires), to follow the experts of psychiatry and to obtain all round knowledge about the self etc. is advocated as *Manas-Bhaishajya* (medicine of psychic diseases) [39]. According to *Acharya Sushrut*, the treatment of *Manas-rogas* is the wholesome application of *Shabda, Sparsha, Rupa, Rasa* and *Gandha*. Dalhana, the renowned commentator of Sushrut-Samhita, says by virtue of other scholars in his commentary that by the '*cha*' term present in the main text indicates the remaining *Manas-chikitsa* like *Dhairya* (patience), *Smriti* (memory)etc. in this context[40] . *Prasham* (tranquility) has been accepted as the best *pathya* (healthy regime) among all in *Charak-Samhita*. *Harsha* (cheerfulness) is considered the best one among those which delight the body[41]. *Achar-rasayan* and *Sadvritta* discussed by all the *Acharyas* of Ayurveda is mainly focused on psychological factors which in turn influence the body. *Naishthiki-Chikitsa* which leads to salvation is possible in the state of being free from *Rajas* and *Tamas*. *Naishthiki-Chikitsa* is the extreme level of *Mano-chikitsa* after which no misery arises. *Sattva-vriddhi* (dominance of Sattva) is not only conducive to attain the salvation but causes improvement in the cure of tuberculosis and many other diseases as *Sattwik* persons are stated to be the kind, truthful, follower of virtuous acts and having good intellect, patience and memory as mentioned in *Sushrut-Samhita*[42]. *Acharya Sushrut* says that *Sattwik* persons possess better mental stamina in comparison to *Rajasik and Tamasik* persons. Treatment and its success depend upon the degree of mental stamina also. A person having good mental stamina is easy to cure than those who have very poor stamina. Treatment of *Mano-vikaras* is done keeping in view the *Rajas* and *Tamas doshas*.

For instance some psychosomatic diseases and their principles of treatment may be discussed in this context. *Unmad-roga* is the appropriate example of psychosomatic diseases which can be understood as the group of psychiatric diseases causing the perversion of mind, intellect, consciousness, knowledge, memory, inclination, manners, activities and conduct. In the treatment of *Unmad-roga*, *Acharya Sushrut* says that *Chittaprasadan* should be done in all types of this disease[43]. In *Apasmar chikitsa*, all the *Acharyas* of Ayurveda advocated the use of *Medhya-Rasayan* (talent promoting drugs or memory booster) suggest that mental health is first to achieve without which other therapies cannot be successful). *Chikitsa* based on psychological emotions is also discussed in *Hikka-roga* such as *Trasa, Vismapana, Krodha, Harsha* etc.[44] Treatment of *Bhayaj-Atisar* and *Shokaj-Atisar* is advised considering the psychological aspects. *Harshana* and *Ashvasana* is advocated in the treatment of *Bhayaj* and *shokaj Atisar* along with *Vatashamak chikitsa*[45]. *Sattva-pariksha* discussed in the context of ten point investigation of patient shows that Ayurvedic scholars have always given due importance to psychological aspects either it is the context of *shaman chikitsa* or *shodhan-chikitsa*. Auspicious rites advised before initiation of *Rasayan* or before application of *Panchakarm*a or surgical procedures indicate that we consider psychology in every aspect of *chikitsa* just to boost up the patient mentally. Physician advise medicines to the patient as per their need keeping in view their *bhakti* (likings) also. Application of medicine according to *Bhakti* of the patients and their psychological constitution is done in Ayurveda which shows the psycho-somatic approach which is the key factor to achieve the success in clinical practices. Generally drastic purgatives, sharp acting medicine and major surgeries are not tolerated by the patient who has very inferior mental stamina. Again it can be assumed that *Rajasik* and *Tamasik* persons are more prone to different types of diseases in comparison to *Sattwik* persons. *Sattwik* persons are those who take *Sattwik* diet e.g. milk, ghee, fruits, rice, wheat etc. sweet, light, fresh dietary items and observe *Sattwik* code of conduct. In present scenario psychological problems are much complex, therefore *Sattwik Ahar* and *Vihar* has been the need of the time. It can be supported by the quotation of Acharya Charak "*tat sattvamurjayati*" means our diet energize or boost up the mind[46] and *Sadvritta* (noble acts) fulfils the object of control on sense faculties along with maintenance of positive health[47].

Discussion: The term psyche is essential to be discussed because as per Oxford English dictionary, it has the meaning of not only mind but soul, spirit also. Most of the scholars have defined the psychology as a scientific study of the human mind and its functions, especially those affecting behavior in the given context or the mental characteristics or attitude of a person. All the actions are because of *Manas* as it is considered as '*Kriyavaan*' and it is stated that both the attachment and detachment are because of *Manas*. *Manas* acts as '*Aupapaduka*' (that which serve as a bridge in between body and soul).This *Manas* possesses three types of mental faculties viz. *Sattwa, Rajas* and *Tamas* because of which all the good or bad acts are performed. That's why the study of mind and its functions are described in the purview of psychology by most of the psychologists. It is well mentioned in Ayurveda that *Manas* and *Atma* are associated with and affects each other. Dominant *Atma* governs mind in a right way and dominant *Manas* suppresses the *Atma* by which a man can indulge in unwanted activities. Looking towards this phenomenon, we the Ayurvedic physician accepts both the factors i.e. *Manas* and *Atma* in Psychological considerations. Reason being these two entities are inseparably attached to each other in human body. Whatever we feel in the sense of happiness or unhappiness that is felt by

'*Atma-samyukt-Mana*' (Mind which is in close relation to *Atma)*. Again *Atma* has been accepted as *Gya* (knower) and *Karta* (doer) of all the things in *Charak Samhita*[48]. *Jitatma* is mentioned as an ideal condition for maintenance of health. In clinical practice also we try to control over *Manas* and thereby strengthen the *Atma*. Spiritual and scriptural knowledge, memory and meditation etc. all the psychotherapies control the *Manas* on one hand and strengthen the *Atma* on other. Meditation means to control the *Manas* under the influence of *Atma*. Spiritual therapy also causes benefits in psychological disorders, is one of the strong bases for consideration of both the *Manas* and *Atma* in psychological diseases. It is also established fact that *Atma* neither cause any disease nor it is the substratum of diseases. But it affects mind and vice versa. Psychological aspects are discussed in the context of *Sharir, Nidan* as well as *Chikitsa* shows that it is an integral part of the medical science without which successful treatment cannot be done. It is because Mind affects body and body affects the mind. This research paper has been designed to deal with consideration of psychological aspects in *sharir*, *nidan* and *chikitsa* keeping in view a particular theme. *Sharir* encompasses the knowledge of normalcy, *Nidan* means the knowledge of abnormalcy or diseases and chikitsa deals with maintenance as well as establishment of *Dhatusamya.* In this way, this article encompasses *Trisutra Ayurveda*. The aspect can be discussed keeping in view the two aims of Ayurveda or *Ashtanga Ayurveda* or types of diseases also. This is just according to the statement of Acharya Charak "*Bhetta hi bhedyam anyatha bhinatti*" means different persons classify and analyze the theme differently on the base of different criteria[49.]

Conclusion: Thorough study of the texts reveals that abundant subject matter related to psychology is available in Ayurveda. Psychology is an inevitable part of life as definition of Ayu itself reveals. Either it is health or diseases and their treatment; everything is discussed in keeping in view the psychology also. Area and scope of psychology is very vast and it is not only useful for medical sector but for other streams of knowledge also.

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Neonatal Jaundice Diagnosis and Management

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Abstract: Jaundice is an important problem in the first week of life. It is a cause of concern for the physician and a source of anxiety for the parents. High bilirubin levels may be toxic to the developing central nervous system and may cause neurological impairment even in term newborns. Jaundice is the most common condition that requires medical attention in newborns. The yellow coloration of the skin and sclera in newborns with jaundice is the result of accumulation of unconjugated bilirubin. In most infants, unconjugated hyperbilirubinemia reflects a normal transitional phenomenon. However, in some infants, serum bilirubin levels may rise excessively, which can be cause for concern because unconjugated bilirubin is neurotoxic and can cause death in newborns and lifelong neurologic sequelae in infants who survive. For these reasons, the presence of neonatal jaundice frequently results in diagnostic evaluation.Neonatal jaundice may have first been described in a Chinese textbook 1000 years ago.. In 1875, Orth first described yellow staining of the brain, in a pattern later referred to by Schmorl as kernicterus.Neonatal jaundiceoccurs in 60% of term and 80% of preterm neonates

Key wards: Neonate, Jaundice, Unconjugated bilirubin, Incompatibility

Introduction: Hyperbilirubinemia isdefiningan excessive level of accumulated bilirubin in the blood and subcutaneous tissue, characterized by jaundice, a yellowish discoloration of the skin, sclera, mucous membranes and nails.

Types of hyperbilirubinemia: Hyperbilirubinemia is two types:

- Unconjugated Hyperbilirubinemia = Indirect bilirubin.
- Conjugated Hyperbilirubinemia = Direct bilirubin.

Neonatal Jaundice is visible form of unconjugated hyperbilirubinemia, when serum bilirubin is more than 5mg/dl. It occurs in 60% of term and 80% of preterm neonates.

Bilirubin Synthesis: There is increased production of bilirubin in the newborn because of:

- Increased rate of degradation of RBC
- A shortened circulating erythrocyte life span 70-90 days.
- A very large pool of hematopoietic tissue that ceases to function shortly after birth resulting in heme degradation
- An increased turnover of cytochromes (nonhemoglobinheme proteins)
- An increase in enterohepatic circulation of bilirubin

Excretion:

- During fetal life, removal of bilirubin is accomplished by the placenta.
- In the newborn, bilirubin excretion requires conversion of the nonpolar unconjugated bilirubin into a more polar water-soluble substance, conjugated bilirubin.

Types of jaundice in Neonates: Neonatal Jaundice is two types.

1. Physiological jaundice **2.** Pathological jaundice

Characteristics of Physiological jaundice

- Appears in term baby's between36 to 72 hours.
- Maximum intensity by 4th day in term & 7th day in preterm.
- Serum bilirubin level less than 15 mg / dl.
- Jaundice disappears by 10th days of life.
- Appears in pre- term babies after 24 hours.
- Maximum intensity by 5-6th day.
- Serum bilirubin may go up to 15mg/dl.
- Jaundice may persist up to 14 days.
- Clinically not detectable after 14 days
- Disappears without any treatment

Factor that can increase the severity of physiological jaundice:
Prematurity, Sepsis, Bruising, Cephalo-hematoma, Polycythemia, Breastfeeding, delayed passage of meconium.

Characteristics of Pathological jaundice: Pathologic hyperbilirubinemia is defined as a prolonged or exaggerated hyperbilirubinemia. It occurs because of disorders ofProductionHepatic Uptake, Conjugation and Entero-hepatic Circulation.

- Appears within 24 hours of age
- Increase of bilirubin > 5 mg / dl / day
- Serum bilirubin > 15 mg / dl
- Jaundice persisting after 14 days
- Stool clay / white colored and urine staining clothes yellow
- Direct bilirubin> 2 mg / dl

Breast Feeding Jaundice: Unconjugated hyperbilirubinemia is secondary to a suboptimal establishment of breastfeeding

- Newborns are under-hydrated and in a state of starvation.
- They also have delayed passage of meconium
- Enterohepatic reuptake of bilirubin is consequently increased, leading to hyperbilirubinemia
- Treatment and prevention include frequent feedings (8-12/day)

Breast Milk Jaundice: Occurs after end of 1st week life.

- Its maximum intensity between 10 to 14 days but hyperbilirubinemia is never severe enough to need exchange blood transfusion.
- Serum bilirubin may approach 18mg/dl.
- Etiology:1.Hepatic conjugation compromised due to presence of 3-alpha, 20 beta pregnanediol in about 1 to 2% women.
- Inhibit hepatic glucuronyltransferase enzyme and Y-acceptor protein due to unsaturated fatty acids in human milk.
- Characterized by colorless urine and golden yellow stool.

Management:Cessation of breastfeeding for about 48 to 72 hours results in prompt fall (2-6 mg/dl) in serum bilirubin and breastfeeding can be re-established without any risk of recurrence of jaundice.

Causes of prolonged unconjugated hyperbilirubinemia:Immaturity, HDN, Breast-milk jaundice, Hypothyroidism, Crigler-Najjar syndrome, Gilbert syndrome and Concealed hemorrhage

Causes of prolonged conjugated hyperbilirubinemia:

- Idiopathic neonatal hepatitis
- Infections: Bacterial-sepsis, HBV, TORCH, Echovirus. Tuberculosis.
- Malformations: EHBA and hypoplasia, bile duct stenosis, choledochal cyst, IHBA, congenital hepatic fibrosis.
- Metabolic disorders: Galactosemia, Hereditary fructose intolerance, Alpha-1antitrypsindeficiency, cystic fibrosis, Gaucher disease, dubin-johnson syndrome,
- Chromosomal disorders: Trisomy E, Down syndrome.
- Miscellaneous cause: Total parenteral nutrition, hypertrophic pyloric stenosis.

Dangers of hyperbilirubinemia:Jaundice in the newborn is a medical emergency because unconjugated hyperbilirubinemia may cause bilirubin encephalopathy or kernicterus (≥20 mg/dl)

Kernicterus:Also called bilirubin encephalopathy

Neurological syndrome resulting from neurotoxic effects of *unconjugated* bilirubin on basal ganglia and brainstem nuclei

Though infrequent, has at least 10% mortality and 70% morbidity

Kernicterus:

Signs and symptoms (first 24 hours):

Initial phase- Poor suck, hypotonia and lethargy.
Intermediate phase- Hypertonia, opisthotonos, moderate – stupor, retrocollis and fever.
Advanced phase- hypertonia, high pitched cry, hearing and visual loss, poor feeding and athetosis,setting sun sign, Convulsions, coma, drowsiness, Moro's reflex is sluggish or abnormal.

Long term complications: Cerebral palsy, upward gaze palsy, Sensorineural hearing loss and Intellectual delay (less common).

Investigation:

Early investigations: Serum bilirubin**,** Blood group**,** maternal blood group**,** direct coombs test**,** CBC, GBP and Recti count.

Investigations in prolonged jaundice: Serum bilirubin, LFT, Thyroid function test, TORCH, Metabolic screen, abdominal ultrasound etc.

Management of Neonatal jaundice:

Purposes:

- Reduce level of serum bilirubin and prevent bilirubin toxicity.
- Prevention of hyperbilirubinemia by initiation of early feeding and adequate hydration
- Reduction of bilirubin levels by phototherapy with or without exchange transfusion,
- Use of Drugs like Phenobarbital promotes liver enzymes and protein synthesis.

Treatment: It includes-

1. Phototherapy.2. Exchange transfusion.3. Pharmacological management.

Phototherapy:

Indication of phototherapy:

Birth weight	Total serum bilirubin (mg/dl)	
	Healthy baby	Sick baby
	Phototherapy	Phototherapy
<1000gm	5-7	4-6
1001-1500gm	7-10	6-8
1501-2000gm	10-12	8-10
2001-2500gm	12-15	10-12

Side effect of phototherapy:Loose green stools, Hyperthermia, Irritability, Dehydration.,Hypocalcemia.

Exchange blood transfusion: Double volume exchange blood transfusionshould be performed if the total serum bilirubin levels reach to age specific cut off for exchange transfusion or the infant shows signs of bilirubin encephalopathy irrespective of total serum bilirubinlevels.

Indications of exchange blood transfusion

Birth weight	Total serum bilirubin (mg/dl)	
	Healthy baby	Sick baby
	Exchange transfusion	Exchange transfusion
<1000gm	11-13	10-12
1001-1500gm	13-15	11-13
1501-2000gm	15-18	13-15
2001-2500gm	18-20	15-18

Indications for Double volume exchange transfusion at birth in infants with Rh is immunization include:

1. Cord bilirubin is 5mg/dl or more.
2. CordHb is 10g/dl or less.
3. The Exchange Transfusion should be performed by pull and push technique using umbilical venous route.
4. Umbilical catheter should be inserted just enough to get free flow of blood.

Mechanisms:

1. The Exchange Transfusion removes partially hemolyzed and antibody-coated RBCs, as well as unattached antibodies, and replaces them with donor RBCs, laking the sensitizing antigen.

2. As bilirubin is removed from the plasma, extravascular bilirubin will rapidly equilibrate and bind to the albumin in the exchanged blood.

Blood for exchange transfusion:We use fresh (<7 days old), irradiated, and reconstituted whole blood made from PRBCs and fresh frozen plasma collected in citrate-phosphate-dextrose.

Complications of EBT:Hypocalcaemia, Hypomagnesaemia, Hypoglycemia, Acid-base imbalance, Hyperkalemia and Hemolysis.

Intravenous-immunoglobulin's(IVIG):IVIG reduces hemolysis and production of jaundice in isoimmune hemolytic anemia (Rh isoimmunisation and ABO incompatibility) and there by reduces the need for phototherapy and exchange transfusion.

Dose of IVIG: 0.5 to 1 gm/kg.

IVIG administration can cause intestinal injury and Necrotizing EnteroColitis.

IV hydration:

- Infants with severe hyperbilirubinemia and evidence of dehydration (eg.excessive weight loss) should be given IV fluid.
- An extra fluid of 50ml/kg of N/3 saline over 8hr decreases the need for exchange transfusion.

Role of sunlight: Exposing the baby to sunlight does not help in treatment of jaundice and is associated with risk of sunburn and therefore should be avoided

Conclusion: In newborns, some degree of jaundice is normal and probably not preventable. The risk of serious jaundice can often be reduced by feeding babies at least 8 to 12 times a day for the first several days and by carefully identifying infants at highest risk.All pregnant women should be tested for blood groups and unusual antibodies. If the mother is Rh negative, follow-up testing on the infant's cord blood is recommended. This may also be done if the mother's blood type is O+, but it is not needed if careful monitoring takes place. Careful monitoring of all babies during the first 5 days of life can prevent most complications of serum bilirubin.

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अष्टांग हृदय में पर्यावरण शिक्षा स्वास्थ्य एवं चिकित्सा के संदर्भ में

सरोज मनी शोधार्थी ,डा. रानी सिंह, असोसिएट प्रोफेसर सिद्धान्त दर्शन विभाग, चि. वि. सं.का.हि.वि.वि.

सारांश- अष्टांग हृदय में पर्यावरण संरक्षण का उल्लेख किया गया है पर्यावरण के विभिन्न घटक माने गये हैं जैसे भौतिक, सामाजिक एवं मानसिक आदि और सभी का स्वास्थ्य एवं चिकित्सा की दृष्टि से विशेष महत्व हैा भौतिक पर्यावरण या वातावरण के घटक मुख्य रूप से देश, वायु, जल आदि हैं पूर्व दिशा की वायु का तथा सामने की वायु का पर स्वास्थ्य पर प्रतिकूल प्रभाव पड़ता है और विभिन्न प्रकार की रोग की उत्पत्ति होती हैं पश्चिम समुद्र में गिरने वाली नदियाँ और जो शीघ्रवहि अर्थात् वेग से बहने वाली तथा निर्मल जल वाली नदियां हैं वे सब पथ्य (प्राणियों के लिए हितकर) है और इसके विपरीत जो नदियां हैं वे अपथ्य हैं।अष्टांग हृदय में किस प्रकार की नदियों के जल में दोष है और किस प्रकार की नदियों के जल में गुण है का उल्लेख मिलता है। अष्टांग हृदय में पहली वर्षा का जल पीने से मना किया गया है तथा चाँदी के पात्र में प्राप्त वर्षा जल को पीने योग्य जल कहा गया हैा काल के अनुरूप विभाजित विभिन्न ऋतुओ में आहार विहार एवं औषधि का विधान बताया गया है जिसे ऋतु चर्या कहा जाता हैाभूमिदेश पर्यावरण का मुख्य घटक है जो तीन प्रकार का होता है जांगल, अनूप और साधारण इसमें जांगल में वायु की प्रधानता रहती है; अनूपदेश में कफ की प्रधानता रहती है तथा साधारण देश–में वातादि समानरूप में रहते हैं। अतः स्वास्थ्य एवं रोग की दृष्टि से देश का विशेष महत्व हैा स्वास्थ्य एव ंचिकितसा की दृष्टि से न केवल भौतिक वातावरण का महत्व है अपितु सामाजिक एवं मानसिक वातवरण का उतना ही महत्व है अतः इन्हे भी सामान्य स्थिति में रखने का शिक्षा पूर्ण निर्देश दिया गया है।

भूमिका- अष्टांग हृदय वृहत त्रयी का तीसरा ग्रंथ है और इसके रचयिता वाग्भट् द्वितीय हैं। अष्टांग हृदय में पर्यावरण संरक्षण का उल्लेख किया गया है और इसमें पर्यावरण का स्वास्थ्य एवं चिकित्सा की दृष्टि से विशेष महत्व बताया गया है। पर्यावरण के विभिन्न घटक माने गये हैं जैसे भौतिक, सामाजिक एवं मानसिक आदि और सभी का स्वास्थ्य एवं चिकित्सा की दृष्टि से विशेष महत्व है। आचार्यो ने विभिन्न संदर्भों में इनकी व्याख्या की है। भौतिक पर्यावरण या वातावरण के घटक मुख्य रूप से देश, वायु, जल आदि हैं और सामान्य रहने पर स्वास्थ्य का संवर्धन करते है एवं स्वास्थ्य पर अनुकूल प्रभाव पड़ता है परन्तु विकृत होने जाने प्रतिकूल प्रभाव पड़ता है और विभिन्न प्रकार की रोग की उत्पत्ति होती है। इन्हे शुद्ध कैसे रखा जाय और अशुद्ध होन पर कैसे शुद्ध किया जाय इसका विस्तृत विवेचन संहिता ग्रंथो में मिलता है। अष्टांग हृदय में भी इस विषय पर वृहद रूप से प्रकाश डाला गया है।

वायु का स्वास्थ्य पर प्रभाव... पूरावाताऽऽतपं .....धूमं शवाश्रयम् *(अ.हृसू.2/40,44)*

पूर्व दिशा तथा सामने की वायु का धूप का, धूलि का, तुषार का एवं झोके की वायु (आंधी) का परित्याग करें।जल, अग्नि एवं पूज्यजनों के बीच में से होकर न निकले, श्मशान या चिता के धूम्र से दूर रहे।

वायु के गुण ...तत्र रूक्षो लघु शीतः खरः सूक्ष्मश्चलोऽनिलः।

वायु रूक्ष, लघु, शीत खुरेदरा, सूक्ष्म और चल गुणों से युक्त है वायु के इन गुणो का सकारात्मक एवं नकारात्मक प्रभाव शरीर पर आहार विहार एवं औषध के द्वारा पडता है ।

जल का स्वास्थ्य पर प्रभावः–जीवनं तर्पणं ह्रादि बुद्धि....देशकालावपेक्षते।*अ.हृ.सू..5/1,2)*

आकाश से गिरा हुआ दिव्य गंगाम्बु (गंगा जल) जीवित करने वाला या जीवित रखने वाला, तृप्ति करने वाला, हृदय के लिए हित, आह्राद कारक, बुद्धिवर्धक तनु (पतला) अव्यक्त रस (मधुर लवण आदि रस से रहित), स्वच्छ (निर्मल या शुद्ध), शीत, लघु तथा अमृत के समान होता है। और गिरने के कुछ काल पश्चात् वज जल–सूर्य, चन्द्र तथा वायु के स्पर्श के तथा देश एवं काल की अपेक्षा (प्रभाव) से हित भी होता है और अहित भी हो जाता है। अच्छे देश (स्थान) एवं काल (समय) में अच्छा बना रहता है और बुरे देश में एवं काल में बुरा (खराब) हो जाता है।

नदियों के जल का प्रभाव –पश्चिमोदधिगाः ...पथ्याः सम सागराम्भस्त्रिदोषकृत्।*(अ.हृ.सू.5/ 8–12)*

पश्चिम समुद्र में गिरने वाली नदियाँ और जो शीघ्रवहि अर्थात् वेग से बहने वाली तथा निर्मल जल वाली नदियां हैं वे सब पथ्य (प्राणियों के लिए हितकर) है और इसके विपरीत जो नदियां हैं वे अपथ्य हैं। हिमालय एवं मलयगिनि से निकलने वाली वे नदियां जिनका जल पाषाणों पर टकराने, गिरने एवं छिन्न – भिन्न होते से खिन्न (आलोडित विलोडित) हो जाता है पथ्य हैं और वे ही अपथ्य हैं जहां वे स्थिर या मन्दगामिनी हो जाती हैं वे अर्थात् (अर्थात् उनका जल) क्रिमिरोग, श्लीपद, हृदय रोग, गलगण्ड आदि गल रोग तथा शिरोरोगों को उत्पन्न करता है।

प्राच्य (आसाम, बंगाल प्रान्त की), आवन्त्य (अवन्ती मालव देश की) तथा अपरान्त (कोंकण देश) की नदियां अर्श रोग को उत्पन्न करती हैं। और सहऽचल एवं विन्ध्यांचल की नदियां, कुष्ठ, पाण्डुरोग तथा शिरोरोगों को उत्पन्न करती हैं और पारियात्र पर्वत की नदियां दोषनाशक होती हैं तथा बल एवं पौरुष (उत्साह या आरोग्य) को बढ़ाने वाली होती हैं और समुद्र का जल जिदोष कोपक होता है। अर्थात् उन्हीं नदियों को जल समुद्र में जाकर हानिकारक हो जाता है।

न पीने योग्य जल –न पिबेत्पंकशैवाल– दन्तग्राह्यतिशैत्यतः। *(अ.हृ.सू.5/6.7)*

उस जल को न पीवे जो कीचड़, सिवार, तृण तथा पत्तों के संयोग से मलिन हो तथा उन से व्याप्त हो और जिस पर सूर्य एवं चन्द्रमा की किरणों का तथा शुद्ध वायु का स्पर्श न हो और अभी या प्रथम बार बरसा हो, जो घन (मोटा) एवं भारी हो, जिस पर झाग आ रही हो, जो क्रिमि युक्त हो, उष्ण हो तथा अत्यन्त शीत होने से दन्तों में लगता है

वर्षा ऋतु के अतिरिक्त ऋतुओं की वर्षा, वर्षा ऋतु का भी पहली वर्षा का, जूना प्राणियों के जन्तु, पुरीष, मूत्र एवं विष के सम्पर्क से दूषित जल भी नहीं पीना चाहिए। वर्षा ऋतु में दिव्य वर्षा का जल श्रेष्ठ होता है और नदी का जल अत्यन्त निन्दित होता है।

पीने योग्य जल –ऐन्द्रमम्बु सुपात्र..... र्कपवनाहतम्। *(अ.हृ.सू..5/4,5)*

वर्षा का जो जल–स्वच्छ भाण्ड में धरा हुआ अविकृत हो उसको पीना चाहिए, इसके अभाव में जो आकाश के उक्त जल जैसा हो तथा पृथिवी के स्वच्छ एवं पवित्र तथा काले अथवा श्वेत भाग में सञ्चित हो तथा जिसमें सूर्य की धूप एवं स्वच्छ वायु भली–भांति स्पर्श होता है। अतएव झील एव तड़ाग के जल पीने योग्य होते हैं जैसे हिमालय के निवासी झील आदि के जल का पान करते ही हैं।

येनाऽ भिवृष्टममलं ..... मासादाश्वयुजादृिना। *(अ.हृ.सू.5/3)*

जिस जल के बरसते समय घर के भीतर चांदी आदि के पात्र में स्थित थाली चावलों का भात–निर्मल बना रहें, ल्केद युक्त न हो अर्थात् पसीज न जाय और उसका वर्ण विकृत न होजल 'गंगा जल' होता है और वही पीने योग्य होता है। इसके विपरीत जो जल होता है या बरसता है वह 'सामुद्र जल'' होता है और पीने योग्य भी नहीं होता। यह जल आश्विन मास के अतिरिक्त मासों श्रावण एवं भाद्रपद मासो)में बरसता है।इस प्रकार अष्टांग हृदय में किस प्रकार की नदियों के जल में दोष है और किस प्रकार की नदियों के जल में गुण है का उल्लेख मिलता है। अष्टांग हृदय में पहली वर्षा का जल पीने से मना किया गया है तथा चाँदी के पात्र में प्राप्त वर्षा जल को पीने योग्य जल कहा गया है।

देश एवं उसका स्वास्थ्य पर प्रभावः–वहूदकनगोऽनूपः .... साधारणो वरः *(अ.ह.सू 1)*

जिस देश में जल (नदी, नाले, झील, ताल एवं समुद्र की खाड़ी आदि) पर्वत एवं वृक्ष अधिक होते हैं और कफ एवं वायु के रोग अधिक होते हैं वह 'अनूप' कहलाता है।जिस देश में जल थोड़ा एवं गहरा होता है और वृक्ष भी थोड़े एवं छोटे–छोटे होते हैं और पित्त, रक्त एवं वायु के रोग अधिक होते है वह 'जांगल देश' कहलाता है और जिस देश में उक्त दोनों देशों के लक्षण मिले जुले होते हैं वह साधारण देश माना जाता है इस देश में क्योंकि शीत, वर्षा, उष्ण (गर्मी) तथ वायुसम रहते हैं अतः दोषों की समता बनी रहती है। परिणामतः वह देश श्रेष्ठ माना जाता है। अनूप देश जैसे आसाम ब्रह्मा एवं बंगाल की खाड़ी के देश। जांगल देश जैसे वीकानेर, जैसलमेर, अरब एवं अफ्रीका के रूखे सूखे मरुस्थल। साधारण देश जैसे पंजाब, उत्तर प्रदेश, तथा भूमण्डल के समशीतोष्ण प्रान्त। साधारण देशों के निवासी दूसरे देशों के निवासियों की अपेक्षा अधिक स्वस्थ निरोग तथा सौन्दर्य आदि शरीर सम्यद् युक्त होते हैं।

काल का स्वास्थ्य पर प्रभाव.. क्षणादिर्व्याध्यवस्था च कालो भेषजयोकृत्। *(अ.ह.सू 3)*

काल दो प्रकार का है; एक क्षणादि और दूसरा व्याधि की अवस्था। इनका उपयोग औषध के प्रयोग करने में किया जाता है।

कालस्तु शीतोष्णवर्षभेदात्त्रिधा मतः..... विपरीतस्वलक्षणः।।*(अ.ह.सू 3)* काल भी शीत, उष्ण और वर्षा इन लक्षणों के भेद (या स्वरूप) के आधार पर तीन तरह का होता है। वह काल शीत आदि लक्षणों के अपने स्वरूप से हीन होने पर हीनयोग, शीतादि लक्षणों के अत्यधिक होन पर अतियोग, और अपने लक्षणों से विपरीत लक्षणों वाला हो मिथ्यायोग वाला होता है।

मासैर्द्विसंख्यैर्माघाद्यैः क्रमात् षड्ऋतवः.....ग्रीस्मो वर्षाशरद्धिमाः।।*(अ.ह.सू 3)*

माघ आदि दो–दो मास को मिलाकर क्रमशः शिशिर, वसन्त, ग्रीष्म, शरद एवं हेमन्त ये छः ऋतुयें कही गयी हैा काल के अनुरूप विभाजित विभिन्न ऋतुओ में आहार विहार एवं औषधि का विधान बताया गया है जिसे ऋतु चर्या कहा जाता है उदाहरण के रूप में शिशिर ऋतु चर्या का वर्णन यहां इस प्रकार किया गया है।

कफपितो हि शिशिरे ..... मध्वम्बु जलदाम्बु च।*(अ.ह.सू 3)*

शिशिर ऋतुचर्या ...शिशिर ऋतु में पित, कफ वसन्त में सूर्य की किरणों की ऊष्मा से पिघलकर अग्नि को नष्ट करते हुए रोगों को उत्पन्न करता है; अतः उस कफ को शीघ्रतापूर्वक जीते। तीक्ष्ण वमन, नस्य आदि तथा लघु एवं रूक्ष भोजन, व्यायाम, उद्वर्तन और आघात से इस प्रकुपित कफ को जीत कर, स्नान करके, कपूर, चन्दन, अगुरु और केशर का शरीर पर लेप करके पुरातन जौ, पुरातन गेहूँ, मधु का प्रयोग करे तथा जांगल मांस को शूल में पिरो कर भून कर भोजन में ले।एवं सोंठ का पकाया जल, साराम्बु (असन आदि का पकाया जल) मधु का शर्बत, नागरमोथे से सिद्ध जल पीवे।

आदान काल का स्वाथ्स्य एवं रोग से संबंध..शिशिराद्यास्त्रिभि .... नृणां प्रतिदिनं बलम्।।

माघ से प्रारम्भ करके दो–दो मासों को मिलाने पर क्रमशः– शिशिर, वसन्त, ग्रीष्म, वर्षा, शरद और हेमन्त ये छः ऋतुएँ कही जाती हैं। उनमें से शिशिर आदि तीन ऋतुओं से उत्तरायण जानना चाहिये। इसी को आदान कहते हैं। इस काल में सूर्य प्रतिदिन मनुष्यों का बल लेता है।

आदानग्लानवपुषामग्निः .... सर्वमूष्मणस्तेजनं च यत्।.....*(अ.ह.सू 3)*

आदानकाल होने से अपचित धातुवाले शरीरधारियों के शरीर में पहले से ही मन्द अग्नि दूषित वातादि दोषों से और भी मन्द हो जाती है, क्योंकि वर्षाकाल में जब आकाश पानी से भरे बादलों से घिरा होता है, तब वातादि दोष दूषित होते है; साथ ही तुषारमिश्रित शीतल वायु के सहसा चलने के कारण से तथा भू–वाष्प से एवं अम्लपाक होने से, मलिन पानी के सेवन से, कालस्वभाव के कारण, मन्दाग्नि के कफ के दूषित होने से; वातादि दोष एक दूसरे को दूषित करने लगते हैं; उस समय साधारण विधि अर्थात् जो सबके लिए अनुकूल हो, ऐसी विधि का पालन करने का विधान बताया गया है तथा जो वस्तु अग्नि को प्रदीप्त करने वाली हो उसका सेवन करना चाहिए ऐसा निर्देश दिया गया है।

कालानुसार साधारण उपचार– आस्थापनं .....संशुष्कं क्षौद्रवल्लघु।*(अ.ह.सू 3)*

वमन, विरेचन से शरीर का शोधन करके आस्थापन बस्ति लेवे। पुरातन धान्य (जौ, गेहूँ आदि), संस्कृत मांसरस; जांगल पशुओं का मांस; मूंग आदि के यूष, पुरातन मधु से बना पुरातन अरिष्ट एवं सौवर्चल नमक मिश्रित अथवा पंचकोल (पिप्पली, पिप्पलीमूल; चव्य, चित्रक और सौंठ) से मिश्रित मस्तु पीवे। आकाश से गिरा वर्षा का पानी, या कुए का जल अथवा पकाया जल पीवे। वायु और वर्षा वाले अति दुर्दिन में अम्ल, लवण एवं स्नेहयुक्त, शुष्कप्राय भोजन करे; भोजन में मधु ले तथा लघु भोजन करे।

शोधन काल–श्रावणे कार्तिके चैत्रे मासि.....वाय्वादीनाशु निर्हरेत्।*(अ.ह.सू 3)*

ग्रीष्म, वर्षा एवं हेमन्त में क्रमशः वात, पित्त एवं कफ को श्रावण, कार्तिक, कार्तिक एवं चैत्र मास, में जो कि साधारण मास हैं, वे बहिर्भूत (निर्हरण) कर देना चाहिए।

सामाजिक वातावरण एवं स्वास्थ्य .स्वास्थ्य एव ंचिकितसा की दृष्टि से न केवल भौतिक वातावरण का महत्व है अपितु सामाजिक एवं मानसिक वातवरण का उतना ही महत्व है अतः इन्हे भी सामान्य स्थिति में रखने का शिक्षा पूर्ण निर्देश दिया गया है।

धारयेत्तु सदा वेगान् हितैषी प्रेत्य चेह च।लोभेर्ष्याद्वेषमात्सर्यरागादीनां जितेन्द्रियः।।

इस लोक में और परलोक में हित चाहने वाला मनुष्य जितेन्द्रिय बनकर सदा इन वेदों को धारण करें– लोभ, ईष्या, द्वेष, मात्सर्य, राग आदि।

नित्यं हिताहारविहारसेवी समीक्ष्यकारी विषयेष्वसक्तः। दाता समः सत्यपरः क्षमावानाप्तोपसेवी च भवत्यरोगः।।

सर्वदा हित आहार, हित विहार का सेवन करने का स्वभाव वाला; सोच–विचार कर कर्तव्य करने वाला; विषयों में न लगा हुआ, आसक्त न रहने वाला; त्यागी (दाता) तथा सब प्राणियों में समबुद्धि रखने वाला; सत्य निष्ठा वाला; क्षमाशील तथा आप्त पुरुषों का सेवन करने वाला मनुष्य नीरोगी होता है।

काले सात्म्यं शुचि हिचं स्निग्धोष्णं लघु तम्मनाः।
षड्रसं मधुरप्रायं नातिद्रुतविलम्बितम्..... सहाश्नीयाच्छुचिभक्तजनाहृतम्।।

भोजन की विधि और *पर्यावरण शिक्षा* – यथासमय, सात्म्य, पवित्र, हितकर, स्निग्ध, उष्ण और लघु भोजन करना चाहिये। भोजन तन्मय होकर मनोयोग से करना चाहिये। भोजन षड्रसोत्मक और मधुर–प्रधान होना चाहिये। न अधिक जल्दी–जल्दी और न अधिक धीरे–धीरे करना चाहिए। स्नान करने के बाद, हाथ–पैर और मुँह धोकर, एकान्त में भूख लगने पर ही भोजन करे ा पितरों को तृप्त करके (तपर्ण करके) तथा देव, अतिथि, बालक गुरु, तिर्यक् योनि (पशु–पक्षी) उनके भोजन की व्यवस्था करके भोजन करना चाहिये। अपने आप की सम्यक् समीक्षा (हित–अहित, सात्म्य–असात्म्य की समीक्षा) करके, भोजन की निन्दा किये विना, न बोलते हुये (शान्तिपूर्वक), अभीष्ट एवं द्रवबहुल भोजन इष्ट मित्रों के साथ करे ा वह भोजन स्वच्छपवित्र हो एवं भक्त (अनुरागी) जन के द्वारा लाया गया हो, शिशिर ऋतु चर्या के वर्णन में बताया गया है कि प्रिया के द्वारा परोसे गये, आम्ररस से सुगन्धित, आस्वादित (जिनको प्रिया स्त्री ने स्वयं चख कर दिये हों,), प्रिया के कमल रूपी नेत्रों से प्रतिबिम्बित, मन को प्रसन्न करने वाले; हृदय के लिये उत्तम या सुस्वादु, निर्दोष, आसव, अरिष्ट, सीधु, मार्द्वीक और माधव (मधु से निर्मित सुरा) को मित्र–मण्डली के साथ पीवे । यह सब सामाजिक वातावरण एवं स्वास्थ्य के सम्बन्ध को दर्शाता है ।

विमर्श- अष्टांग हृदय में पर्यावरण शिक्षा का मुख्य रुप से स्वास्थ्य एवं रोग एवं उसकी चिकित्सा से सम्वन्ध दर्शाया गया है **नित्यं सर्वरसाभ्यासः स्वस्वाधिक्यमृतावृतौ।।** नित्य सभी ऋतुओं में सभी छः रसों का सेवन करना चाहिए, लेकिन ऋतु के अनुकूल (अपने–अपने) रसों का प्रयोग अधिक करना चाहिए। **दैर्ध्यान्निशानामेतर्हि प्रातरेव बुभुक्षितः। अवश्यकार्य सम्भाव्य यथोक्तं शीलयेदनु।।**

हेमन्त ऋतु में रात्रि के लम्बी होने से प्रातः काल शौचादि आवश्यक कार्यों से निवृत्त होकर भूखे पेट ही वातध्न तैलों से अभ्य¯ , शिर पर तैल लगाना चाहिए।

उदमन्थं दिवास्वपन्मपवश्यायं नदीजलम् ।व्यायाममातपं चैवव्यावयं चात्र वर्जयेत्। *(अ.ह.सू.6/35)*

वर्षा ऋतु में जल में धुला सतु, दिन में सोना अवश्याय (ओस गिरते समय उसमें बैठना या घूमना), नदी का जल, व्यायाम, धूप में बैठना और मैथुन आदि छोड़ देना चाहिए।

वार्तापत्तास्त्रकृदालं बद्धास्थित कफपित्तकृत्। गर्वाम्रं वातजित्पक्कं स्वाद्वम्लं कफशुक्रकृत।। *(अ.ह.सू 1/26)*

आम का वह फल जिसमें गुठली नहीं बैठी हो, वात कारक, पित्तकारक एवं रक्तदूषक होता है। और जिसमें गुठली बैठ गई हो वह वात पित्त जनक होता है। पका मीठा आम–गुरू एवं वात नाशक होता है। और खट्टा आम कफ वर्द्धक एवं शुक्र वर्द्धक होता है। यह काल का सम्बन्ध फल उसके सेवन से शरीर पर प्रभाव को दर्शाता है ।

जाम्बवं गुरू विष्टम्भि शीतलं भृगवातलम् ।सडग्रहि मूत्रशकृतारकण्ठयं कफपित्तजित्।। *(अ.ह./सू.स्था./125)*

जामुन का फल गुरू विष्टम्भकारक, शीतल, वातवर्द्धक, मूत्र एवं पुरीष का रोधक, कण्ठ के हानिकारक तथा कफ पित्त नाशक होता है। यह काल का सम्बन्ध फल उसके सेवन से शरीर पर प्रभाव को दर्शाता है ।

पञ्च भूतात्मकं .....ब्यपदेशस्तु भूयसा।। *(अ.हृ./सू.स्था./125)*

वह द्रव्य, पृथ्वी, जल, अग्नि, वायु तथा आकाश नामक पंच महाभूतों के संयोग से निर्मित होता है और पृथ्वी का आश्रय पाकर उत्पन्न होता है। शरीर भी इन्ही तत्वों से बना है, सामान्य विशेष के सिद्धान्त के द्वारा स्वास्थ्य रक्षा एवं चिकित्सा में आहार विहार एवं औषध के द्वारा सहायता मिलती है ।

जांगल वातभूयिष्ठमनूपं तु कफोल्वणम्साधारणं सममलं त्रिधा भूदेशमादिशेत्।

भूमिदेश पर्यावरण का मुख्य घटक है जो तीन प्रकार का होता है जांगल, अनूप और साधारण इसमें जांगल में वायु की प्रधानता रहती है; अनूपदेश में कफ की प्रधानता रहती है तथा साधारण देश–में वातादि समानरूप में रहते हैं। जिस देश में जल, पर्वत और वृक्ष अधिक होते हैं वहाँ कफ और वायु के रोग अधिक होते हैं ऐसे देश को 'अनूप' कहते हैं और जिस देश में जल थोड़ा और गहरा होता तथा वृक्ष भी थोड़े छोटे होते हैं, ऐसे देश में पित्त, रक्त, वायु रोग अधिक होते हैं। इस प्रकार के देश को जांगल देश कहते हैं। जिस देश में उक्त दोनों लक्षण मिलते हैं, श्रेष्ठ देश माना गया है जैसे – पंजाब, उत्तर प्रदेश, श्रेष्ठ देश हैं आसाम, बांग्लादेश और बंगाल अनूप देश हैं, बीकानेर, जैसलमेर, अरब एवं अफ्रीका के देश 'जांगल' देश हैं। वाग्भट में श्मशान या चिता से दूर रहने के लिए कहा गया है तथा जल, अग्नि तथा पूज्य जनों के बीच से निकलने के लिए वर्जित किया गया है।अतः स्वास्थ्य एवं रोग की दृष्टि से देश का विशेष महत्व है।

इस प्रकार देश काल जल वायु आदि भौतिक वातावरण का निर्माण करते है और स्वास्थ्य एवं चिकित्सा का दृष्टि से इनका विशेष महत्व है । जब कभी इनमे से एक या सभी दूषित होते है तो जनपदोध्वंस या मरक जैसी स्थिती उत्पन्न होती है जिससे जान माल की अत्यन्त हानि होती है । संहिता ग्रन्थो मे इसका कारण मुख्य कारण अधर्म बताया गया है एवं इससे निपटने के लिये धार्मिक एवं चिकित्सीय उपाय बताये गये है ।

सन्धर्भ ग्रन्थ –

अष्टांग हृदयम् व्याख्याकार **प्रो.** बनवारी लाल गौड चौखम्भा ओरियन्टालिया वाराणसी द्वारा प्रकाशित

चरक संहिता व्याख्याकार ***पं. काशीनाथ पाण्डेय एवं गोरखनाथ चतुर्वेदी*** चौखम्भा भारती अकादमी वाराणसी द्वारा प्रकाशित

सुश्रुत संहिता याख्याकार अम्विका दत्त शास्त्री , चौखम्भा भारती अकादमी वाराणसी द्वारा प्रकाशित

M.D. (AY) thesis study on the concept of environment in Ayurveda W.S.R to health and disease, by Dr. Shiv Shankar Pathak 'Dec.2010

Role of Jivantyadi Ghrit on Myopia With Special Reference To Timir-A Review

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Abstract:Myopia is a major public health problem pertaining to eye that entails substantial social, personal, educational, and economical impacts.It is highly prevalent in our society, affecting at least 25% of the adult populationin the United States and is even more common in Asian countries, affecting up to 84% of adolescents.Due to the significance of myopia as a global public health concern, it was chosen as a priority for Vision by World Health Organization's global initiative for the elimination of avoidable blindness by year 2020.Though the modern counterpart has made tremendous and remarkable progress in the field of ophthalmology but no satisfactory and universally accepted treatment for myopia is available. Myopia progression is irreversible and there is no satisfactory method to controll the progression of this disease. Threre are various drugs and local therapeutic procedures like Tarpan, Putpaak, Seka, Aschyotana, Anjana etc have been mentioned in Ayurvedic texts for the management of Timir but Akshi-Tarpana is the foremost on account of its sound literary and practical evidences.In present research work it is tried to evaluate the efficacy of Akshi tarpan procedure with jivantyadi ghrit in simple and progressive myopia closely resemble with timir in terms of symptoms, anatomical structures involved, and the pathogenesis of the disease.This therapy is one of the most important procedure for various ocular condition, diseased as well as healthy eye.It is effective in darkness in front of eye, dryness,roughness,falling of eyelashes,deviation of eyeball, sheds the weaknes of eye and provide energy,strength and better eye sight.Unfortunately this therapy is less familiar in our society,today there is needed to standardize this procedure so that it becomes beneficial for the society.

Key words- Myopia, Akshi Tarpan, Timir,Jivantyadi ghrit,Anjana,seka

Introduction: Myopia is the state of refraction in which parallel rays of light are brought to focus in front of the retina of a relaxed eye. Myopia is measured by the spherical power in diopters of the diverging lens needed to focus light onto the retina, which can be expressed as the spherical equivalent or refraction in the least myopic meridian. The clinical correlates of myopia include blurred distent vision, eye rubbing, and squinting.Myopia is highly prevalent in our society worsen the eye sight that is mild diminution of vision to complete loss of sight affecting all age groups as school going children and adults.Various surveys in India have found the myopia prevalence ranging from 6.9% to 19.7%. Furthermore, its prevalence may be

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increasing over time as suggested by some studies in developed countries including Singapore, Australia, and the United States. Myopia progression is irreversible and there is no permanent cure of this disease. Methods for the correction of myopia are not without complications, including corneal infections due to contact lens wear and corneal scarring and persistent corneal

haze from refractive surgery. Refractive surgeries for treatment of myopia are both costly and not suitable for children's eyes and do not change axial elongation, which is the commonest source of myopia. Hence, the Ayurvedic science can be explored to find a better alternative to manage this condition. Previously many works have been carried out on the efficacy of Akshi-Tarpana in Timira (myopia) with encouraging results but there is need of more researches to reach a definite conclusion.

Akshi-Tarpana therapy is indicated in Ayurvedic texts concerning to shalakya tantra.In Timira (myopia), Chakshushya, Rasayana, and Tridosha mitigating action might be helpful. Ghrita is best Rasayana drug and Jivantyadi is one among the best Chakshushya drugs, and most of the contents of Jivantyadi Ghrita have Tridosha pacifying action. Jivantyadi ghrit having all these properties is selected for the study to evaluate the efficacy of Akshi-Tarpana with Jivantyadi Ghrita in Timira that is in simple and progressive myopia

Concept of Timir: Timir term is used in a broad prespective in Ayurveda literally means darkness refer to mild diminution of vision to complete loss of vision. Achrya Sushrut described (Su.Utt.1/7) there are six patala two patala outside in both eyelids and four inside the eye (Tejojalashrit, Mansashrit, Medashrit, asthyashrit) in which Timir a very sever eye disorder takes place.Achrya again describe timir in drustiigata roga(Su.Utt.8).Patala simpal mean covering or layers,when severely vitiated dosa reaches inside the eye through blood vessels and get located in the first layer of drusti there is indistinct vision of all objects.Vision become more disturbed when dosa reaches in the second layer due to aggravated dosa the patient sees flies, mosquitos, hairs, stars, rains, clouds and darkness , faulty perception, even after great effort does not locate the whole of needle.When severly aggravated dosa involve third layer,vision is more disturbed patient sees defective things as large objects covered with cloths,perceives the ear,nose and eye without them,according to location of dosa in drusti sees one object two,two object three,three object many this type of disorder is known as timir.When disorder advances and involve the fourth layer vision is obscured completely known as Linganasa if darkness is not much advanced the person perceives the moon,the sun,stars,lighting in sky,pure light and glitting objects.When aggravated dosa involve first,second,third patala it is known as timir, in severely advance condition involve forth patala is known as lingnaas, nilika, kanch.

Tarpan Therapy :Akshi tarpana is a unique ocular therapeutic procedure in which after complete purification of whole body and shira, complete digestion of food, room free from air, dust and direct light, Patient lie down in supine position, morning or evening time, medicated ghrita liquified in luke warm water is retained over the eyes as eyelashes completely dip in(round circular boundary of urad paste is made around each eye) for a specific period of time with continuous blinking of the eyelashes .The medicated ghrita nourishes and strengthens the eye structure,provide better eye sight, person easy sleep and awaking, eye looks neat and clean , clearity in white and black portion of eye ,removes diseases and improves function of eyes. It was observed that this therapy is not much effective in case of degenerative myopia. Clarity and Improvement of vision observed. There is no any changes seen in axial length of eyeball.This therapy is also effecti ve in headache, eye ache,Tiredness of the eye, Heaviness, Burning sensation, Dryness, Roughness,Deviation of the eyeball,Falling of eyelashes,etc.

Inadeqate And Excess Use Of Tarpan Therapy: Tarpan therapy is effective only when used adequately, inadequate use of therapy it causes roughness, dirty eyes, lacrimation, intolerance of light, aggravation of diseases condition, if excessively used there is heaviness of eyes, dirty looking eyes, lubricated, lacrimation, itching, sliminess and aggravation of dosa.Tarpan therapy contraindicated in cloudy weathers, extreme hot and cold seasons, anxiety, exertion, giddiness and any complication persist in eye.

Probable Mode Of Action Of Akshi-Tarpana :Considering the Dosha karma, the medicated ghrit having tridohs pacifying action appears to be predominantely Vatashamaka followed by Pittashamaka and Kaphashamaka (by virtue of its Rasa, Guna, Veerya, and Vipaka). Thus, the overall effect of the compound drug is Rasayana, Chakshusya, Tridosha Shamaka and hence it disintegrates the pathology of Timira, which is also Vata Pradhana Tridoshaja in its manifestation.The Ghrita has the quality of trespassing into minute channels of the body. Hence, when applied in the eye, it enters deeper layers of Dhatus and cleanses every minute part of them.The lipophilic action of Ghrita facilitates the transportation of the drug to the target organ and finally reaching the cell, because the cell membrane also contains lipid. This liphophilic nature of Ghrita facilitates the entry of drug into the eyeball through the corneal surface since the corneal epithelium is permeable to lipid-soluble substances and lipid-soluble substances cross the corneal epithelium irrespective of their molecular size.Moreover, Ghrita preparation used in Akshi-Tarpana is in the form of suspension containing different particles of the drugs and the particles do not leave the eye as quick as a solution. Tissue contact time and bioavailability is more and hence therapeutic concentration can be achieved by Akshi-Tarpana.This facilitates the action of drug by two ways – first by allowing more absorption of the drug by the corneal surface and secondly by exerting direct pressure upon the cornea. There may be changes in the refractive index of the cornea causing less convergence of light rays.

Conclusion: Maximum patients were from the school-going age group and having a habit of working on computers and studying for long time, supporting the theory which states that excessive use of accommodation will lead to the development of myopia.In few patients, even if no change in clinical refraction was observed, still the overall clarity of vision was found to be improved and asthenopic symptoms like eye strain, itching, burning sensation, watering, heaviness etc., were remarkably reduced.In the reduction of the dioptric power, Jeevantyadi Ghrita has shown better results in Newly detected cases and patients having a dioptric power less were found to have better results.The duration of the treatment is short; hence, for reaching at any definite conclusion, further long-duration studies are needed. Since the study has shown interesting results, it is recommended that the study should be carried out on a large number of patients with longer duration to evaluate and analyze the results. Many diseases described in modern ophthalmology which are not completely curable. But only preventive measures can be used on the basis of sign and symtoms, so it is very important to treat myopic condition by tarpana karma. Therefore, scope of present research work may be fruitful and create a new hope to cure Various eye problems including myopia and symptomatic relief of eye condition. It is also very important to standardize this old procedure and mechanism of action with the help of Jivantyadi ghrit according to disease condition of eye in term of indication, contraindication and duration so that it may be beneficial for the society.

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Postoperative life saving unit –PACU

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ABSTRACT: The postanaesthetic care unit (PACU) addresses the need for an improved level of care for these patients by providing postoperative high-dependency or intensive care (Level 2 or 3). The PACU aims to improve the structure of care provision for high-risk surgical patients. By maintaining 24-hour cover at the same staffing level, the risk of poorer 'out-of- hours' care is reduced. In a PACU, whose remit is solely postoperative care, evidence-based protocols can be established to standardize the care given. The aim is to provide 24 hours of postoperative optimized care, thus targeting the period when these patients are most vulnerable, to reduce the risk of complications developing and identify complications promptly, should they occur. The PACU is set up to acilitate certain processes to aid optimized care in the postoperative period.

Introduction: In 1985, the AAGBI published recommendations for the improvement and management of recovery facilities in hospitals. However, many changes in practice, workload, expectations and staff training have occurred in the last 10 years, and the recommendations in this new document reflect these changes.

Another change that has taken place in this time is the use of the term PACU in some hospitals as an abbreviation for 'post-anaesthesia care unit' and in others, post-anaesthesia recovery unit (PARU). This document primarily considers care delivered in the immediate postoperative period and will use the term PACU to refer to all areas that would formerly have been called 'recovery rooms'. Every patient undergoing general anaesthesia or central neuraxial blockade for surgery should be recovered in a designated area as described in this document.

The PACU should be in a central position within the theatre complex enabling ease of access from the operating theatre but with a separate outside access for transfer of patients to the ward. Health Building Note 26 relates the size of a PACU to the number of operating theatres served, e.g. a recovery area for a typical department of eight theatres would have 16 bays, 12 of 13.5 m2 and four larger ones of 26 m2.

However, it recognises that the size and number of beds should also reflect the number of cases per session and the average time spent in the PACU. The ratio of PACU beds to operating theatres should not be less than two. The bed spaces should allow unobstructed access for trolleys, x-ray equipment, resuscitation carts and clinical staff.

All PACU bed spaces should have 12 electrical socket outlets (six each side of the bed), one oxygen pipeline outlet, one medical air outlet, two vacuum outlets, an adjustable examination light, a push-button emergency call system, and physiological monitors with a display screen and recording system for patient data.

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There should be access to a staff rest area near to, but outside, the immediate recovery area. Other facilities should include toilets, showers, clean duty clothes and secure storage for personal possessions.

Monitoring, equipment and drugs: An appropriate standard of monitoring should be maintained until the patient is fully recovered from anaesthesia. Clinical observation should therefore be supplemented as in the operating theatre by a minimum of pulse oximetry, non-invasive blood pressure monitoring, ECG and, if patients' tracheas remain intubated or they have their airways maintained with a supraglottic or other similar airway device, continuous capnography. Difficult airway equipment, a nerve stimulator for assessing neuromuscular blockade, a thermometer and patient warming devices should be immediately available. It is recommended that there should be full compatibility between operating theatre, PACU and ward monitoring equipment.

All drugs, equipment, fluids and algorithms required for resuscitation and management of anaesthetic and surgical complications should be immediately available. Consideration should be given to providing dedicated trolleys or carts for this purpose.

PACU staff: No fewer than two staff (of whom at least one must be a registered practitioner) should be present when there is a patient in the PACU who does not fulfil the criteria for discharge to the ward. Staffing numbers should allow one-to-one observation of every patient by an anaesthetist, registered PACU practitioner or other properly trained member of staff until they have regained airway control, respiratory and cardiovascular stability, and are able to communicate. In addition, there should be an anaesthetist who is supernumerary to requirements in the operating theatres immediately available for patients in PACU.

All specialist staff should have received appropriate training to nationally recognised standards for Post-anaesthesia Care. All staff should be encouraged to attain and maintain at least one such life support qualification. Continued professional development and the training of other staff is facilitated by activities such as the establishment of lead practitioners in certain areas, e.g. pain relief, life support, infection control, paediatrics, liaison with ward staff, health and safety matters, and training cocoordination..

Management of patients in the PACU: Patients must be observed on a one-to-one basis by an anaesthetist, registered PACU practitioner or other properly trained member of staff until they have regained airway control, respiratory and cardiovascular stability, and are able to communicate. This recommendation is paramount and must be observed, even if it causes delay in the throughput of patients. Patients must be kept under clinical observation at all times, and all measurements should be recorded, preferably by an automatic recording system networked with theatre systems. Certain information should be recorded as a minimum (Table-1).

Table 1:Minimum information to be recorded for patients in the postanaesthesia care unit.

• Level of consciousness • Patency of the airway • Respiratory rate and adequacy • Oxygen saturation • Oxygen administration • Blood pressure • Heart rate and rhythm • Pain intensity on an agreed scale • Nausea and vomiting • Intravenous infusions • Drugs administered • Core temperature • Other parameters depending on circumstances, e.g. urinary output, central venous pressure, expired CO2, surgical drainage volume.

Tracheal tubes and other airway devices:On many occasions, patients will be handed over to the PACU nurse with a laryngeal mask airway or other supraglottic airway device in place. The nurse must be specifically trained in the management of these patients and in the removal of the airway device. An anaesthetist should be immediately available to assist if problems occur while the airway device is in place .

Discharge from the PACU: Every PACU should have well-defined minimum criteria for fitness for the discharge of patients to the general ward or other clinical areas (Table 2).

Discharge from the PACU is the responsibility of the anaesthetist but the adoption of strict discharge criteria allows this to be delegated to PACU staff.

Table 2. Minimum criteria for discharge of patients from the postanaesthesia care unit.

- The patient is fully conscious, able to maintain a clear airway and has protective airway reflexes
- Breathing and oxygenation are satisfactory
- The cardiovascular system is stable, with no unexplained cardiac irregularity or persistent bleeding. The specific values of pulse and blood pressure should approximate to normal pre-operative values or be at an acceptable level, ideally within parameters set by the anaesthetist, and peripheral perfusion should be adequate
- Pain and postoperative nausea and vomiting should be adequately controlled,and suitable analgesic and anti-emetic regimens prescribed
- Temperature should be within acceptable limits [15]. Patients should not be returned to the ward if significantly hypothermic
- Oxygen therapy should be prescribed if appropriate
- Intravenous cannulae should be patent, flushed if necessary to ensure removal of any residual anaesthetic drugs and intravenous fluids should be prescribed if appropriate
- All surgical drains and catheters should be checked
- All health records should be complete and medical notes present.

Handing over to ward staff: Patients should be transferred to the ward accompanied by two members of staff, at least one of whom should be suitably trained. The anaesthetic record, together with the recovery and prescription charts, must accompany the patient and clearly indicate to the ward staff the details of relevant drugs administered in theatre and PACU, e.g. analgesics and antibiotics.

Patients' perspective: The written information given to patients before their admission to hospital should explain the purpose and nature of the PACU.

Audit and quality control in the PACU: The recording of key quality and outcome data from all patients passing through the PACU should be routine for all hospitals. The data recorded from PACU patients should be compared with national and local benchmarks with the express aim of improving and maintaining the quality of pre-, intra- and postoperative care, and measuring compliance with national standards. The recommendation that a minimum dataset should be recorded for all patients admitted to a PACU (Table 3).

Table 3.Minimum dataset to be recorded for all patients admitted to a post-anaesthesia care unit.

• Last name, first name, date of birth and NHS number
• Gender
• ASA physical status
• Surgical procedure performed
• Names of anaesthetist and surgeon
• Type of anaesthesia
• Time of admission
• Core temperature on admission to the PACU
• Incidence and severity of postoperative nausea and vomiting
• Severity of pain experienced in the PACU
• Analgesia given in the PACU
• Time of fitness for discharge from the PACU
• Time of discharge from the PACU
• Complications

In addition to these data, there should be a list of adverse incidents that should be recorded and fed into a clinical governance programme that records and disseminates the incidence of adverse incidents, and can investigate individual incidents if appropriate. These might include:

- Cardiopulmonary arrest • Major airway complications • Death • Severe pain that is difficult to treat • Prolonged stay (> 2 h) • Significant hypothermia (< 35 °C)
- Need to call an anaesthetist to review a patient • Need for ventilatory support (CPAP, tracheal intubation, lung ventilation) • Need for cardiovascular support (inotropes, vasoconstrictors, anti-arrhythmics) • Return to the operating theatre before discharge from PACU • Inadequate reversal of neuromuscular blocking drugs.

Reports of such incidents should be accompanied by clinical information that will allow further analysis.

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Anaesthetic management of a thirty six year old male with reduced mouth opening, diagnosed as Oral Submucous Fibrosis

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Abstract: Reduced or nil mouth opening is usually associated with dentition, orthognathic problems & other oral pathologies. Airway management in such cases is very challenging. When assessing airway, preoperative information should be obtained. A discussion with surgeon is vital, based on radiological investigations eg; CT/MRI. In presence of airway obstruction, it is important to know its level, trying to infer effectiveness of chosen technique for intubation. It is crucial to define intubation & extubation alternatives. Though numerous intubation techniques has been developed for such cases. Blind nasal intubation is most commonly used method for intubation in patients with limited mouth opening; other techniques are video-laryngoscopy or fiber optic intubation, retrograde intubation, invasive airway access like tracheostomy. The purpose of this presentation is to report the challenges encountered in the airway management of a thirty six year old male having reduced mouth opening diagnosed as Oral Sub Mucous Fibrosis.

Keywords: Airway management, Blind nasal, Oral Sub Mucous Fibrosis.

INTRODUCTION: OSMF (Oral sub mucous fibrosis) is a premalignant lesion of buccal mucosa that occur in an estimated 2.5 million people worldwide usually caused by chewing areca nut. In central, southern & southeast Asia, the abuse of smokeless tobacco popularity involves the chewing of beetal quid or pan-supari. It results in the progressive inability to open mouth. It affects the buccal mucosa, lips , retromolar areas, soft palate. Early lesion appears as a blackening of mucosa imparting a mottled, marble like appearance whearas later lesion demonstrate palpable fibrous bands that render the mucosa pale, thick & stiff. It results in progressive inability to open the mouth, pain , burning sensation, dysphagia & hearing loss. The premalignant nature of OSMF & the reported occurrence of squamous cell carcinoma in OSMF (2% - 30%) emphasize the importance as an earlier & more aggressive surgical approach towards OSMF and long term follow up on regular basis.

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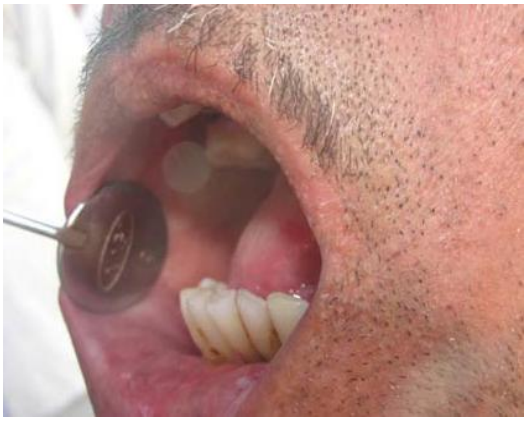

OSMF SHOWING FIBROUS BANDS: Patients with OSMF requires anaesthesia for trismus correction , resection & reconstructive surgery . OSMF causes trismus , which results in difficulty in laryngoscopy & intubation of trachea , it makes intubation a challenging task to an anaesthetist. Blind nasal intubation technique is chosen to give general anaesthesia. To provide a definitive airway fibreoptic videolaryngoscope, instruments for retrograde intubation and surgical airway should be ready.

CASE REPORT: A thirty six year old male patient with limited mouth opening, diagnosed as oral sub mucous fibrosis posted for fibrotomy by department of oral & maxillofacial surgery in our hoapital. His weight is 65 kg & height is 175 cm. He is presented with history of decreased mouth opening & so decreased appetite , gradually decreasing since last six months. All routine laboratory tests (CBC, LFT, RFT, FBS, S. ELECTROLYTES) & coagulation test gave normal results. Patients airway assessed, on examination of the nasal cavity there was no deviated nasal septum, no hypertrophy of turbinates or any nasal mass. Patient was reassessed for management of difficult intubation & necessary instruments made ready and planed for blind nasal intubation with set for surgical airway, retrograde intubation and fiberoptic device also kept ready. In the operative room & after placement of standard monitoring (pulseoximetry, noninvasive blood pressure, ECG monitoring) heart rate 82 beats/min, blood pressure 130/86 mmHg & oxygen saturation 100% in room air were observed. IV line secured using 20G intracath & IV fluid ringer lactate started with rate of 80 ml/ hrs.

EQUIPMENTS:*Portex cuffed endotracheal tube no 6.5, 7.0 & 7.5*

1- *Lignocaine gelly 2%.*
2- *Lignocaine 4% solution.*
3- *Lignocaine 10% spray.*
4- *Oxymetazoline 0.05% nasal spray.*
5- *Syringes to inflate cuff.*
6- *Intubation equipments- Laryngoscope, Fiberoptic device etc.*
7- *Magill's foreceps.*
8- *Tracheostomy tray with tracheostomy tube.*

As patient was cooperative for awake intubation, patient was counseled & educated about the procedure of awake blind nasal intubation. Preoperatively, nasal decongestant 0.05% xylometazoline was instilled in nostrils. Mouth gargle with lignocaine 4% solution & lignocaine 10% sprayed in both nostrils and nasopharynx to overcome gag reflux. Premedication done with inj ondensetrone 4 mg i.v., inj glycopyrollate 0.2 mg i.v., inj midazolam 1 mg i.v. & inj tramadol 50 mg i.v. Patient Intubated with blind nasal intubation technique through left nostril with portex cuffed endotracheal tube no 7.5, confirmation of tube placement done with chest auscultation & capnograph. Inj propofol 50 mg i.v. given to achieve depth of anaesthesia & Intermediate acting muscle relaxant inj vecuronium 4 mg iv given . Afterthat anaesthesia is maintained with oxygen , nitous oxide & sevoflouarane.Patient vitals are monitored throughout the procedure. Procedure lasted for 3 hrs. After spontaneous respiratory attempts reversal is obtained by inj glycopyrollate 0.4 mg + inj neostigmine 2.5 mg i.v. Patient extubated after proper suctioning, throat pack removal, & after confirming adequate respiratory attempts and tone. Patient shifted to recovery room for further monitoring.

DISCUSSION: Generally in case of difficult airway , some better options for airway management like orotracheal intubation, Laryngeal mask airway(LMA) , intubation LMA, combitubes are used. But as there is limited mouth opening only few options are left and they are blind nasal intubation, retrograde intubation, transtracheal jet ventilation, fiberoptic videolaryngoscopic intubation & surgical airways like tracheostomy and cricothyrotomy. In this patient we planed for blind nasal intubation. Fiberoptic intubation , tracheostomy & retrograde intubation were kept as final resort for airway management as they are more invasive in nature. During blind nasal intubation tube can advance in to trachea anteriorly, latterly in to pyriform sinus or in to esophagus. Confirmation of tube placement done by listening to breath sounds , auscultation of breath sounds & capnograpgy. Fiberoptic video laryngoscope is gold standard, as blind nasal intubation may cause injury to middle or inferior turbinate, infection, nasal mucosal injury & epistaxis. But its cost & availability and technical difficulty limits its use in rural setups. Blind nasal intubation is technique of choice in many situations in maxillofacial surgery & facial trauma surgeries due to its success rate, cost effectiveness and its noninvasiveness.

CONCLUSION: In a patient with limited or nil mouth opening, fiberoptic guided awake nasal intubation is a gold standard, safer & better alternative to other techniques. But due to its unavailability & cost , blind nasal intubation is a technique of choice in many condition.

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Approach Of Ayurveda On Cystoid Macular Edema

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Abstract: Purpose: To report a case of chronic Cystoid Macular Edema (C.M.E.)who presented in Shalakya OPD of Ayurveda,SSL hospital ,BHU and was treated with ayurvedic medications.

Method: Case report of a 69 yr old female patient.

Results: A female patient of 69 yrs was diagnosed with Cystoid Macular Edema in Right Eye for which she has been taking modern medication from long time and was also given intravitreal Avastin injections twice but her vision did not improved to her satisfaction. Patient was prescribed with ayurvedic medications along with some modern medications to which she responded with good visual outcome and personal satisfaction.

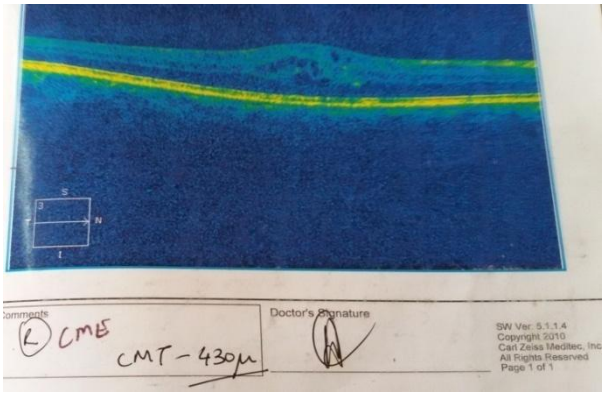
Conclusion: Ayurvedic medications in a planned way is found to be effective in treating Cystoid Macular Edema with a better visual outcome . Hence this should be practiced to establish the rationale of treatment evidence based.

Introduction: Cystoid Macular Edema(CME) is the accumulation of fluid in the outer plexiform and inner nuclear layer of retina with the formation of fluid filled cyst like changes .Long standing cases usually lead to coalescence of microcystic spaces into large cavities .[1]CME is a common and non specific condition that may occur with any type of macular edema . The patient complains of impairment of cental vision associated with positive central scotoma .The main causes include diabetic retinopathy , hypertensive retinopathy, retinal vein occlusion ,intraocular inflammation following cataract surgery etc. The treatment includes laser photocoagulation ,steroids given topically or by posterior periocular injection, systemic carbonic anhydrase inhibitors etc. [2]

To correlate Cystoid Macular Edema(CME) exactly to the disease mentioned in Ayurveda is difficult but it can be cateogrised under Dhristigata roga mentioned in Ayurveda as there is loss of central vision.

Case Report:A female patient of age 69 yrs presented in Shalakya OPD No. 13 of Ayurvedic Wing of SSL hospital,BHU. Her chief complaint was diminished vision in her Right eye since 3yrs .She had a history of hypertension ,increased cholesterol level for which she was taking medicine since 2yrs and was under control.The patient was diagnosed with Cystoid Macular Edema in Right Eye in 2011 for which she was given laser photocoagulation therapy in Bangalore and her vision restored. Again in December 2012 her vision deteriorated and she was diagnosed with Cystoid Macular Edema in Right eye with Central Macular thickness (CMT) 430µm(according to OCT report).

Fig.1 : OCT report of RE on December 2012 showing CMT of 430 µm



She was given intravitreal Avastin injection in Right eye followed by continuous use of NSAID group eye drop.Patient repeated OCT examination February 2013 : CMT-367µm , March 2013 : CMT- 394µm, 10August 2013 :422µm

In 12 August 2013 she was given intravitreal Avastin injection again in the Right eye followed by OCT examination with CMT -394µm on 21 August 2013.Patient was continuously using NSAID group eye drop in Rt eye.

Patient presented in Shalakya OPD of SSL Hospital BHU on 28 June 2014.Her examination were as follows:

Visual acuity RE:6/36P LE:6/18P

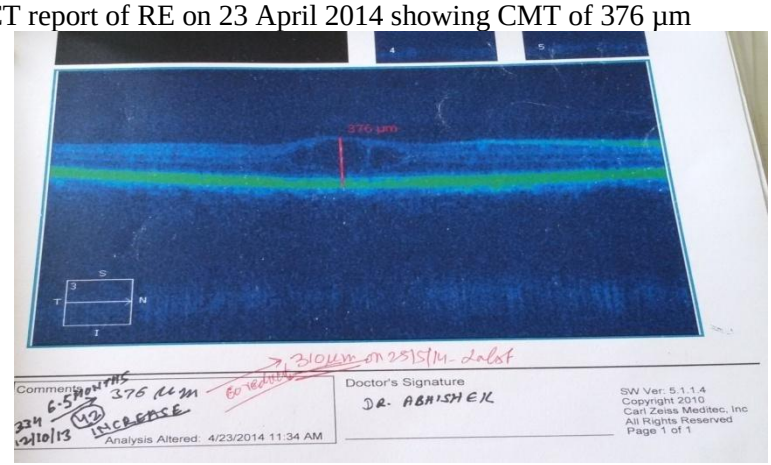
BCVA(Best corrected visual acuity) RE:6/12P(+2.00Dsp+1.00Dc at 150 degree)

LE: 6/12P(+2.50 Dsp) For near vision :N-6 (+3.00 Dsp)

Investigation : According to OCT examination of retina:

CMT(Central Macular Thickness): 23 April 14 :376µm with cystic spaces around foveal region.

Fig.2 : OCT report of RE on 23 April 2014 showing CMT of 376 µm



On Examination: Rteye: Mild cortical cataract ,media clear, disc within normal limit ,foveal reflex dull.

Patient was advised for a good control of blood pressure.The medications prescribed were:

Madhuyasti gugglu 2 tab bd with water

Ashwabalarishtha 20ml bd 20 min after meals

Tab Dhristhiprabhavati + Tab I-Tone 2tab each with 1/2tsf madhu + 1/4tsf ghritta.

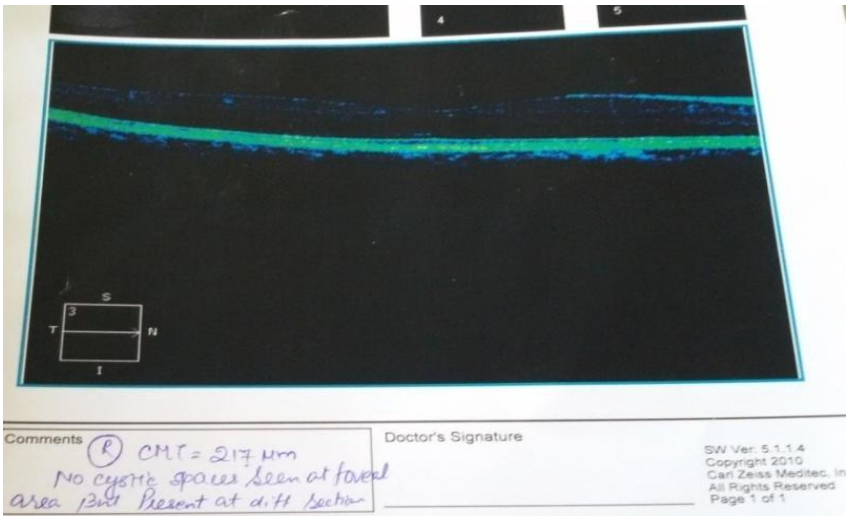
Patient came for follow up after one month

On Examination: Visual acuity RE:6/24 LE:6/12P

BCVA(Best corrected visual acuity) RE:6/6P LE:6/6P(with the same glasses she was using before)

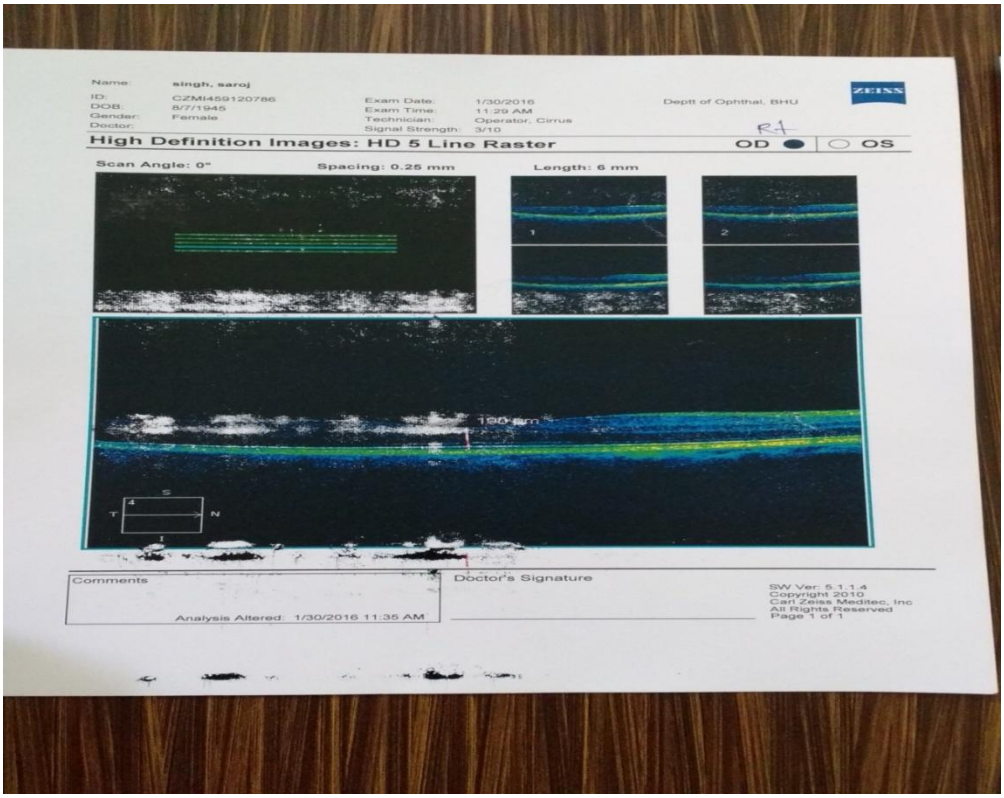
OCT examination :CMT-217µm with no cystic space around foveal region.

Fig.3: OCT report of RE on July 2014 showing CMT 217 µm and no cystic space around foveal region



The same patient was examined and reviewed as followup after almost one and half year i.e on 30th January,2016. Her Visual acuity was noted and was found stable,funduscopy and OCT was done in right and found absolutely within normal limit.

Fig: 4: OCT report RE on 30th January2016 showingCMT 180 mew m and no cystic space around foveal region.



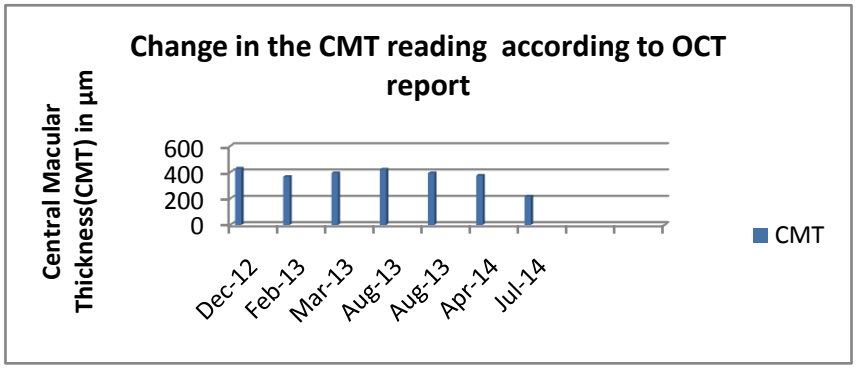
Discussion: Patient was taking anti-inflammatory eye drops from long time also she was given intravitreal Avastin(anti vegf)twice but the patient was not satisfied. Her vision was not static and the CMT reading showed variation. She was advised for intravitreal injection again than she visited Ayurveda OPD as she wanted an alternative.

Cystoid Macular Edema(CME) is the accumulation of fluid in the outer plexiform and inner nuclear layer of retina with the formation of fluid filled cyst like changes. To correlate Cystoid Macular Edema(CME) exactly to the disease mentioned in Ayurveda is difficult but it can be cateogrised under Dhristigata roga mentioned in Ayurveda as there is loss of central vision.

Madhuyasti gugglu (contains madhuyasti, triphala, shigru, pippali ,gugglu etc), Ashwabalaristha (aswagandharistha, balarishtha, dasmoolarishta),Dhristiprabhavati (muktapisthi and chandraprabhavati) all the drugs have a good anti-inflammatory role , are vata pacifying in nature and are good for eye disorders.The medications were effective in reducing the accumulation of fluid and also in reducing the cystic changes in foveal region thus resulting in good visual outcome and satisfaction to patient. With the present treatment the patient was satisfied as her vision became static . Also the CMT reading for the first time during the whole course of her treatment period came within a normal range (217 µm).The patient is in regular follow up and her vision is static and her CMT maintained within normal range.

After almost one and half year the same patient came for follow up and patient was thoroughly examined OCT was done and found and found absolutely normal even after stopping all medicine and found no recurrence.

Fig.5:Change in the Central Macular Thickness reading according to OCT report



CONCLUSION:Ayurvedic medications have a good role in many ophthalmic diseases . A well planned combined therapy can result in good outcomes with patient satisfaction and can be an alternative of Anti VEGF intra-vitreal periodic injection but pharmacokinetics and pharmacodynamics of these effective drugs should be explored by more extensive scientific research.

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BASIC CONCEPT OF ASPHERIC IOL IN CATARACT SURGERY

*** Shrinkhal ** Arvind Gautam**

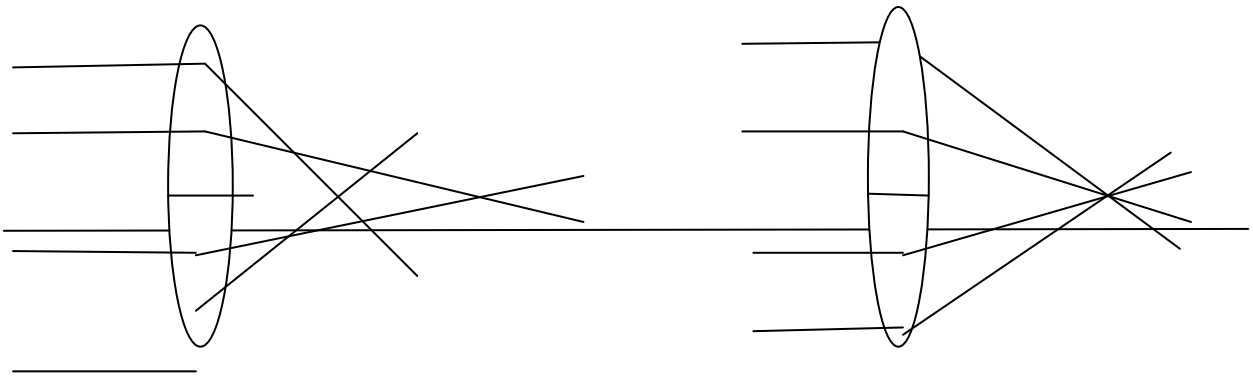
Abstract: Spherical Aberration (SA) causes decreased contrast sensitivity, glare and halos around lights. Clearest image is provided when total SA of the eye is zero. Aspheric IOL is now-a -days most commonly used IOL. Dr. Devgan's decision tree for aspheric IOL selection is best.
Key Words: Spherical Aberration, Asphericity, Dr. Devgan's decision tree**.**

Cataract surgery is highly evolving area and surgeons are always trying to give the patient "perfect vision". The focus of cataract surgery is now shifting from visual acuity only, to other parameters also, as contrast sensitivity, glare disability, in order to provide best possible quality of vision.

Asphericity is a measure of shape of refractive medium and how it affects bending of light.

Shape of refractive surface can be broadly classified as:

1. Sphere: Perfectly round.
2. Prolate asphere: Steeper in centre and flatter in periphery.
3. Oblate asphere: Flatter in centre and steeper in periphery.



Sphere with spherical aberration Prolate asphere with reduced spherical aberration

When parallel rays of light passes via a spherical medium, the central rays focus more posteriorly than the peripheral rays that converge more and focus more anteriorly. This creates Spherical Aberration (SA).

In prolate asphere, due to flatter periphery, rays passing from periphery focus more posteriorly, thus more coincident to central rays. Thus SA is reduced.

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SA cause decreased contrast sensitivity, glare and halos around lights. Clearest image is provided when total SA of the eye is zero. SA is dependent on the pupil size also. SA comes into play when the pupil size is > 4 mm. i.e. in myopic and mesopic conditions.
Two parts of the eye exhibit asphericity: 1. Cornea 2.lens
SA of cornea is around +0.3 microns and remains stable throughout life.
SA of human crystalline lens changes considerably with age, moving from negative SA value to positive. Glasser and Campbell had shown this [1]. In young age, SA of lens is around -0.2 microns which balances the positive SA of cornea, giving zero or very low SA [2]. At age 40 years, SA of lens becomes zero leading to positive total SA of the eye (0 of lens + 0.3 of cornea). At later age, SA of lens becomes positive, thus instead of nullifying the corneal positive SA, it adds on to it making it more positive SA. This causes blurred vision and decreased contrast sensitivity. Also with age, contrast sensitivity decreases, first at higher spatial frequencies, then at all spatial frequencies [3].
Traditional spherical IOLs added positive SA, thus keeping SA similar to that found in the ageing natural lens. Lower SA is related to better accommodation also. Wang and Koch has recently demonstrated that when all aberrations are corrected, eyes with zero SA have the best depth of focus [4]. Also, it has been seen that positive SA causes Myopic shift AND negative SA causes Hyperopic shift.
After performing various studies it was found that corneal topography values of 71 cataract patients showed that average SA of human cornea was + 0.27 microns[5]. It was subsequently confirmed in several other studies [6,7].

Types of Aspheric lenses:

1. Tecnis Z9000: SA = - 0.27 microns.
2. Acrysof IQ: SA = - 0.20 microns.
3. Sofport AO: SA = 0.00 microns i.e. contributes nothing to the pre- existing SA and the total SA of the eye remains as that of cornea only. So, it is less dependent on IOL Centration.

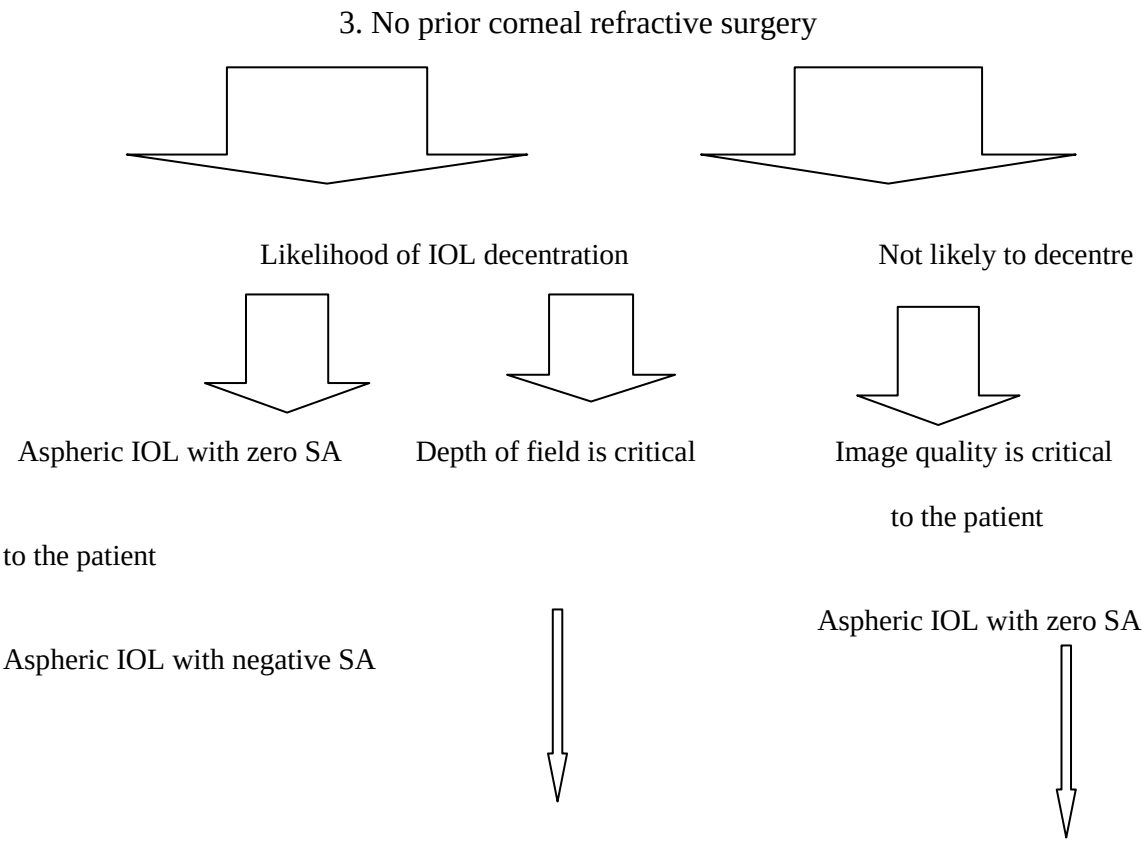
DR. DEVGAN'S DECISION TREE FOR SELECTION OF ASPHERIC IOL [8]

1. Prior hyperopic LASIK

Traditional IOL with positive SA

2. Prior myopic LA

Aspheric IOL with negative SA



Financial & competing interest disclosure:

The authors do not have any financial interests in any product mentioned in the article.

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PAIN MANAGEMENT BY HERBAL DRUG

*** Alok Kumar Srivastava** ****D.N. Pande**

Herbal medicine have analgesic , anti-inflammatory and anti-spasmodic functions and benefits. Allopathic chemicals causes serious short and long term side effects. In addition the chronic use of allopathic chemicals strongly associated with addiction and negative social consequences. So many more of people are turning to herbal medicine as their treatment for pain.

Inula racemosa- Increase blood circulation over fracture area by which it increases healing and reduces pain.

Cissus quadrangularis- Its use Increase blood circulation over fracture area by which it increases healing and reduces pain.

Luffa acutangula- Increase wound healing , antiseptic action.

Arnica Montana- Anti-inflammatory

Boswellia serrata- Useful in osteo-arthritic and rheumatoid arthritic pain

Ashwaganda- Reduce pain and inflammation, build immunity, useful in arthritis, asthma, bronchitis, cancer, fever etc.

Ginger- Reduce pain and inflammation, headache, nausea, vomiting, anti-oxidant and anti-depressent.

Black Pepper- reduce pain and inflammation of vata-kaphaj roga.

Clove- Very useful in toothache having some local analgesic property.

Peppermint- analgesia, anti-spasmodic, nervine property

Eucalyptus- having special property useful in headache.

Opium- anti-spasmodic, hypnotic, nervine

Salix alba- herbal aspirin decrease prostaglandin reduce pain and fever.

Menthol-soothing effect over pain

Rasona-analgesic, useful in joint pain, arthritis, sciatica

Kadamb- useful in neuropathic pain

Padmak- Headache, migraine

Vetas- Vedanastapan, Headache, dyspnoea, general body ache

Suchi- Useful in palliative care of cancer patient suffering from chronic pain.

Parsik yawani- Angina, gastritis, colitis and other abdominal discomfort

Gugulu-OsteoArthritis, rheumatoid arthritis

Erand- Drug of choice in Rheumatoid arthritis

Tagar- Synovitis, Headache, Muscular pain

Nirgundi- General body ache

***Senior Resident, Department of Sangyaharan, Faculty of Ayurveda, IMS, BHU.**
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Devdarum- Joint pain, Muscular pain
Medasak- Vata vikar shool
Muchkund- Drug of choice in headache
Goraksha- Muscular weakness, osteopathy
Sura- Manasik vedana, shool
Yastimadhu- Useful in pain of throat and mouth ulcer
Aloe vera- Diabetogenic neuropathic pain
Mustard- muscular and joint pain
Choorna-
Vaishvanar choorna- Arthritis
Ajmodadi choorna- Rheumatoid Arthritis
Shunthi choorna- Ama Pachana kaphaj Shool
Vati-
Hingwadi vati- Ama shool
Rasonadi vati-Hrudya shool(angina).
Guggulu-
Sihnaad guggulu- kaphaj shool, Rheumatoid arthritis drug of choice
Yograj guggulu- Drug of choice osteoarthritis
Vatari guggulu- Vatik shool
Trayodasahang guggulu-Tridoshaj shool
Ghrita-
Panchakola ghrita- kaphaj shool
Rasnadi ghrita- Vataj shool
Taila-
Erand- Vataj vikara
Saindhavaya-Kaphaj vikara

These drugs are very useful in different types of pain according to disease we can prescribed and also according to patient condition we can use which form of drug is most suitable to prescribe.

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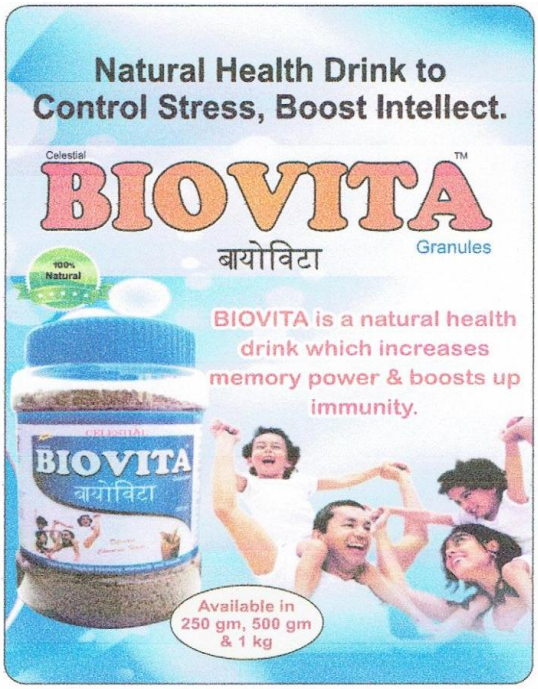

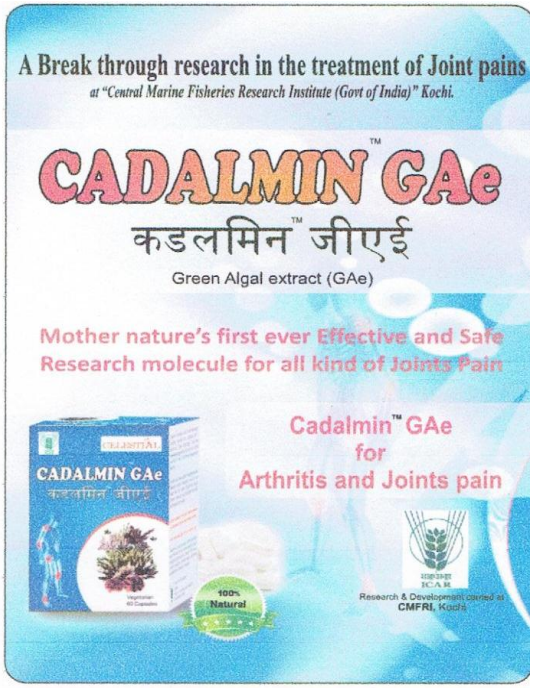

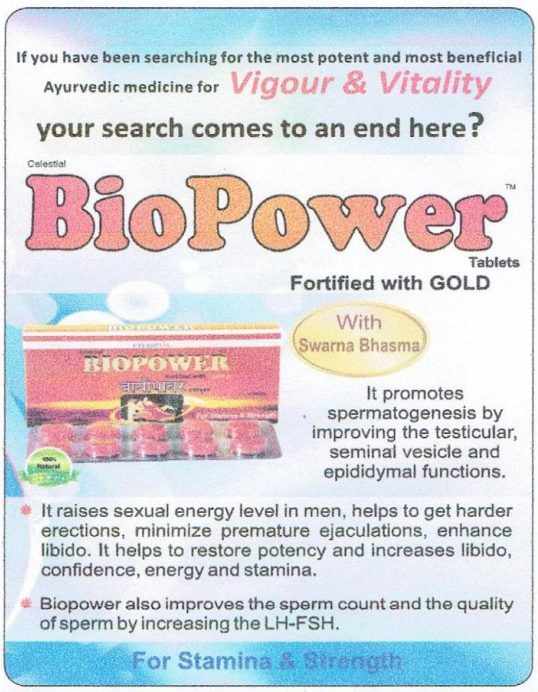

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