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Arya Vaidya Sala, Kottakkal

āryavaidyan

Aryavaidyan is an international Journal of the encouragement and elucidation of the most ancient system of medicine, Ayurveda and its contemporary practice. This quarterly of the Arya Vaidya Sala, Kottakkal is a publication entirely devoted to the cause of Ayurveda and allied subjects such as ethnomedicine, naturopathy, siddha, unani and modern medicine. This is the one and only periodical for scholars, practising physicians, students and lovers of the subject.

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सतताध्ययनं, वादः परतन्त्रावलोकनम्।
तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः॥

"Constant study and discussion, a comprehensive understanding of the other sciences together with service to the Acharyas of these sciences are the group of factors that improve intelligence and memory power."

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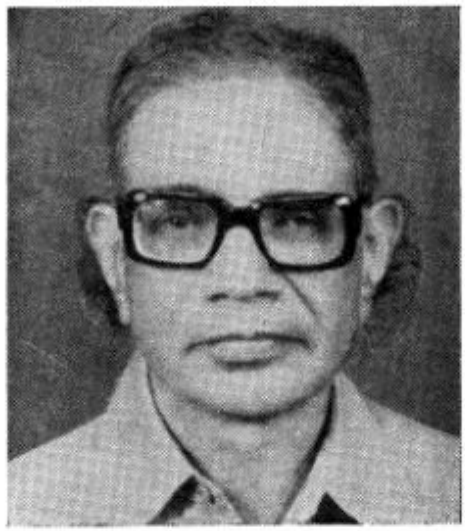
OBITUARY



Destiny's commands are irresistable. The untimely demise of our beloved adviser and patron, Aryavaidyan P. S. Varier on 10-9-1993, was a sudden shock to us. We deeply mourn, bow our heads and pay homage to his long career of an ever-active, dedicated, cherished life in the field of medicine.

Dr. P. S. Varier, grand nephew of the founder of Arya Vaidya Sala, Kottakkal, after university studies, completed the Ayurvedic course at the Arya Vaidya Patasala, Kottakkal. Since then he had been an active participant in all the activities of the institution. He was the physician and Manager of the Ernakulam Branch of the Arya Vaidya Sala and thereafter Additonal Chief Physician and Chief Physician at Kottakkal until 1992. Subsequently he was adviser to the physicians in the Nursing Home until his untimely death. He was a member of the Board of Trustees of the Arya Vaidya Sala for over thirtyseven years.

Dr. Varier was respected and loved by all, due to his sensitive and compassionate mind, which was fostered from his student days, by the national movement. He used to take an active interest in all social problems as a people's leader. He was the first president of the Kottakkal Panchayat.

But the impressive role he played in the medical field is more striking. He was admired and loved by his patients. Totally dedicated to the studies, promotion and propagation of Ayurveda, he was one of the leading organisers of the Seminars and thesis competitions of the Arya Vaidya Sala. He also contributed substantially in all discussions on medical problems, conducted by various other organisations. As a member of the governing body of the Kerala Ayurvedic Studies and Research Society, he helped in moulding a model institutional set up for the Ayurveda College at Kottakkal. He was the president of the Malappuram District Committee of the All India Ayurveda Congress.

We express our deep gratitude for his active co-operation, advice and guidance to promote the standard of our journal. We take a solemn oath to follow his advice and go forward to fulfill the mission he has entrusted to us.

We pray for the peace of his holy soul.

Editor.

"बली पुरुषकारो हि दैवमप्यतिवर्तते ।"

Inexpressible is our grief and pain. "Turn back our eyes" we tell to ourselves. We are not yet free from the shock, the fear, and the sense of frustration, evoked by the dreadful scenes as reported in the media and seen by those, who were actual witnesses. Rememberance of the devastating and pitiable conditions wrought by the wrath of nature, is still causing us to tremble. We realise that the only possible and wise action now is to rush aid to give consolation by providing materials and sympathetic attention and to save the victims of the disaster from hunger, ruin, and helplessness and to rehabilitate them in record time. We owe deep gratitude to all nations, people, organisations and individuals who have shown their noble sensitivity to the needs of the situation, and who have volunteered selfless and timely help. We pray to the almighty, to help the victims and ourselves to be strong enough to face this unprecedented threat calmly and sensibly and to buck up courage and revive confidence and self-assurance. We express our solidarity with all who come forward on their own initiative to help our brethren with selfless sincerity irrespective of profession, caste, nationality or any other difference.

Still, raising our heads up from the panic, we have also to be rational. When disasters overtake us, we should not remain simply panic-stricken. As scientists we have to assess the situation and try our best to prevent a repetition of the same havoc or atleast think over the ways and means to be aware of ourselves and help us as much as possible. We often have reports of earthquakes and consequent devastation, from other countries. It is to be noted that where the people are aware with the advances of the times and the possibilities of self-help have better chance and come out of the perils quicker and easier than others who are still backward. Can we ignore these findings? So although we call such uncontrollable phenomena as destiny, we should be reminded of the comments of our preceptors, that even destiny can be controlled, changed or atleast the extent of calamities reduced if we are alert.

Susruta points out, that Jwara is the synonym of all diseases. It affects all, — men, animals and nature. But animals and nature cannot prevent it on their own. But man and devas can. Why? Because man studies, understands the situation and can think of ways to control it. Gods are those who always study. If the power of man is stronger it can transcend destiny.

MILK–PORRIDGE AND MILK–WINE

Have anybody heard of a porridge made out of milk or a wine brewed from it?

Marco Polo, the Italian traveller was touring China during 1271 – 1295, when he found that the barbarous tartarian army marched on, for days together without cooking food. Instead, they subsisted on the blood and milk of their horses. Curiously, they did not consume the milk as such. Instead, they boiled it and skimmed off the creamy part which float on the top, to be used later as butter. The rest of the milk was then sun–dried. When it was to be used, they took the dried milk, the precursor of the modern milk–powder, put into a bottle of water, shook well and made a porridge out of it, upon which they made their dinner.

They also brewed a diary product "with the qualities and flavour of white wine", which they called *Koumiss*. The Balken tribes also produced a similar beverage from milk, but they called it *Kefir*.

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FROM THE PAGES OF VAGBHATA—XXVI

N. V. K. VARIER

अथातो रसभेदीयमध्यायं व्याख्यास्यामः।
इति ह स्माहुरात्रेयादयो महर्षयः॥

Athato rasabhediyamadhyayam
vyakhyasyamah।
Iti ha smahuratreyadayo maharsayah॥)

Now the chapter "For the study of differences in tastes" is commented. Thus spake the son of Atri and other sages.

क्ष्माम्भोऽग्निक्ष्माम्बुतेजःखवाय्वग्न्यनिलगोऽनिलैः।
द्वयोल्बणैः क्रमाद्भूतैर्मधुरादिरसोद्भवः ॥ १ ॥

(Ksmambhoʃgniksmambutejah
khavayvagnyanilagoʃnilaih।
Dvagolbanaih kramadbhutair-
madhuradirasodbhavah ॥ 1 ॥

"Two Bhutas predominating in excess as earth and water, fire and earth, water and fire, ether and air, fire and air and earth and air, the tastes are sweet and others (sweet, sour, salty, bitter acrid and astringent) are originated."

This chapter is intended for the study of the specific properties of six tastes. Rasa is taste and the base of taste is water. Taste is sensed by tongue. Although taste is grouped generally as six, in each group as for eg. sweet or sour also we feel varieties of the taste due to the differences in the combinations of the constituent Bhutas. Like substances, all tastes also are formed by five Bhutas. But some Bhutas predominate. Usually out of the five Bhutas, when two Bhutas are in excess, a different taste is expressed. So Svadu (sweet taste) is originated from the excess of two Bhutas as earth and water, Amla (sour taste) from fire and earth, Lavana (salty taste) from water and fire, Tikta (bitter) from earth and fire, Katu (acrid) from fire and air and Kashaya (astringent) from earth and air, although all tastes have all Bhutas in different proportions. So the action of each taste can be assumed from the properties of the constituting Bhutas.

तेषां विद्याद्रसं स्वादुं यो वक्त्रमनुलिम्बति।
आस्वाद्यमानो देहस्य ह्लादनोऽक्षप्रसादनः ॥ २ ॥
प्रियः पिपीलिकादीनां.....

(Tesam vidyadrasam svadum
yo vaktramanulimbati।
Asvadyamano dehasya
hladanoʃksaprasadanah ॥2॥
Priyah pipilikadinam.....)

"Among the tastes, that which smears the mouth and when tasted

creates pleasure to the body and cheers (brightens the organs, and which ants and flies are fond of, is the sweet taste."

Sweet taste when taken, due to its greasy nature is felt as anointing the inside of the mouth. Its taste creates total joy for the whole body. And it brightens the organs. Ants and flies are seen to swarm on sugary substances. Similarly in the urine and body of those suffering from diabetes mellitus (Madhumeha) ants swarm. It is because of the sweetness. So it is very clearly attractive to ants and such insects. Sweet taste is identified by observing such properties.

.....अम्ळः क्षाळयते मुखम् ।
हर्षणो रोमदन्तानामक्षिभ्रुवनिकोचनः ॥ ३ ॥

(..... amlah ksalayate mukham ।
Harsano romadantanamakshi-
bruvanikocanah ॥ 3 ॥

"Due to the excitation, Amla (sour taste) creates salivation of the mouth, causes hair to stand on end stimulates teeth and causes contraction of eyes and eyebrows."

लवणः स्यन्दयत्यास्यं कपोलगळदाहकृत् ।

(Lavanah syandayrtyasyam
kapolagaladahakrt ।

"Lavana (salty taste) creates trickling in the mouth and burning sensation of cheeks and neck."

Salty tastes promote oozing of water in the mouth and a feeling of burning on cheeks and neck. Samgraha adds the property of stimulation of appetite also.

तिक्तो विशदयत्यास्यं रसानां प्रतिहन्ति च ॥ ४ ॥

(Tikto visadayatyasyam
rasanam pratihanti ca ॥ 4 ॥

"The Tikta (bitter taste) clears the mouth and desensitizes the tongue."

The bitter taste removes the greasiness of the mouth and make it transparent or clear. It inhibits the tongue so that sensation of other tastes is prevented.

उद्वेजयति जिह्वाग्रं कुर्वंश्चिमिचिमां कटुः ।
स्रावयत्यक्षिनासास्यं कपोलौ दहतीव च ॥ ५ ॥

(Udvejayati jihvagrm
kurvamscimicimam katuh ।

Sravayatyaksinasasyam
kapalau dahativa ca ॥ 5 ॥

"Katu (acrid taste) excites the tip of the tongue, creating the sensation of it being encroached by flames (or smeared with a taste of mustard,) It creats discharges from eyes, nose and mouth and burning sensation of the cheeks."

कषायो जडयेज्जिह्वां कण्ठस्रोतोविबन्धकृत् ।

(Kasayo jadayejjihvam
kanthasrotovibandhakrt ।)

"Kashaya (astringent taste) stupifies the tongue and creates obstruction or immobility of the body pores (as siras etc). related to the neck and gullet."

Kashaya is astringent. It benumbs the tougue and all discharges are obstructed. Here the body pores carrying Rasa, Rakta and others related to neck are obstructed.

रसानामिति रूपाणि.....

(Rasanamiti rupani.....)

These are the forms of the tastes.

Forms here means symptoms. Then we come to the actions.

.....कर्माणि मधुरो रसः ॥ ६ ॥
आजन्मसात्म्यात्कुरुते धातूनां प्रबलं बलम् ।
बालवृद्धक्षतक्षीणवर्णकेशेन्द्रियौजसाम् ॥ ७ ॥
प्रशस्तो बृंहणः कण्ठ्यः स्तन्यसन्धानकृद्गुरुः ।
आयुष्यो जीवनः स्निग्धः पित्तानिलविषापहः ॥ ८ ॥
कुरुतेऽत्युपयोगेन स मेदःकफजान् गदान् ।
स्थौल्याग्निसादसन्यासमेहगण्डार्बुदादिकान् ॥ ९ ॥

(.....karmani madhuro rasah ॥ 6 ॥
Ajanmasatmyatmyatkurute dhatunam
prabalam balam ।
Balavrddhaksataksinavarnakesendri-
yaujasam ॥ 7 ॥
Prasasto brmhanah kanthyah
stanyasandhanakrdguruh ।
Ayusyo jivanah snigdhah
pittanilavisapahah ॥ 8 ॥
Kurutesatyapayogena sa
medahkaphajan gadan ।
Sthaulyagnisadasanyasamehagan-
darbudadikan ॥ 9 ॥)

"The sweet taste due to its acquaintance from birth itself gives immense strength to the tissues. It is reputed for children, old men, those who are weak due to traumas, for good complexion, and to promote health of organs, hair and vital energy (Ojas). It is fostering (nourishes), agreeable to the throat, galactagogue, promoting joining and is heavy. It is promotive of the span of life, enlivening and unctuous and relieves Pitta, Vata and poison. If used excessively creates diseases due to excess of Medas (fat) and Kapha (phlegm), obesity, slackening of the digestive fire, Sannyasa (loss of consciousness and immobility described in the chapter on Madathyaya — alcholism), diabetes lymphadenopathy around the neck and cancer."

The actions of sweet taste if used in proper dose are described. Since from birth onwards our organism has earned familiarity with sweet taste, it gives more strength than other tastes to all tissues. It is nourishing and agreeable to the throat. It is very useful to improve the health of children, old man and to give strength to those weakened by traumas. It helps to improve complexion, promotes growth of hair, improves the efficiency of organs and vital energy. Sweet taste being nourishing, improves the production and secretion of breast-milk. It helps to heal wounds by speeding the joining of the skin and tissues. It is heavy and so is not easily digested. It is unctuous and removes Pitta, Vata and poisons. It is invigorating and so helps to prolong the span of life. These are the beneficial effects of sweet taste. But if used in excess it causes many diseases due to Santarpana or satiation. Diseases due to fat and phlegm, obesity, slackening of digestive fire, Sanyasa [disease described in the chapter on Alcoholism (Madathyaya) — Mada, Moorcha and Sanyasa are the three stages of Alcoholism. Sanyasa is mentioned because it is the final stage. Mada creates incoherent actions and changes in the body as per the Dosa. In Moorcha one feels as if he is entering darkness, or fall into swoons, but soon comes out of it. But in Sanyasa, the person who swoons never wakes automatically but only if proper treatment and medicines are applied in time.]

अम्लोऽग्निदीप्तिकृत्स्निग्धो हृद्यः पाचनरोचनः ।
उष्णवीर्यो हिमस्पर्शः प्रीणनः क्लेदनो लघुः ॥ १० ॥
करोति कफपित्तास्रं मूढवातानुलोमनः ।

सोऽत्यभ्यस्तस्तनोःकुर्याच्छैथिल्यं
तिमिरं भ्रमम् ॥ ११ ॥
कण्डूपाण्डुत्वविसर्पशोफविस्फोटतृड्ज्वरान् ।

(Amlo'gnidiptikrtsnigdho
hrdyah pacanarocanah ।
Usnaviryo himasparsah prinanah
kledano laghuh ॥ 10 ॥
Karoti kaphapittasram
mudhavatanulomanah ।
So'tyabhyastastanoh kuryacchaithilyam
timiram bhramam ॥ 11 ॥
Kandupandutvavisarpasopha-
visphotatrdjvaran ।)

"The sour taste that stimulates digestive fire is unctuous, cordial, or pleasing to the heart, promotive of maturation and appetising. In potency, it is hot but to touch it is cold. It gratifies the organism and is creative and light. It creates Kapha (phlegm) trickling and Raktapitta (Haemothermia). It corrects the obstructed Vata. If used excessively it loosens the body, causes dizziness and darkness. Itching, pallor, erysipelas (cellulitis), swelling, boils, thirst and fever are created if it is used too much."

The beneficial effects if used in proper doses and harmful effects if used excessively are pointed out in the above statements.

लवणः स्तम्भसंघातबन्धविध्मापनोऽग्निकृत् ॥ १२ ॥
स्नेहनः स्वेदनस्तीक्ष्णो रेचनश्छेदभेदकृत् ।
सोऽतियुक्तोऽस्रपवनं खलतिं पलितं वलिम् ॥ १३ ॥
तृट्कुष्ठविषवीसर्पान् जनयेत् क्षपयेद् बलम् ।

(Lavanah stambhasamghatabandhavi-
dhmapano'gnikrt ॥ 12 ॥
Snehanah svedanastiksno
recanaschedabhedakrt ।
So'tiyukto'srapavanom khalatim
palitam valim ॥ 13 ॥
Trtkusthavisavisarpan janayet
ksapayed balam ।)

"The salty taste removes immobility, hard combinations and the obstruction of body pores and stimulates digestive fire. It is acute, unctuous, diaphoretic, and is a stomachic (increasing appetite) and cuts away excrescences and helps in bursting of matured boils and abscesses. But if used excessively it provokes diseases as Vatarakta (rheumatoid arthritis) baldness, greying of hair, shrinking of the skin, thirst, skin diseases, poison, erysipelas and reduces the strength of the body."

Salt is good to remove the inertness or immovable condition of any part of the body and the hardness of combinations and opens close body pores. It stimulates digestion. It is unctuous and creative of sweating. It is sharp, so it is good to remove the excrescences in the body and to ease the timely maturation and bursting of boils and swellings. But if used in excess, it causes diseases like rheumatoid arthritis, baldness, greying of hair and shrinking of the skin, hyperdipsia, skin diseases, erysipelas, and increases the power of poison and weakens the body.

तिक्तः स्वयमरोचिष्णुररुचिं कृमितृड्विषम् ॥ १४ ॥
कुष्ठमूर्च्छाज्वरोत्क्लेशदाहपित्तकफान् जयेत् ।
क्लेदमेदोवसामज्जशुक्रमूत्रोपशोषणः ॥ १५ ॥
लघुमध्यो हिमो रूक्षः स्तन्यकण्ठविशोधनः ।
धातुक्षयोऽनिलव्याधीनतियोगात्करोति सः ॥ १६ ॥

(Tiktah svayamarocisururucim
krmitrdvisam ॥ 4 ॥
Kusthamurcceajvarotklesadaha-
bittakabhan jayet ।

Kledamedovasamajjasakrnmutropa-
sosanah ॥ 15 ॥
Laghumadhyo himo ruksah
stanyakanthavisodhanah ।
Dhatuksayo ऽnilavyadhinatiyogatkaroti
sah ॥ 16 ॥)

"Bitter taste on its own is very distasteful. But it eradicates anorexia, worms, thirst and affection of poisons, skin troubles, swooning, fevers, agitation of humours, burning sensation and vitiated conditions of Pitta and Kapha. It dries humid oozings, fat, lard, marrow, faeces and urine. It is light, good for memory and intelligence, cold in potency, dry (not unctuous) and good for purifying breast-milk and throat. If it is used in excess, it cause decrease of tissues, and diseases due to Vata."

Although bitter taste is unpleasant, it acts as an appetiser removing anorexia. It is useful to eradicate worms and is beneficial to conquer thirst, affections from poison, skin troubles etc. It purifies breast milk and cleans the throat. But if used in excess it leads to decrease of tissues, and thereby creation of all diseases due to Vata.

कटुर्गळामयोदर्दकुष्ठालसकशोफजित् ।
व्रणावसादनः स्नेहमेदःक्लेदोपशोषणः ॥ १७ ॥
दीपनः पाचनो रुच्यः शोधनोऽस्रस्य शोषणः ।
छिनत्ति बन्धान् स्रोतांसि
विवृणोति कफापहः ॥ १८ ॥
कुरुते सोंऽतियोगेन तृष्णां शुक्लबलक्षयम् ।
मूर्छामाकुञ्चनं कम्पं कटिपृष्ठादिषु व्यथाम् ॥ १९ ॥

(Katurgalamayodardakusthalasa-
kasophajit ।
Vranavasadanah snehamedah-
kladopososanah ॥ 17 ॥
Dipanah pacano rucyah
sodhanoऽsnasya sosonah ।
Chinatti bandhan srotamsi vivrnoti
kaphapahah ॥ 18 ॥
kurute soऽtiyogena trsnam
suklabalaksayam ।
Murchamakuncanam kampam
katiprsthadisu vyatham ॥ 19 ॥

"Acrid taste conquers diseases of the throat, Udarda (urticaria), skin diseases, Alasaka (immobility of the body due to Ama) and swelling. It is helpful to heal the wounds and dries unctuousness, fat and moisture. It kindles digestive fire, promotes maturity and is appetising, purifying and drying. It cuts open ties and dilates the body pores and eliminates Kapha. If used in excess it causes thirst, dilutes semen and causes weakness. It causes swooning, contraction of body parts, tremors and diseases of hip and back."

Acrid taste is good for the diseases of throat and to heal Udarda (Udarda is commented by different authors as urticaria of the breast and by some as chill). Since it has a drying property it is good in all these conditions. Diseases of the throat and gullet are more provocative of Kapha and so a taste which act against Kapha can cure it and skin diseases particularly of a Kapha predominant type. Alasaka is described in the eighth chapter as a state in which the food is not digested and is not pushed out by upward movements as in vomiting or downward movement as purging but is blocked and stuck up in the stomach. Acrid taste helps to move this stuck up Ama. Similarly it removes swelling. It dries the wounds and so

helps healing. Unctuousness of the body and foods, fat, humid discharges are all dried. So it is digestive and promotive of maturation. It is appetising and helps to dehydrate consumed food. All stuck–up conditions and ties (bonds) are removed and the pores of the body are dilated. Excessive use creates thirst, reduction of semen and weakness, swooning, contraction of limbs and organs and diseases of the loin and back.

कषायः पित्तकफहा गुरुरस्रविशोधनः ।
पीडनो रोपणः शीतः क्लेदमेदोविशोषणः ॥ २० ॥
आमसंस्तम्भनो ग्राही रूक्षोऽति त्वक्प्रसादनः
करोति शीलितः सोऽतिविष्टम्भाध्मानहृद्रुजः ॥ २१ ॥
तृट्कार्श्यपौरुषभ्रंशस्रोतोरोधमलग्रहान् ।

(Kasayah pittakaphaha gururasra-
visodhanah ।
Pidano ropanah sitah kledamedo-
visosanah ॥ 20 ॥
Amasamstambhano grahi ruksoऽti
tvakprasadanah ।
Karoti silitah soऽtivistambhadhmana-
hrdrujah ॥ 21 ॥
Trtkarsyapaurusabhramsa-
srotorodhamalagrahan ।)

"Astringent taste relieves Pitta and Kapha. It is heavy and purifies blood. It is suppressive in bites and wounds and promotive of healing. It is cold in potency and dries, wetness and fats. It freezes Ama and holds bowel movements. It clears the skin to the utmost degree. If used in excess it creates obstruction of bowel movements, distention of the stomach, cardiodynia, thirst, emaciation, impotency, obstruction of body pores and obstruction to discharges of urine and faeces."

Both the beneficial properties of all six tastes, and the harms they cause if used excessively are described. Then the group of articles in which each particular taste is predominant are presented. Madhura skhanda or division of sweet tastes is given at first.

घृतहेमगुडाऽक्षोडमोचचोचपरूषकम् ॥ २२ ॥
अभीरुवीरापनसराजादनबलात्रयम् ।
मेदे चतस्रपर्णिन्यो जीवन्ती जीवकर्षभौ ॥ २३ ॥
मधूकं मधुकं बिम्बी विदारी श्रवणीयुगम् ।
क्षीरशुक्ळा तुगाक्षीरी क्षीरिण्यौ काश्मरी सहे ॥ २४ ॥
क्षीरेक्षुगोक्षुरक्षौद्रद्राक्षादि मधुरो गणः ।

(Ghrtahemaguda Sksodamocacoca-
parusakam ॥ 22 ॥
Abhiruvirapanasarajadanabalatrayam ।
Mede catasraparninyo jivanti
jivakarsabhau ॥ 23 ॥
Madhukam madhukam bimbi vidari
sravaniyugam ।
Ksirasukla tugaksiri ksirinyau
kasmari sahe ॥ 24 ॥
Ksireksugoksuraksaudradraksadi
madhuro ganah ।)

Ghee, gold, jaggery
Akshoda (Juglan regia Linn. var. kumaonia DC.)
Mocha (Musa paradisiaca Linn.)
Cocha (Cinnamomum verum Presl)
Parooshaka (Grearia asiatica Linn.)
Abheiru (Asparagus racemosus Willd.)
Veera (Asparagus adsceudens Roxb.)
Panasa (Artocarpus heterophyllus Lamk)
Rajadana (Manilkara hexandra (Roxb.) Dubard)

Bala (Sida rhombifolia Linn. ssp. retusa) (Linn.) Borssum)

Atibala (Sida rhomdifolia Linn.)

Nagabala (Sida cordata (Burm. f.) Borssum)

Meda (Polygonatum cirrhifolium (wall.) Royle

Mahameda (Polygonatum verticillatum (Linn.) All.

Saliparni (Psuedarthria viscida (Linn.) W & A)

Prsniparni (Desmodium gangeticum (Linn.) DC.)

Mudgaparni (Vigna pilosa Baker)

Mashaparni (Vigna pilosa (L) Wilezek var. sublobata (Roxb). Verdc.)

Madhookam (Madhuca longifolia (Koenig) Macbride)

Madhukam (Glycyrrhiza glabra Linn,)

Bimbi (Coccinia grandis (Linn.) (Voigt)

Vidari (Pueraria tuberosa DC.)

Sravani (Sphaeranthus inqicus Linn).

Mahasravani (Sphaeranthus africrnus Linn.)

Ksheerasukla (Ipomoea mauritiana Jacq.)

Tugaksheeri (Maranta arundinacea Linn.)

Ksheerinau — Kakoli (Fritillaria roylei Hook. f.) Ksheerakakoli (Lilium polyphyllum Don)

Kasmari (Gmelina arborea Roxb.)

Mahasaha (Barleria prionitis Linn.)

Kshudrasaha (Barleria cristata Linn.)

Ksheera (milk)

Ikshu (sugarcane)

Gokshura (Tribulus terrestris Linn.)

Kshoudra (honey)

Draksha (Vitis vinifera Linn.)

and similar ones belong to the sweet group.

Besides the above which are only examples, Samgraha quotes many other articles also.

Sour Group

अम्लो धात्रीफलाऽम्लीकामातुळुङ्गाऽम्ल-
वेतसम् ॥ २५ ॥
दाडिमं रजतं तक्रं चुक्रं पालेवतं दधि ।
आम्रमाम्रातकं भव्यं कपित्थं करमर्दकम् ॥ २६ ॥

(Amlo dhatriphala Smlikamatu-
lunga Smlavetasam ॥ 25 ॥
Dadimam rajatam takram cukram
palevatam dadhi ।
Amramamratakam bhavyam kapittham
karamardakam ॥ 26 ॥)

Dhatriphala (Emblica officinalis Linn.)

Amlika (Tamarindus indica Linn.)

Matulunga (Citrus medica Linn.)

Amlavetasam (Solena amplexicaulis (Linn.) Gandhi)

Dadima (Punica granatum Linn.)

Rajatam (Silver)

Takra (buttermilk)

Chukram (vinegar)

Palevatam (Pridium gujava Linn.)

Dadhi (Curd)

Amram (Mangifera indica Linn.)

Amratakam (Spondias pinnata (Linn. f.) Kurz.)

Bhavya (Dillenia indica Linn.)

Kapitham (Limonia occidissima Linn.)

Karamardakam (Carissa carandas Linn.)

All belong to sour groups. Samgraha enlists more items of sour group.

वरं सौवर्चलं कृष्णं विडं सामुद्रमौद्भिदम् ।
रोमकं पांसुजं शीसं क्षारश्च लवणो गणः ॥ २७ ॥

(Varam sauvarcalam krsnam vidam
samudramaudbhidam ।
Romakam pamsujam sisam
ksarasca lavano ganah ॥ 27 ॥

Varam — Saindhavam (Rocksalt)
Sauvarchala (Sonchal salt)
Krishna (Black salt)
Vida (artificial salt in the form of deep blackish crystals)
Samudra (common salt)
Romakam (sambar salt)
Pamsuja (fossil salt)
Seesam (lead)

and

Kshara (alkalies) belongs to Salt group.

तिक्तः पटोली त्रायन्ती वाळकोशीरचन्दनम् ।
भूनिम्बनिम्बकटुकातगराऽगरुवत्सकम् ॥ २८ ॥
नक्तमालद्विरजनीमुस्तमूर्वाऽटरूषकम् ।
पाठाऽपामार्गकांस्याऽयोगुडूचीधन्वयाषकम् ॥ २९ ॥
पञ्चमूलं महद्व्याघ्र्यौ विशालाऽतिविषा वचा ।

(Tiktah patoli trayanti
valakosiracandanam ।
Bhunimbanimbakatukatagara Sgaru-
vatsakam ॥ 28 ॥
Naktamaladvirajanimusta-
murva Starupakam ।
Patha Spamargakamsya Syoguduci-
dhanvayasakam ॥ 29 ॥
Panchamulam mahadvyaghryau
visala Stivisa vaca ।

Bitter group contains
Patola (Trichosanthus lobata Roxb.)
Thrayanthi (Gentiana kurroo Royle)
Valaka (Coleus vettiveroides Jacob)
Useera (Vetiveria zizanioides (Linn.) Nash)
Chandana (Santalum album Linn.)
Bhunimba (Andrographis paniculata (Burm. f.) Wall. ex Nees)
Nimba (Azadirachta indica A. Juss.)
Katuka (Picrorrhiza scrophulariiflora Pennell)
Tagara (Valeriana jatamansi Jones)
Agaru (Aquilaria agallocha Roxb.)
Valsaka (Holarhena pubescens (Buch. –Ham.) Wallich ex Don)
Naktamala (Pongamia pinnata (Linn.) Pierre)
Rajani (Curcuma longa Linn.)
Daruharidra (Coscinium fenestratum (Gaertn.) Colebr.)
Mustha (Cyperus rotundus Linn.)
Moorva (Chonemorpha fragrans (Moon) Alston)
Atarushakam (Justicia beddomei (Clarke) Bennet)
Padha (Cyclea peltato (Lam.) Hook. f. & Thoms)
Apamarga (Achyranthes aspera Linn.)
Kamsya (bell metal)
Aya (iron)
Guduchi (Tinospora cordifolia (Willd.) Miers ex Hook. f. & Thoms)
Dhanvayashka (Tragia involvcrata Linn.)

Panchamula Mahat
- Vilva (Aegle marmelos (Linn.) Corr
- Agnimantha (Premna corymbosa Rottl.)
- Syonaka (Oroxylum indicum (Linn.) Benth. ex Kurz)
- Patala (Stereospermum colosis (Buch. -Ham ex Dillw.) Mabberley)
- Kashmari (Gmelina arborea Roxb.)

Vyaghryau
- Brihati (Solanum indicum Linn.)
- Kshudra (Solanum surattense Burm. f.)

Visala (Citrullus colocynthis (Linn.) Schrader)

Ativisha (Aconitum heterophyllum Wall. ex Royle)

Vacha (Acorus calamus Linn.

कटुको हिङ्गुमरिचकृमिजित्पञ्चकोलकम् ॥ ३० ॥
कुठेराद्या हरितकाः पित्तं मूत्रमरुष्करम् ।

Katuko hingumaricakrmijit-pancakolakam ॥ 30 ॥

Kutheradya haritakah pittam mutramaruskaram ।

The acrid group contains
Hingu (Ferula asafoetida Linn.)
Maricha (Piper nigrum Linn.)

Panchakola
- Pippali (Piper longum Linn.)
- Pippalimulam (Piper longum Wild var.)
- Chavya (Piper brachy-stachium Wall.)
- Chitraka (Plumbago indica Linn.)
- Nagaram (Zingiber officinale Rose.)

Harithakas belonging to Kuthera group (chapter 6). Bile, urine, Bhallataka (Semecarpus anacardium (Linn. f.) etc.

वर्गः कषायः पथ्याऽक्षं शिरीषः खदिरो मधु ॥ ३१ ।
कदम्बोदुम्बरं मुक्ताप्रवाळाञ्जनगैरिकम् ।
बालं कपित्थं खर्जूरं बिसपद्मोत्पलादि च ॥ ३२ ॥

(Vargah kasayah pathyaȝksam sirisah khadiro madhu ॥ 31 ॥

Kadambodumbaram muktaprava-lanjanagairikam ।

Balam kapittham khariJuram bisapadmotpaladi ca ॥ 32 ॥)

Articles of astringent group

Pathya (Terminalia chebula Retz.)
Aksa (Terminalia bellerica (Gaertn.) Roxb.)
Sirisa (Albizia lebbeck (Linn. Benth.)
Khadira (Acacia catechu Linn. f.) Willd.)
Honey
Kadamba (Neolamarkia cadamba (Roxb). Bosser)
Udumbara (Ficus racemosa Linn.)
Mukta (Pearl)
Pravala (coral)
Anjanam (antimony)
Garikam (Red orch)
Balam Kapitha (young fruit of Limonia accidissima Linn.)
Kharjura (Fruits of Phoenix dactylifera Linn
Bisa (Stalk of Nelumbo nucifera Gaertn.)
Padma (Nelumbo nucifera fera Gaertn.)
Ulpala (Kaempferia rotunda Linn.) etc.

मधुरं श्लेष्मळं प्राया जीर्णाच्छालियवादृते ।
मुद्गाद्गोधूमतः क्षौद्रात्सिताया
जाङ्गलामिषात्॥ ३३ ॥

(Madhuram slesmalam prayo
jirnacchaliyavadrte ।
Mudgadgodhumatah ksaudratsitaya
jangalamisat ॥ 33 ॥)

"As a general rule (for the most part) sweet is creative of Kapha except old rice, barley, greengram, wheat, honey, cane sugar and jangala meat."

Generally speaking, sweet increases Kapha. But rice, Indian barley, greengram and wheat if old and kept properly for one year do not increase Kapha. Similarly sweet foods as honey and cane sugar and meat of Jangala animals such as goat that belong to Mrigas, Vishkiram and Pratuka groups are not provocative of Kapha.

प्रायोऽम्लं पित्तजननं दाडिमामलकादृते ।
अपथ्यं लवणं प्रायश्चक्षुष्योऽन्यत्र सैन्धवात् ॥ ३४ ॥

(Prayo'mlam pittajananam
dadimamalakadrte ।
Apatthyam lavanam prayascaksusoऽ
nyatra saindhavat ॥ 34 ॥)

"Generally, all sour foods create Pitta. But Pomegranate (Punica granatum Linn) and Amalaka (Emblica offiicinalis Linn.) al though sour do not create or provoke Pitta."

तिक्तं कटु च भूयिष्ठमवृष्यं वातकोपनम् ।
ऋतेऽमृतापटोलीभ्यां शुण्ठीकृष्णारसोनतः ॥ ३५ ॥

(Tiktam katu ca bhuyisthamavrsyam
vatakopanam ।
Rteऽmrtapatolibhyam sunthikrsna-
rasonatah ॥ 35 ॥)

Bitter and acrid are generally antispermatogenic (creative of impotency) and provocative of Vata except Amrita (Tinospora cordifolia (willd) Miers ex Hook. f. & Thoms) and Patola (Taichosanthes lobata Rozb.) and Sunthi (Zingiber officinale Rose.) and Krishna (Piper longum Linn.) and Rasona (Allium sativum Linn.)."

Generally speaking, bitter and acrid tastes are destructive of semen and provokes Vata. But Amrita and Patola though bitter are not antispermotogenic nor creative of Vata. Similarly dry ginger, long pepper, and garlic though acrid are not destructive of semen nor excites Vata.

कषायं प्रायशः शीतं स्तम्भनं चाभयामृते ।

(Kasayam prayasah sitam stambhanam
cabhayamrte ।)

"Astringent taste in general is cold in potency and holds up urine and faeces except Abhaya (Terminalia chebula Retz.)."

All articles with Kashaya taste are generally cold in potency and blocks faeces and urine. But Chebulic myrobalan or Hareetaki although with Kashaya (astringent) taste is not cold and is laxative. Hareetaki is of hot potency.

रसाः कट्वम्ललवणा वीर्येणोष्णा यथोत्तरम् ॥ ३६ ॥
तिक्तः कषायो मधुरस्तद्वदेव च शीतळाः ।
तिक्तः कटुः कषायश्च रूक्षा बद्धमलास्तथा ॥ ३७ ॥
पट्वम्ळमधुराः स्निग्धाः सृष्टविण्मूत्रमारुताः ।
पटोः कषायस्तस्माच्च मधुरः परमं गुरुः ॥ ३८ ॥
लघुरम्ळः कटुस्तस्मात्तस्मादपि च तिक्तकः ।

(Rasa katvamlalavana viryenosna
yathottaram ॥ 36 ॥
Tiktah kasayo madheirastadvadeva
ca sitalah ।
Tiktah katuh kasayasca ruksa
baddhamalastatha ॥ 37 ॥

Patvamlamadhurah snigdhah
srstavinmutramarutah ।
patoh kasayastasmacca madhurah
paramam guruh ॥ 38 ॥
Laghuramlah katustasmattasmadapi
ca tiktakah ।)

"Acrid, sour and salty tastes are hot in potency, increasing in a sequential order. Bitter, astringent and sweet is of cold potency in the same order. Bitter, acrid and astringent are in the same order dry and holds up faeces and urine. Salty, sour and sweet are unctuous and productive of faeces, urine and Vata. Astringent is heavier than salty and sweet is the heaviest. Sour is light, acrid lighter than sour, and bitter lighter than acrid."

Acrid, sour and salty are hot in potency in the order of sequence. So acrid is hot, sour is hotter and salty is hottest. In the same way bitter is cold in potency, astringent is colder and sweet is the coldest. Bitter acrid and astringent are dry and holds up faeces and urine in the same order. Bitter is dry and holds up Mala. Acrid is more dry and astringent is most drying taste compared to others. The property of holding faeces and urine is also for all in the same order, acrid more and astringent most powerful than the preceding ones. In the same way is the property of unctuousness and ability to create faeces, urine and Vata. Astringent is heavier than salty and sweet is the most heavy. Sour is light, acrid is lighter and bitter is the lightest. Sweet is the coldest, most unctuous and heaviest. It is unequal to all other tastes because of the excellence in properties. Astringent is second in rank due to heaviness and coldness and sour is also in the second rank due to its unctuousness. Salt is the hottest, astringent is the most dry, and the lightest is bitter.

संयोगाः सप्तपञ्चाशत्कल्पना तु त्रिषष्टिधा ॥ ३९ ॥
रसानां यौगिकत्वेन यथास्थूलं विभज्यते ।
(Samyogah saptapancasatkalpana
tu trisastidha ॥ 39 ॥
Rasanam yaukikatvena
yathasthulam vibhajyate ।)

"The fiftyseven forms of combination of tastes and sixtythree compositions are distinctively presented in general according to the usage of tastes."

There are ever so many combinations of tastes, if followed meticulously due to combination of tastes and subtastes and different forms of tastes. But here, details of fiftyseven combinations and sixtythree forms of compositions are given in detail considering the practical usage of tastes for treating different conditions. The descriptions of these combinations and forms are only general in nature.

एकैकहीनांस्ते पञ्चभेदान् यान्ति रसाद्विके ॥ ४० ॥
(Ekaikahinamste pancabhedan
yanti rasadvike ॥ 40 ॥

"Those five tastes in combination of doubles, one taste being missed in each succession of serial order have fifteen different varieties of combinatians."

In combination of two tastes, there are 15 varieties.

त्रिके स्वादुर्दशाम्लः षट् त्रीन् पटुस्तिक्त एककम् ।
(Trike svadurdasamlah sat trin
patustikta ekakam ।)

"In the combination of three (three taste), sweet has ten, sour has six,

salt three and bitter one varieties of combinations respectively". (Total twenty.)

Table – 1

Combination of 2 tastes

Taste	No. of Combi-nations	Details
Sweet	5	Sweet, salt; Sweet, sour; Sweet, bitter; Sweet, acrid; Sweet, astringent.
Sour	4	Sour, salt; Sour, bitter; Sour, acrid; Sour, astringent.
Salt	3	Salt, bitter; Salt, acrid; Salt, astringent.
Bitter	2	Bitter, acrid; Bitter, astringent.
Acrid	1	Acrid, astringent.
	15	

Table – 2

Combination of 3 tastes

Taste	No. of Combi-nations	Details
Sweet	10	Sweet, sour, salt, Sweet, sour, bitter; Sweet, sour, acrid; Sweet, sour, astringent; Sweet, salt, bitter; Sweet, salt, acrid; Sweet, salt, astringent, Sweet, bitter, acrid; Sweet, bitter, astringent, Sweet, acrid, astringent.
Sour	6	Sour, salt, bitter; Sour, salt, acrid; Sour, salt, astringent; Sour, bitter, acrid, Sour, bitter, astringent; Sour, acrid, astringent.
Salt	3	Salt, bitter, acrid; Salt, bitter, astringent; Salt, acrid, astringent
Bitter	1	Bitter, acrid, astringent.
	20	

चतुष्केषु दश स्वादुश्चतुरोऽम्लः पटुः सकृत् ॥ ४१ ॥

(Catuskesu dasa svaduscaturo'mlah patuh sakrt ॥ 41 ॥)

"In four fold combinations we have ten for sweet, four for sour, and one for salt."

Table – 3

Combinations of 4 tastes

Taste	No. of Combi-nations	Details
Sweet	10	Sweet, sour, salt, bitter; Sweet, sour, salt, acrid, Sweet, sour, salt, astringent; Sweet, sour, bitter, acrid; Sweet, sour, bitter, astringent; Sweet, sour, acrid, astringent; Sweet, salt, bitter, acrid, Sweet, salt, bitter, astringent; Sweet, salt, acrid, astringent; Sweet, bitter, acrid, astringent.
Sour	4	Sour, salt, bitter, acrid; Sour, salt, bitter, astringent; Sour, salt, acrid, astringent; Sour, bitter, acrid, astringent.
Salt	1	Salt, bitter, acrid, astringent.
	15	

पञ्चकेष्वेकमेवाऽम्लो मधुरः पञ्च सेवते ।

(Pancakesvekamevaʃmlo madhurah panca sevate ।)

"In five fold combinations sour has only one form and sweet five forms".

Table – 4

Combination of 5 tastes

Taste	No. of Comib-nations	Details
Sweet	5	Sweet, sour, salt, bitter, acrid Sweet, sour, salt, bitter; astringent Sweet, sour, salt, acrid, astringent Sweet, sour, bitter, acrid, astringent Sweet, salt, bitter, acrid, astringent
Sour	1	Sour, salt, bitter, acrid, astringent
	6	

द्रव्यमेकं षडास्वादमसंयुक्ताश्च षड्रसाः ॥ ४२ ॥

(Dravyamekam sadasvadama-
samyuktasca sadrasah ॥ 42 ॥)

"The substances with all six tastes combined is only one. And we have six tastes separately also. So although we have fiftyseven combinations and six tastes separately, so forming sixtythree forms altogether."

We have sixtythree forms.

षट्पञ्चकाः षट् च पृथग्रसाः स्यु-
श्चतुर्द्विकौ पञ्चदशप्रकारौ ।
भेदास्त्रिका विंशतिरेकमेव
द्रव्यं षडास्वादमिति त्रिषष्टिः ॥ ४३ ॥

(Satpancakah satca prthagrasah syu-
scaturdvikau pancadasaprakarau ।
Bhedastrika vimsatirekameva
dravyam sadasvadamiti
trisastih ॥ 43 ॥)

"Five fold forms are six and each separate taste as six, two taste combinations and four fold combinations being fifteen in number, triple combinations being twenty, and six tastes all in one substance, we have sixtythree substances.

ते रसानुरसतो रसभेदा-
स्तारतम्यमरिकल्पनया च ।
सम्भवन्ति गणनां समतीता
दोषभेषजवशादुपयोज्याः ॥ ४४ ॥

(Te rasanurasato rasabheda-
staratamyaparikalpanaya ca ।
Sambhavanti gananam samatita
dosabhesajavasadupayojyah ॥ 44 ॥)

"The different tastes, because of their union with other tastes and subtastes and which can be differentiated by comparisons are innumerable. Having understood the similar differentiation of Dosas and of the medicines with such differentiation in tastes, they have to be used."

The varieties of tastes are really incalculable, because Rasas (tastes) and Anurasas (subtastes) can have innumerable combinations, and variations are infinite. In the same way the combination of Vata, Pitta and Kapha, vitiating Dhatus and Malas have innumerable forms and create various conditions. Medicines have also innumerable tastes which alter their properties. The physician has to understand all these possibilities and administer medicines accordingly.

इति श्रीवैद्यपतिसिंहगुप्तसूनुश्रीमद्वाग्भटविरचितायामष्टाङ्गहृदयसंहितायां सूत्रस्थाने रसभेदीयो नाम दशमोऽध्यायः ।

(Iti srivaidyapatisimhaguptasunu-
srimadvagbhataviracitayamastangahrdayasamhitayam sutrasthane rasabhediyo nama dasamo'dhyayah ।)

So ends the chapter titled "Rasabhedeeya", the tenth chapter of the Suthra Sthana of Ashtanga hridaya Samhita worked out by Sri Vagbhata, son of Vaidyapathi Simhagupta. ●

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EPILEPSY IN ANCIENT INDIA

Prof. C. K. RAMACHANDRAN

Patients with epilepsy have had bad reputations and stigma in the society throughout the centuries based on lay fears and superstitions. Medical progress, based on the works of several scientists, has led to advances in the field of epilepsy that has crossed several frontiers. Of these, mention should be made of Jackson, Gowers and Penfield, who were the pioneers in this symptom complex in this century. Despite the advances, the present status of the disease can be opined thus. The mechanism of the seizure focus still remains obscure, the theories on the cause and pathophysiology, is rudimentery and the several modalities of treatment based on the above theories can be only empirical (Gross 1991: 2).

In this article, the state of art of epilepsy described in the Ancient Indian Scriptural Literature, mostly Vedas is reviewed. It should be understood that these transcripts have mentioned diseases in various situations and contexts. They have been described during the recital of prayers. during the glorification of various herbs and minerals which were used for diagnostic and therapeutic purposes and in prayers, where these terminologies have been used for the elimination of enemies. Diseases have been described in several manthras as Evil Spirits which afflict individuals and on occassions have been potrayed as short descriptions in certain other manthras.

In the earliest descriptions of Atharvaveda, "Jambha" is the term used as equivalent to epilepsy. In the prayer, stanza 8.1.16 of Atharvaveda, a comprehensive description of epilepsy has been given in the name of Jambha (Atharvaveda 1964: 8.1.16).

मा त्वा जम्भः संहनुर्मा तमो विदन्मा
जिह्वा बर्हिः प्रमयुः कथा स्याः।

—अथर्ववेदः 8–1–16

"Let not the jaw snapping or jaw grinding ie. Trismus affect thee. Let not the darkness ie. unconsciousness befall thee. Let not the tongue wrencher, ie. twisting and biting of the tongue creating choking affect thee. Let thee not die."

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In the prayer, stanza 2.4.2 of the Atharvaveda, the translation is as follows:

जङ्गिडो जम्भाद् बिशरद् विष्कन्धादभिशोचनात्।
—अथर्व. 2–4–2

From "Jambha" (Epilepsy), from "Vishara" (Cachexia), from 'Vishkanda" (advanced arthritis)..... let the "Jangida" the amulet of thousand fold valiance protect us (Atharva Samhitha 1854: 2.4.2)

In Kousika Suthra 32.1 of Atharvaveda 'Jambha' and its treatment has been pointed out. (Kausika Suthra 1972: 32.1) So also in Madhyandina Samhitha an attack of Jamba has been narrated. Suklayajurveda Samhita 30.16).

जम्भा गृहीताय···। —कौशिकसूत्रम् 3–2–1
जम्भगृहीते···। (केशवभाष्यम्)
जम्भी रक्षः (दारिलभाष्यम्)
सानुभ्यो जम्भकम् —माध्यन्दिनसंहिता 30–1–6

It is a well known fact that the origins of several Greek and other medieval literature is from the Ancient Indian Literature and the word "Grahi" proves it. The literal meaning of this term "Grahi" is "to seize" and this could well be the evidence for the origins of the terms – seizure disorder. The Greeks used the word epilambanein with the meaning "to seize" or "to attack" from which the present terminology epilepsy originated. (Gross 1991: 3) The word "Grahi" has been mentiond in several Vedic scripts of which a few are as follows:

"O thou of "Dasa–Vrksha" release this man..... from the "Grahi" (seizure) that has seized the entire body and joints.....)

Atharvaveda 1984: 2.9.1

दशवृक्ष मञ्चेमं रक्षसो ग्राह्या अधि यैनं जग्राह पवसु।
—अथर्व. 2–9–1

अमुक्था यक्ष्माद् दुरितादवद्यात् द्रुहः पाशाद्
ग्राह्याश्चोदमुक्थाः। —अथव. 2–10–6

"Thou has been released····
and from "Grahi" (seizure)····
(Atharvaveda 1984 : 2.10.6)

ग्राहजग्राह यद्यतदन तस्या इन्द्राग्नी प्र ममुक्तमेनम्।
—अथर्व. 3–11–1

"If now "Grahi" (seizure) hath seized him, O Indra (Hindu God) and Agni (The Fire God), do ye release him from it." Atharvaveda 1984 : 3.11.1)

स ग्राह्याः पाशान् वि चृत प्रजानन्···।
—अथर्व. 6.112.1

"····do thou, foreknowing, unfasten the bonds of "Grahi" (seizure)····
(Atharvaveda 1984: 6.112.1)

आरादरातिं निऋतिं परो ग्राहिं क्रव्यादः पिशाचान्।
—अथर्व. 8.2.12

"A far niggardliness, perdition, away "Grahi"····that we smite away as it were into darkness.
(Athavaveda 1984 : 8.2.12)

ग्राहिं पाप्मानमति तां अयाम तमो व्यस्य प्र वदासि
वल्गु। —अथर्व. 12.3.18

"The "Grahi" (seizure), evil···· may we go beyond them····dissipate thou the darkness, mayest thou speak forth.
(Atharvaveda 1984 : 12.3.18.)

In this century of modern biochemistry, DNA probing, etc. metabolic abnormalities eg. Hypoglycemia, Hypo or Hypermagnesemia, and Hyper or Hypocalcemia have been found to cause seizures, but does it not surprise us that in an age where an autoanalyser

did not exist, a similar description was made in the Bharadvaja 50.30? (Bharadvaja Sutra 1941 : 305– 17)?

The description is :

आमज आमयकयिहेतुक चित्तक्षोभभयनिग्रहविग्रहः ग्रहः ।
—भारद्वाज. 50.30

"The seizure characterised by explosive anger, frightfulness, homicidal and fighting impulses···· caused by METABOLIC ERRORS ....."

"Apasmara" is yet another term that was used by the ancient physicians to describe Epilepsy and it would literally mean "a transient attack of loss of consciousness". A vivid picture of a complex partial fit appears in our mind when we read the verse in Ashtangahrydaya – Uthara tantra 7.1.3–4. (Vagbhada 7.1.3–4).

स्मृत्यपायो ह्यपस्मारः ।
तमो विशन्मूढमतिर्बीभत्साः कुरुते क्रियाः ।
दन्तान् खादन् वमन् फेनं हस्तौ पादौ च विक्षिपन् ।
पश्यन्नसन्ति रूपाणि प्रस्खलन्पतति क्षितौ ॥
—अष्टाङ्ग. उत्तर 7.1.3–4.

The translation of which is as follows :

"With hallucinations, the epileptic becomes unconscious and falls down. Develops convulsions of extremities, grind teeth, bite the tongue, froths from the mouth and exhibits frightening involuntary movements."

In Charaka Samhitha – (Chikitsa 10.3) (Charaka 10.3) and in Susrutha Samhita (Uthara tantra 61.1.) (Susrutha 61.1) the same description of epilepsy has been given with utmost clarity.

स्मृतेरपगमं प्राहुरपस्मारं भिषग्वदः ।
तमः प्रवेशं बीभत्सचेष्टं धीसत्वसम्प्लवात् ॥
—चरकं, चिकित्सा. 10.3

स्मृतिभूतार्थविज्ञानमपथ्ये परिवर्जने ।
अपस्मार इति प्रोक्तस्ततोऽयं व्याधिरन्तकृत् ॥
—सुश्रुतं. उत्तरं 61.1

The present classification of this mystic disease can be compared to the scriptures in Ayurveda···· as follows :

Attack of absence, tonic–clonic, tonic, clonic and infantile spasms are included in the terminology of Apasmara, Myoclonic and akinetic seizures have been known as "moorchayam". For the partial seizures with motor symptoms the term used in Ayurveda is "akshepaka" and the term used for partial seizure with secondary generalisation is "apathanthraka".

Various modalities of therapeutic measures mainly with the form of combinations of various drugs have been mentioned in the samhitas and texts of Ayurveda. In the present scientific background it has become difficult to evaluate the specific action of those drugs.

Thus to conclude, a kaliedoscopic view into our past literature has proved that the rapid strides that we have made may still be Lilliputian when compared to the progress that our ancestors had made in the disease — epilepsy. The disorder was well described clinically, etiologically as well as therapeutically kindling us to work harder to search for newer facts to unravel the mysteries of "Grahi". ●

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MILK AS A COSMETIC

Diary products, esp. milk has been an important part of human diet, since long. But, how about using milk as a cosmetic?

Pliny (I Century) has recorded that during his time fresh milk was used as much as a cosmetic as a food. It was thought that the milk would impart a part of its whiteness to the skin of women. But, this was a luxury affordable only to the ruling class. Poppea, wife of the legendary Roman Emperor Nero, who played fiddle while Rome was burning used to have 500 milching asses in her caravan whereever she went and took her daily bath in their milk in the hope that it would make her skin more supple.

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A SURGICAL COLOSSUS *

M. S. VALIATHAN **

I am deeply honoured by the invitation to give the Founder's Day address to commemorate Sri P. S. Varier who not only founded this great institution but also lit the torch of Ayurvedic revival in Kerala. I note that the Arya vaidya Samajam which he founded and nurtured was presided over by the Mootha Koil Thampuran of Ananthapuram or Kerala Vagbhata who was my great–grandfather. My father told me of an incident relating to him which I shall narrate for its relevance to the general theme of my lecture. Koil Thampuran divided his stay between Haripad and Mavelikara and often did the commuting on foot. Young men invariably walked and covered the distance in two hours. In 1904 when my father was 14, he departed from custom and went to Haripad in a horse-carriage which belonged to the family. As soon as he reached Haripad, he went to greet his grandfather whose first question was whether he had come by the carriage. On my father's affirmative reply, Kerala Vagbhata who was a man of few words paused and remarked "Take care; you may get diabetes". Forty years later, when I heard the story, my father had already become a diabetic. The link between physical exercise and diabetes mellitus which was implied in Kerala Vagbhata's prediction was based on the habits of keen observation and clinical intuition rather than scientific reasoning. These qualities which stood out at all times in the practice of Ayurveda reach back to Sushruta whose fatherly role in the growth of Ayurveda is immeasurable. According to Sushruta "the lymph chyle derived from the assimilated food of a person who is in the habit of pampering his belly even when a previous meal has not been thoroughly digested, or who leads a sedentary life, or who is averse to taking any sort of physical exercise is transformed into a serum of sweet taste which moves about within the body, engendering the formation of fat which produces excessive stoutness. Such a person may develop boils, carbuncles and fistulae-in-ano"[1]. Twenty-five centuries later we can say this again in contemporary technical jargon.

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* *Speech delivered on 30-1-1993 in connection with the Ayurveda Seminar at Kottakkal.*

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In paying homage to Sri P. S. Varier, I can do no better than present before you Sushruta as a scientist with a universal mind, as a master surgeon who lived in advance of his time and as a glorious teacher whose Samhita continues to be read and admired.

Sushruta

Who was Sushruta? When and where did he live? To these and other questions there are unhappily no clear answers. Nor should this cause any surprise because name and form and their interplay in history received little attention in our cultural tradition: nor did great men crave for fame. All one can claim is that Sushruta belonged to the race of Viswamitra, his Guru was Divodasa who was either Dhanwanthari or a descendant of Dhanwantari, and his life and work were cast in Varanasi. As Katyayana's Vartikas to Paniniyam (4th century B.C.) refers to Sushruta*, he must have flourished at least one or two centuries before the Buddha when India witnessed an intellectual whirlwind that spared neither secular nor spiritual endeavour. His original Samhita underwent many redactions and what we have today is the rescension, or a rescension of rescensions, made by Nagarjuna who was the illustrious founder of the Madhyamika school of Buddhist philosophy. We need not concern ourselves with the question whether Nagarjuna added Uttaratantra to the original Samhita or merely redacted it in common with the other sections of the Samhita. Enormously influencial on the growth of Ayurveda, Sushrutha Samhita became a standard of reference for all latter Acharyas. It was translated into Arabic and admired far beyond India's frontiers.

Sushruta – The Scientist

The long habit of looking at medical science through the separate windows of anatomy, physiology, pharmacology, medicine, hygeine and other disciplines ill-disposes us to an unrestricted view of things. Nothing could be further from the outlook of Sushruta who dealt with life in health (सुखायुः) and life in disease (दुःखायुः) and the general truths in relation to the theory and practice of medicine. To look for a cook–book of medical science in Sushruta Samhita is like groping for a roadmap of modern Varanasi in the old accounts of Kasi Buddhist literature. The location, climate and other basic characteristics of the city never changed but its internal plan and architecture obviously changed over many centuries. For Sushruta, human life was a note in the symphony of the universe and a discordant note called out for correction in so far as it restored the grandeur of the symphony. This universal vision permeated his text, no matter whether it dealt with the anatomy of bones and joints, causation of diseases, therapeutics or surgery. Accurate observation and the recording of data were admittedly important; so were the classification of drugs and operative techniques; but they were significant for Sushruta only to the extent they sought to re–establish the equilibrium between the individual and universal. To fault Sushruta for omissions and commissions in theory and practice is literally to miss the woods for the trees. I wish to illustrate his approach to science by two examples; one conceptual and the other descriptive.

* सुश्रुतेन प्रोक्तं सौश्रुतम।

Sushruta opens his discourse on the body by the assertion that Prakriti or Nature is the progenitor of all created things. Sans beginning, she is self created and characterised by the three primary attributes of Sattva, Rajas and Tamas. She is, so to say, the store house of materials out of which the bodies of all self-conscious working agents (Karmapurushas) are evolved "in the same manner as all water, whether confined in a tank or a reservoir, or coursing through the channels of streams and of mighty rivers, has welled up from the one and shoreless primordial ocean"[2]. Nature expresses itself in eightfold categories – Avyakta (indeterminate), Mahan (intellect), Ahamkara (Egoism) and five Tanmatras (objects of senses) and forms the sole and primary agent in the evolution of the universe. The five sense organs and five operative organs (Budhindriyas and Karmendriyas) and the mind are evolved from Mahan and Ahamkara and they, like Nature, are imbued with the virtues of Sattva, Rajas and Tamas. The five Tanmatras (objects of hearing, touch, sight, taste and smell) are similarly evolutes of Ahamkara and their permutations and combinations give rise to the five items of gross matter or ether, air, heat, fluid and earth (Pancha bhutas). Sense organs as well as the objects of sense perception are the products of the evolution of matter and are equally material. The matter which specifically forms the object of a particular sense organ cannot be perceived by another. "We see a flower with the eyes and not with the nose"[3]. Together, the evolutes of Prakriti add up to twentyfour fundamental principles (Chaturvimsati Tattvas) which are devoid of consciousness. It is Purusha who bestows consciousness on Nature or Prakriti and its evolutes by his radiant entry. This is comparable to how "the milk in the breast of a mother, though unconscious in itself, originates and flows out for the growth of the child"[4]. Both Prakriti and Purusha are eternal realities, both unmanifest, both without beginning or end, both eternal and without a second, and both omnipresent. Prakriti is the seed, the fecundating role belonging to the Purusha.

Unlike Prakriti, Purusha is devoid of the attributes of Sattva, Rajas and Tamas and exists as units of consciousness. An individual is nothing but a self-conscious Purusha and the five kinds of matter (Mahabhutas) cast into an organic body. Sushruta asserts that the self-conscious units of Purusha are real and eternal and that they are born in the planes of divine, human or other planes of existence according to their good or evil deeds. Devoid of Sattva, Rajas or Tamas, they are mere witnesses to the joys and miseries of life. The sole business of therapeutics is to control or cure diseases by administering medicinal remedies and hence "the properties of matter are the only fit subject to be dealt with in a book on pharmacy:"[5]. Rendered by Sushruta, the Samkhya doctrine becomes the cornerstone of a profoundly philosophical view of life and medicine.

From the conceptual to the descriptive is a long jump, but Sushruta was no respecter of intellectual distances. He begins his description of the skeletal system by stating 'According to the followers of Ayurveda (general medicine), the entire number of bones in the human body

is three hundred and sixty; whereas Salya Tantram counts only three hundred, Of these, one hundred and twenty are to be found in the four extremities, one hundred and seventeen in the pelvis, sides, back, chest and the region of the abdomen and sixty-three in the neck and the regions above; thus numbering three hundred in the aggregate"[6]. He follows with detailed descriptions of bones in each group which are compared with the corresponding data from modern anatomy in Tables 1–3. The large variation of 100 between Sushruta's grand total and that of modern anatomy is due to the fact that Sushruta counted teeth, nails and cartilages (trachea, bronchi, costal cartilages) among bones and regarded prominent processes and protuberances as separate bones. For example, the tubercles of ribs and the transverse processes of twelve thoracic vertebrae which articulate with ribs were counted as separate bones. Thus each rib, according to Sushruta, consisted of three separate bones – the shaft, the tubercle and the transverse process with which it articulated. This method of enumeration produced a count of $24 \times 3 = 72$ ribs. Sushruta also classified bones as Kapala (flat) Ruchaka (sharp-teeth), taruna (tender-cartilages) valaya (curved) and nalaka (Tubular). He summarised the function of the skeletal system. "As trees are supported by the hard core inside their trunks, so the body is supported by the firm bones. Muscles are attached strongly to the bones by means of Siras (vessels) and ligments (Snayus), and are thus kept in position and do not fall off".[7] His

TABLE–1.

Bones in the Body

Four extremities

Modern System		Sushruta	
1. Phalanges	56	Pani Padanguli	60
2. Metacarpus and Metatarsus, long bones	20	Tala	20
3. Carpus, Tarsus	30	Kurcha	4
4. Os Calcis	—	Parsni	2
5. Forearm	4	Aratni	4
6. Styloid processes	—	Manibandha	2
7. Olecranon	—	Kurpara	2
8. Leg	4	Jangha	4
9. Malleoli	—	Gulpha	2
10. Patella	2	Janu	2
11. Arm	2	Bahu	2
12. Thigh	2	Uru	2
Sub total	120	Sub total	106

TABLE – 2

Bones in the Body

Trunk

Modern		Sushruta	
1. Clavicle	2	Aksaka	2
2. Scapula	2	Amsajee	2
3. Ribs	24	Parsvaka	72
4. Sternum	1	Uras	17
5. Vertebrae (Thoracic & Lumbar)	17	Pristha	30
6. Sacrum	1	Trika	1
7. Coccyx	1	Guda	1
8. Ilium, Ischium)		Nitamba	2
9. Pubis)	2	Bhaga	1
Sub Total	50	Sub Total	126

TABLE – 3

Bones in the Body

Head and Neck

Modern		Sushruta	
1. Cervical vertebrae	7	Griva	9
2. Trachea, Bronchi	–	Kantha–Nadi	4
3. Cranium	6	Sira–Kapala	6
4. Temporal	2	Sankha	2
5. Face (Maxillae)	2	Hanu	2
Mandibular	1		
6. Malar	2	Ganda	2
7. Nasal	2	Nasa	3
8. Palate	8	Talu	2
9. *Additional*			
Teeth)		Danta	32
Sockets of teeth)	–	Akshi–Kosa	2
Nails)			
Ears	–	Karna	2
Sub total	30	Sub total	66
Grand total	200	Grand total	300

euumeration and classification of joints was equally detailed and more accurate.

In considering the imperfections in Sushruta's osteology and even greater defects in his anatomy of the viscera and blood vessels, one must remember the socio–cultural context in which he lived and functioned. He taught that 'anyone desirous of acquiring a thorough knowledge of anatomy should prepare a dead body and carefully observe and examine its different parts. For a thorough knowledge can only be acquired by comparing the accounts given in the Sastras by direct personal observation"[8]. But the taboos on the handling of cadavers and dissecting them with a scalpel were so strong that Sushrutha recommended dissection by the scraping of decomposed body in water with a brush! The description of systemic anatomy which emerged from this adventure was far from perfect – particularly in relation to soft parts. It was this realisation which made Sushruta lay great emphasis on regional anatomy or Marmas as gleaned from surgical operations. All said and done, he pioneerd human dissection and the linkage of anatomy with surgery for mutual reinforcement.

Sushruta – the surgeon

Sushruta's contributions to medical science were luminous but they pale before the radiance of his surgical legacy. He held surgery (Shalya Tantram) "to be the most important of all the branches of Ayurveda, in as much as instantaneous actions can be produced with the help of such appliances as, surgical operations, external applications of alkalis, cauterisation etc; and secondly in as much as it contains all

that can be found in the other branches of the science of medicine. Hence it is the highest in value of all the medical Tantras. It is eternal and a source of infinite piety, imparts fame and opens the gates of Heaven to its votaries, prolongs the duration of human existence on earth, and helps men in successfully fulfilling their missions, and earning a decent competence in life"[9]. Elsewhere in a discussion on surgical instruments he added "A Physician, skilled in the art of using surgical instruments is always successful in his professional practice, and hence the practice of surgery should be commenced at the very outset of medical studies"[10]. Again "A physician well versed in the principles of surgery, and experienced in the practice of medicine, is alone capable of curing distempers, just as only a two wheeled cart can be of service in a field of battle"[11]. These eloquent statements, from among numerous others, will demonstrate his singular dedication to surgery. He pioneered surgery at a time when it hardly existed elsewhere in the world. What he left behind was an incredible legacy in surgical philosophy, technique, management and instrumentation. No wonder his successors attributed divine origins to Sushruta, the Surgeon – Extraordinary.

Sushruta classified surgical operations into eight catagories. They were incision (Chhedya), Excision (Bhedya), Scraping (Lekhya), Puncture (Vedhya), Probing (Eshya), Extraction (Aharya), Drainage (Visravya) and Suture (Seevya). He recognised three phases in surgical treatment – pre–operative (Purva–karma), operative (Pradhana–Karma) and post-operative (Paschat Karma) and dealt with them individually in the management of each condition. He described in detail numerous operations in general surgery, ophtalmology, ENT, dentistry, orthopedics and trauma, proctology, urology, plastic surgery and midwifery. What he wrote conveys the spirit of so much effortless authority that one is never in doubt that his words sprang from the depth of vast experience. For the purpose of illustration, I shall discuss his treatment of suppuration and that of fractures in preference to the more spectacular examples of rhinoplasty, cytolithotomy and cataract extraction which have often been in the lime light.

After discussing different types of swellings and their possible causation in terms of Vata, Pitta, Kapha and Blood, Sushruta says "A swelling which does not yield to internal or external remedies on account of an extensive accumulation of the deranged local humours, or through the insufficient or contrary effects of the remedial agents, shows signs of suppuration"[12]. In the unsuppurated stage, "the skin of the swelling retains its natural hue, marked by a little pain and heat in its inside, and coldness, hardness and a slight elevation of its surface"[13], Once suppuration sets in there is "a sensation of pricking pain in the affected locality. The swelling seems as if it is being pricked with needles, or bitten or wandered over by a host of ants, or cut with a knife, or pierced with a spear, or thrashed with a club, or pressed with the hand or scrapped round with fingers or burnt with a fire or alkali..... As if stung by a scorpion, the patient does not find comfort in any place or position. The hue of the

local skin is changed and the swelling goes on increasing like an inflated leather bag; and fever, thirst, a burning sensation and aversion to food gradually supervene"[14]. He noted that full suppuration was often marked by an amelioration of local pain, yellowish coloration of skin over the swelling 'which cracks'. He recognised the spontaneous discharge of pus and resolution of the abscess but warned against "suppurating process restricted to the deeper tissues which fails to exibit its characteristic symytoms"[15]. Regarding treatment, he cautioned that "incision or opening of a swelling in its unsuppurated stage is attended with the destruction of the local flesh, ligament, bone, vein or joint and is usually followed by extensive hemorrhage. The incidental wound becomes extremely painful. Many distressing symptoms begin to manifest themselves"[16]. On the other hand, a neglected abscess is fraught with dreadful consequences. "The accumulated pus, unable to find an outlet, is infiltrated and attacks the deeper tissues of the affected part, and forms large cavities inside, thus converting the disease into an incurable type"[17]. To carry out surgical treatment, the patient was given light food prior to the procedure, made to sit facing the east and the limbs carefully fastened. (The use of wine and other pain dulling agents, were obviously reserved for longer procedures). Carefully avoiding the Marmas which were given in detail, the surgeon inserted the knife into the affected part "along the proper direction till the suppurated part would be reached" and swiftly drew it out. The incision "which is wide, extended, equally and evenly divided, should be deemed the best"[18]. Counter–incisions and special incisions in regions like the face, gums, armpit and groin were described by Sushruta who remarks "courage, light-handedness, non-shaking, non–sweating, sharp instruments, self-confidence and self-command are what should be possessed by a surgeon engaged in opening an abscess"[19]. Elaborate measures for post operative care including medicated dressings, bandaging, frequency of the change of dressing in different weather conditions, pain killing medications and others were also described. For Sushruta "a surgeon who is fully conversant with the symptoms which are respectively exhibited by a swelling in its un-suppurated, suppurating and suppurated stages, is alone worthy of the epithet: the rest are but impostors"[20].

We shall now move on to Sushruta's approach to fractures and dislocations (Bhagnas). He differentiates fractures (Kandabhagnam) from dislocations (Sandhi–Muktam) and traced their cause to fall, blow, 'bites of ferocious beasts' etc. While dislocations were divided into six types on the basis of the degree of displacement at the joint, fractures were grouped into twelve kinds as listed in Table 4.

The fracture site was noted to be the seat of a 'violent swelling', abnormal in position and severely painful which would not let the patient 'bear the least touch'. Crepitus under pressure, drooping of the limb and discomfort in all positions were also prominent findings. The management of fractures and dislocations consisted of reduction, (immobilisation by splints and bandaging. The reduction was effected

TABLE - 4

Type of fracture	Findings
1. Karkatam	Bulge in the middle in the form of a Granthi (Subperiosteal hematoma)
2. Asvakarnam	Fractured bone projects upward 'like the ear of a horse'.
3. Churnitam	Fractured bone shattered into fragments (comminuted)
4. Pichchitam	Fractured bone smashed with great swelling.
5. Asthi-chchallitam	Fracture where the covering of bone (Periosteum) is cast off.
6. Kanda bhagnam	Severed ends of bone project through the skin (compound fracture)
7. Majjanugatam	Broken bone impacted into marrow.
8. Ati-patitam	Fractured bone droops or hangs down.
9. Vakram	Unloosened bone bent in the form of an arch (green stick fracture)
10. Chhinnam	One articular end of the bone severed.
11. Patitam	Slightly fractured and pierced with a large number of holes (? Fissure fracture)
12. Sphutitam	Multiple cracks; as if stuffed with bristles of a Suka insect (fracture due to injury by weapons; ? Metallic foreign bodies).

and maintained by Anchhana (manipulation), Pidana (pressure), Sankshepa immobilisation) and Bandhana (bandaging)[21]. Special rules were prescribed for the treatment of dislocations and fractures of the foot, thigh bone, hip bone, ribs, elbow joint, hand, neck, jaw bone, nose, and skull. Sushruta prescribed a fracture bed for the treatment of the fractures of the lower extremity with details on the construction of the bed on a plank or board. In the case of a faulty union of a fracture, he recommended disjointing the union and resetting the fracture.

The fractured member was covered with strips of cloth soaked in ghee and on these, broad but thin and tough inner bark of a tree or pieces of bamboo were applied for splinting. Sushruta described 14 varieties of bandages to suit different locations such as fingers, toes, limbs, neck, cheek, jaws, inner angle of the eye etc. These included 'figure of eight' bandages, 'five tailed bandages' and several others. The indications and contraindications for the use of bandages were fully discussed by Sushrutha. The best care notwithstanding, he observed the poor prognosis of fractures of the pelvic bones, compound fracture of the thigh, comminuted fracture of the frontal bone and fractures of the breast and backbones.

Even a brief discussion on Sushruta's surgery will be incomplete without a reference to his celebrated surgical armamentarium. He described one hundred and one instruments, "of which the hand is the most important, in as much as all of them depend on

the hand for their principal auxillary and as none can be handled without it."[22]. The instruments were classified into blunt (Yantras) and sharp (sastras) with subclassifications (Table 5 and 6). He stipulated that the instruments should be made of good iron and have a fine edge and shape and that they should have moderate size for easy handling. Sharp instruments had to be sharp enough to divide hairs on the skin. The use of Anusastras or accessory instruments consisting of bamboo, glass, ruby or even surgeon's nails was approved, their application being considered in the case of children or adults who were fearful of instruments! An intelligent physician was required "to get his surgical instruments made by a skilful and experienced blacksmith, and of pure, strong and sharp iron"[23]. Sushruta expected surgeons to exercise good judgement in determining the nature of the surgical operation required in each inividual case, for surely the Shalyas repuired for a surgeon's aid are infinitely varied in their character."

I have chosen merely three examples from Sushruta's contributions to surgery. The choice has not been easy because there is an array of outstanding procedures to choose from. In terms of diagnostic soundness, logic of decision making and wealth of practical detail they bear shining testimony to the surgical genius of Sushruta.

Sushruta – the teacher

Sushruta was no ordinary teacher and his Gurukula must have drawn bright young pupils like a magnet. The criteria for admission were strict because medicine was regarded sacred. Brahmanas, Kshatriyas and Vaisyas were normally eligible for admission, But Sushruta recommended admission for Shudra students of 'good character and

TABLE – 5

Surgical Instruments

Yantras

Type	Features
1. Swastika	18 fingers long; curved. 24 instruments: the end of a shaped like lion, wolf etc. and 15 shaped like those of birds of prey. Used to extract foreign bodies. (Shapes for identification).
2. Sandamsa	16 fingers long: two kinds. Used to extract forign bodies from skin, flesh etc.
3. Tala	12 fingers long. Ends single or double and curved like the mouth of a fish. To extract foreign bodies from nose, ears.
4. Nadi	Tubular instruments, open at one or both ends. Used for inspecting body canals or removing foreign bodies or material from them (fistulae, hydrocele, ascites, rectal stricture)
5. Salaka	Probes and sounds of different sizes and shapes: Ends shaped to suit different applications and locations.
6. Upayantras	Cord, braided hair, bandages, cloth, hammer, iron shoes, fingers, load-stone, nails etc.

TABLE - 6

Surgical Instruments

Sastras

Type	Features
1. Mandalagra	Round headed, used for scarification.
2. Karapatra	Saw for incisions.
3. Vridhhipatra	Twin Razors with opposed curves.
4. Nakhasastra	Nail cutter.
5. Mudrika	Cutting instrument of the size of the last phalanx of index finger.
6. Utpala patra	For cutting and puncturing.
7. Arddha dhara	Lancet with single edge blade 2 fingers long, handle 6 fingers long.
8. Suchi	Needle - for letting out discharges.
9. Kusapatra	Resembles blade of kusagrass (use same as above)
10. Atimukha	Shaped like the beak of Sarali bird.
11. Sararimukha	Scissors.
12. Antarmukha	Halfmoon shaped : cuttinge edge inside - for incision.
13. Trikurchaka	Small trocar with three cutting surfaces.
14. Kutharika	Small, axe shaped instrument for puncturing parts, vein.
15. Vrihimukha	Small trocar with head shaped like a grain of paddy (same use as above)
16. Ara	Long instrument with sharp end size of sesame seed (same use as above)
17. Vethasapatra	Cutting instrument like the leaf of rattan (same use as above)
18. Vadisa	Hook.
19. Danta sanka	Forceps for extracting teeth.
20. Erani	probes.

parentage'. The long list of requirements for a pupil included tender years, desire to learn, energy for action, good retentive memory, good health, good looks, pleasant speech and other qualities which fill nearly a page! The mode of initiation consisted of an elaborate ritual which bound the Guru and Sishya in a sacred contract with the Fire–God as witness. The ceremony ended with the following words of command from the Guru. "Thou shall renounce lust, anger, greed, ignorance, vanity, egoistic feelings, envy, harshness, niggardliness, falsehood, idleness, nay all acts that soil the name of good man. In proper season thou shall pare thy nails and clip thy hair and put on the sacred cloth, dyed brownish yellow, live the life of a truthful, self–controlled

anchorite and be obedient and respectful towards thy preceptor. In sleep, in rest, or while moving about – while at meals or in study, and in all acts thou shalt be guided by my directions. Thou shalt do what is pleasant and benificial to me, otherwise thou shalt incur sin and all thy study and knowledge shall fail to bear their wished–for fruit, and thou shalt gain no fame. If I, on the other hand, treat thee unjustly even with thy perfect obedience and in full conformity to the terms agreed on, may I incur equal sin with thee, and may all my knowledge prove futile, and never have any scope of work or display. Thou shalt help with thy professional skill and knowledge, the Brahmanas, elders, preceptors and friends, the indigent, the honest, the anchorites, the helpless and those who shall come to thee from far and near, as well as thy relations and kinsmen to the best of thy knowledge and ability and thou shalt give them medicine without charging for it any remuneration what–so–ever and God will bless thee for that. Thou shalt not treat medicinally a professional hunter, a fowler, a habitual sinner or him who has been degraded in life. By so conducting thou shalt acquire friends, fame, piety, wealth and all wiished–for objects in life and thy knowledge shall gain fame"[24]. After worship and prayers, the pupil sat near the preceptor daily, 'pure in mind and body', when he would be taught a full Sloka, or a half or a quarter, adapted to his capacity. The Guru would make a full paraphrase of it and ask the pupils individually to do the same. Care was taken that the Slokas were "not recited too hastily, nor drawled out in a timid or faltering voice, nor with a nasal intonation"[25]. The voice was kept neither too loud, nor too weak, but each sound was cleary uttered. The lips, eyes, eyebrows and hands were not be lifted to keep time with the recitation. No one was allowed to pass between the pupil and the guru during the time of study. Sushruta disparaged mere bookish learning and commented "a foolish person who has gone through a large number of books without gaining any real insight into the knowledge propounded therein, is like an ass laden with logs of sandalwood"[26]. He recognised that by the study of a single Shastra a man can never absorb the true import of medicine and that a physician must study as many allied branches of science and philosophy as possible.

The training of the anchorite was by no means confined to theory. Sushruta pointed out that a physician well versed in theory but unskilfull in his art through want of practice would lose his wits by the bedside of patient "just as a coward is at his wits' end to know what to do when he for the first time finds himself in the rank of a contending army"[27]. For good measure. he also noted that a person experienced in his art but deficient in the knowledge of ayurveda is a quack and deserves capital punishment. "Both these classes of physicians are not to be trusted, because they are inexpert and half–educated. Such men are incapable of discharging the duties of their vocation, just as a one–winged bird is incapable of taking flight in the air"[28]. The practical training included making of incisions in gourds or cucumber; excisions in the bladder of a dead animal; scraping on a piece of skin where hair is present; venisection

in a dead animal or lotus stem; probing in worm-eaten wood; extraction on seeds from the kernel of vilva or jack fruit, bandaging on a doll and so on.

Sushruta's course of instruction and training was a Tapasya which aimed at developing a physician in whom a patient who mistrusted even his own parents, sons or relations "could repose inplicit faith without the least apprehension of danger". He sought to transform the pupil into a perfect physician who would "protect his patient as his own begotten child"[29].

Conclusion

The mist of twentyfive centuries has not dimmed the lustre of Sushruta who stands astride the centuries like a colossus. One can picture his serene figure in meditation at the Brahma-muhurta on the banks of the Ganga in Varanasi. Long before dawn, he would be seated next to his reverential pupils in the hermitage, reciting, explaining, questioning and invoking Dhanwantari every now and then. Later in the day, he would be off with the pupils, walking up a nearby hill to select an Ashita-Mushka tree of middle age growing on a particular soil. On selecting the tree, he would invoke the spirit of the tree by a Mantra before having it cut and chopped by the disciples. Placing unslaked limestone over the logs, he would proceed to burn them with lighted faggots of dried sesamum plants to demonstrate the preparation of alkali for external application. As the day advanced, he would be with patients, young and old, rich and poor, who flocked to him in large numbers. Eyes brimming with mercy, he would busy himself with physical diagnosis and medical treatment, communicating all the while to his anchorites through demonstration; words and silence. One would hear him discourse on varied subjects - the significance of Dootas bringing news of illness, the full use of senses in physical examination or the place of Aptavakyas in the diagnostic process. On days chosen for their blissful astral combination, offering to the gods and holy men would be made in preparation for surgery. The designated room would be fumigated with medicinal herbs including Guggulu, white mustard and leaves of Nimba trees and a skilled assistant would ensure that the instruments and accessories were clean and ready for surgical use. The patient would receive the blessings of his relatives and the Acharya besides liberal dozes of appropriate wines such as Arista, Asava and Sidhu. After reciting verses of benediction, the Acharya would carry out the surgical procedure with a keen eye and a steady and expeditious hand. The patient would be nursed according to the rules laid down until he was ready to return to his village settlement. As the eventful day faded and the mystic hour of Sandhya set in, the shimmering lamps of the hermitage, the murmuring Ganga and the vesper chants of pupils would join Sushruta in the solemn worship of Dhanwantari who grants health, long life and happiness.

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* *All references are taken from Sushruta Samhita. English Translaiion by K. L. Bhishagratna, Chowkhamba Sanskrit Series, Varanasi, 1991.*

I have also consulted Ancient Indian Medicine by P. Kutumbiah.

.....Creating a new theory is not like destroying an old barn and erecting a skyscraper in its place. It is rather like climbing a mountain, gaining new and wider views, discovering unexpected connections between our starting point and its rich environment. But the point from which we started out still exists and can be seen, although it appears smaller and forms a tiny part of our broad view gained by the mastery of the obstacles on our adventurous way up.

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NIMBA: A HISTORICAL BIOGRAPHY FROM ANTIQUITY TO MODERN TIMES – PART III

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Modern texts and traditions

More or less, Nimba carried the legacy of the medieval period in the modern times. A few representative works will be discussed here to present the picture.

4 (1) Yogaratnakara (17th cent. A. D.)

Yogaratnakara[39] is a compilation from a number of preceding works including Vaidyajivana of Lolimbaraja[40] and Bhavaprakasa. Mostly it had repeated the formulation already noted. A few facts, however, may be new and interesting.

Nimba flowers are mentioned as wholesome vegetable in fever (p.87). Nimba enters into many formulations such as amrtadi kvatha (p.89), dvartrimsadanga kvatha (p.92), mustadi Yoga (p.95), Vasadi kvatha (p.97) draksadi kvatha (p. 97) and bharngyadi kvatha (p. 98). There is also one laghu sudarsana curna (p.100) in which nimba is an ingredient.

Nimba has been used in combination with other drugs to eradicate intestinal worms (p.145). The use of nimba in vomiting caused by Pitta and Kapha is repeated. (p, 179).

In vatarakta too, vasadi and manjishtadi kvathas are repeated (p.243). Langalighrta (p.328) containing nimba leaves is particularly useful in burns. In upadamsa, it comes in patoladi kvatha (p. 333) used internally. Nimbadi decoction (p. 334) is also used for washing the veneral wounds. It is also an ingredient in bhunimbadya ghrta (p.334).

Kushta is one of the specific areas of nimba. It enters into mahakasaya (p.340) and navakasaya (p.340). There is also prescribed the use of the paste of nimba leaves singly or mixed with amalaka. (p.340). Pancanimba curna is also prescribed (p.340). It is also in bhallatakavaleha (p.342) besides other bitter ghrtas (p. 342–43).

In sitapitta (urticaria) decoction of nimba is prescribed for intake (p.348) In visarpa, nimba enters into the formulations patoladi kvatha (p.353)

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and bhunimbadya kvatha (p.353). In treatment of visphota, nimba is an ingredient in draksadi (p.355), bhunimbadi (p.355), dvadasanga (p. 355) and amrtadi kvathas (p.356). There is also nimbadi kvatha(p.356). For guinea worm, there is prescribed a nimbadi formulation for washing and pasting (p.367). In pox, nimba juice (or decoction) or nimbadi kvatha is prescribed (p.359) for intake and washing (p.360). Nimbadi ghrta (p.368) is for treatment of padminikantaka, a skin disease.

Haridrataila indicated in mukharoga contains nimba (p.378). Vasadi kvatha (p. 409) useful in eye diseases also contains nimba.

4.2 Bhaisajyaratnavali (18th cent. A·D.)

Almost the similar position is of the Bhaisajyaratnavali[41]. The following points are noteworthy.

In fever, there is nimbadi kvatha (p. 34). Saptacchadadi kvatha (p. 35) also contains nimba. Nimbadi curna (p.549) is for Vatarakta. It is said to have been delivered by Nagarjuna. In kushta, there are two formulations of pancanimba (p.938, 939) as in preceding texts, Dasanga kvatha (p.980) is indicated in amlapitta.

4. 3 Siddhabhesajamanimala (19th cent. A·D.)

Siddhabhesajamanimala is a work of a scholar and experienced Vaidya Pt. Krsnarama Bhatta, belonging to Jaipur tradition. The text was completed by the end of the 19th cent. and right from the beginning of the present century it was prescribed as a text book in Government College at Jaipur.

There are some new informations about nimba which may be noteworthy.

A liquid preparation of steamed petioles of nimba leaves is prescribed in fever (p.90) Katvipista (p.94) containing nimba is useful in fever. There is also another use of the petioles of nimba. There are pounded and kept in water overnight. It is taken in the morning in case of severe dysuria (p.163)

The root of nimba is used in bleeding piles (p. 120). A formulation containing nimba leaves, kampilla and Hyocyamus niger seeds is prescribed for fumigation in the same (p.116).

For pandu, there is a blood–purifying formulation picumandadi niryuha containing nimba as the first drug (p.129).

For leprosy and blood disorders, there is a formulation "Kushtasrasudana" which contains exudation (toddy) of nimba plant (p.203). It is also useful in worms, oedema, anaemia and eye diseases. Nimbatulaghrta is useful in ring worm (p.205)

4. 4 Siddhaprayogalatika (20th cent. AD)[43]

The root bark of nimba is used for preparing a tooth powder (15.36).

In treatment of fever, jvaramurari contains bark of nimba (1.2). Mustadi yoga in kaphaja fever also contains nimba (1.58).

The seed kernel of nimba gained prominence in treatment of piles (3.8, 12.15, 26, 32)[44]. Besides, nimba is also used in preparation of an anti-haemorrhoidal formulation (3.22–23). Powder of nimba leaves along with rasanjana is used in bleeding piles(3.33).

Nimba leaves are used in preparing an ointment for syphilitic wounds (13.27). There is on saptaguna taila[45] which contains nimba bark (15.41). An ointment for erysipelas contains juice of nimba leaves (16.5). Nimba taila prepared by processing mustard oil with nimba leaves is useful in skin diseases(16.27–28). In blood disorders, kinkararka is prescribed which contains nimba bark. (19.46).

The juice of nimba leaves is used as anupana for madhumehahara vati indicated in all types prameha (18.5). Madhumehari (18.19–22) also contains nimba leaves.

The use of nimba leaves in many ways is benificial in masurika (pox). The leaves are spread on the bed of the patient. He is also fanned with a nimba twig having bunch of leaves. Such twigs with leaves are also kept hanging on the doors (20.3). This practice is still continuing in villages. There is patoladi kvatha having nimba bark (20.9). Application of the juice of nimba leaves on eye lids protects eyes from further complications (20.15). The nimba wood is rubbed with water like sandal and the paste is taken with sugar. This prevents and cures pox (20.17).

In amlapitta, two earlier formulations are repeated (23.13.16). In sitapitta, tiktadi yoga contains nimba as an ingredient and is used with anupana of nimba (24.22–23).

4. 5 Sahasrayoga[46]

This book contains formulations practiced in Kerala's tradition. The following points are noteworthy

Eladi yoga for Rajayakshma contains nimba (p.13). The popular punarnavastaka kvatha is mentioned here as panduhara kasaya (p.25). Manjishtadi kvatha, for kushta (p. 28) and patoladi ghrta for eye diseases. (p. 59) contain nimba. Pancarista is mentioned as prtunimbapancaka curna indicated in kushta etc. (p.113). Patoladi curna (p.120) also contains nimba. It is useful in fever, Jaundice etc. Bhagandarahara lepa has nimba leaves as an ingredient (p. 221). Nimbadi kasaya (p. 227) indicated in vidradhi contains nimba bark.

Nimbamrtadadi kasaya has been borrowed from Gadanigraha only with different wording (p.285). Khadiradi kasaya (p.289) is efficacious (in worms. It contains nimba. Manjishadi (p.290) and darviguducyadi (p.291) kvathas indicated in kushta contain nimba. There is also Trayatyadi kvatha (p.294). Sunthyadi kasayas also contains nimba (p.286). For healing of wounds, there is pullanyadi taila (p.296) which contains nimba leaves. Jatimannaladi taila (p.298) contains nimba leaves, it is useful in tooth–ache for local application.

Thus a survey has been made from antiquity to the present times with regard to nimba in Ayurvedic medicine through the spectra different representative texts documenting the traditional uses and practices which shows the change with continuity, the special feature of Indian culture.

The survey would not be taken as complete unless the texts on nighantus (Ayurvedic pharmacology) are also discussed in relation to the informations on nimba. As said in the beginning, Ayurveda is a science and has explained the mode of action of drugs on its own

concepts leading to various therapeutic uses. The action of nimba may also be understood in the same light.

Dhanvanthari nighantu (10–13th cent. A.D.) described nimba in the first chapter (guducyadi). Nimba is described there as tikta (rasa), sita (virya) and laghu thereby alleviating Kapha, pitta and disorders of Rakta. By external and internal uses it destroys Kushta, itching, wound etc. It ripens the immature inflammation and cleanses the ripened one (1.30). Mahanimba (Melia azedarach Linn) is described as a type of nimba (1.31). In fact, nimba had become a symbol of bitter that is why it is given the synonym of 'sutiktaka' (.129) and even kiratatikta (Swertia chirata Buch–Ham), another popular bitter drug, came to be known as 'Bhunimba' (smaller nimba).

Kaiyadevanighantu (early 15th cent. A. D.) has descibed nimba in detail giving properties of the parts of the plant separately. In synonyms it has added 'Krimighna' (anthelmintic) and 'chardana' (emetic) which show the prominent actions of nimba. Nimba is mentioned as tikta, katuvipaka, laghu, sita, pacifying Pitta and Kapha while aggrevating Vata, stimulates digestive fire, retains excreta and is unrelishing[47]. It is useful in disorders of Pitta and Kapha, diabetes, fever, worms, Kushta, cough, anorexia, dyspnoea, nausea, oedema and wounds (1.878–85).

Bhavaprakasanighantu (16th cent. A. D.) repeats the same properties and actions, it gives separate description of the properties of leaves and fruits of nimba (3.93–96). Rajanighantu (17th cent. A.D.) mentions kaidarya (Murraya koenigii Spreng) also as a type of nimba (9.48–49).

Saligramanighantu (19th cent. A.D.)[48] almost repeats the above description. It describes all parts of nimba separately and gives properties and uses of Pancanga of nimba (p. 238–40).

It is surprising that though the fruit (seed–kernel) was in popular use as remedy for piles this fact has not been mentioned in any of the above nighantus.

Priyanighantu (20th cent. A.D.)[49] mentions three types of pancatikta. Though there is variation in other drugs nimba is a constant factor in all of them (1.183–85).

Summary and conclusion

Nimba has been in use in Ayurvedic medicine continuously from antiquity to the present times. Main areas of its therapeutic use have been fever, piles, jaundice, worms, blood disorders, Kushta (leprosy and skin diseases), diabetes and wounds, This wide area is covered by nimba on account of its innate properties — laghu, ruksa (guna), tikta (rasa), katu (vipaka), sita (virya) and kushthaghna (prabhava)[50] In medieval period, the combined use of five parts (pancanga) was developed whieh was named as pancanimba. Similarly a group of fiive bitters (pancatikta) also became popular. Lastly the efficacy of seeds was observed in management of piles and was recorded. This clearly indicates that each and every part of the plant was tried for its efficacy and the results were documented in the texts of medicine and nighantus.

This survey may open new vista for further research work on the hidden aspects regarding pharmaco–therapeutics of nimba.[51]

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Abbreviations

AH Astangahridaya
BP Bhavaprakasa
CD Cakradatta
Ci. Cikitsasthana
CS Caraka samhita
GN Gadanigraha
Ka. Kalpasthana
SG Sarngadhara samhita
Si. Siddhisthana
SS Susruta samhita
SU Suthrasthana
U Uttyratanthra or Uttarasthana
Vi. Vimanasthana

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RASAYANA

K. RAGHAVAN THIRUMULPAD

Rasayana, the method of systemic rejuvenation, is one of the eight limbs (अष्टाङ्ग) of Ayurveda. Though it is prescribed sometimes as a medicine in the treatment of certain diseases which are only controllable (याप्य) with treatment and regimen (पथ्य) it is intended as a regenarative treatment to arrest the decay of the system, to restore youth and to ensure long life with health and intelligence. Hence it is considered a separate limb. As such it is included in the regimen for health (स्वस्थवृत्त) Medicine for specific diseases is the subject of treatment of the diseased (आतुरवृत्त). Ayurveda is essentially the science of life, as the term itself denotes, though treatment of diseases is its branch, as health has to be restored, to be maintained.

Simply taking a spoonful of the medicine termed as rasayana is not rasayana therapy, even though it may give relief in some symptoms. It can work as rasayana in the full sense of the term, only if the method of rasayana treatment is strictly followed. The state of the body is controlled to a great extent by the conditions of the mind and in rasayana therapy, particular care has to be taken to avoid agitating passions and emotions and keep the patient in peace and tranquility with pacifying thoughts based on truth, non-violence, kindness etc. The prescribed regimen has to be strictly followed, as a minor lapse may destroy the effects of the treatment, and may even harm the system. A cottage (कुटी) has to be specially built as per specifications given in the texts, not to be affected by climatic conditions, and to avoid external influence. Only the nearest and dearest, with pure and good qualities and intentions should be allowed in the surroundings. Before starting the treatment, the system has to be purified and made receptive with eliminative procedures (शोधनकर्म). When we consider the conditions and restrictions, it will appear nearly impossible for the worldly people in these days of hurry to undergo such a treatment. Even in early times, when life was very natural and conditions were very peaceful, very few people could undergo this type of treatment called kuteepravesa rasayana.

The seers of Ayurveda, in their kindness for the ordinary people have evolved and prescribed a not so-difficult method of rasayana also. It is termed Vatatapika (वातातपिक) also called Souryamaruthika (सौर्यमारुतिक) in which complete restriction of climatic and other

Vaidyabhooshanam K. Raghavan Thirumulpad, Chalakudy, 680 307.

conditions is not essential. Vatha means wind and athapa means sun. Only direct contact with wind and sun has to be avoided. Only restrictions such as avoiding cold water, sleeping during the day, keeping awake at night, too much exertion, sexual abstinence etc. have to be adhered to. There is no restriction in movement. The main injunction in this regard is that the dose of medicine should not hinder a meal a day and that only one usual meal per day be taken (य। नोपरुन्ध्यादाहारमेकं मात्रा तु सा स्मृता). The injunction of the science of life is that a man should have only two meals per day, one in the morning, and the other in the evening (सायं प्रातर्मनुष्याणां भोजनं विधिचोदितम्). The food once taken has to be properly and completely digested (जीर्ण) and appetite felt before the next food is taken. Eating before the previous food is properly digested and appetite is felt is the most important cause of disease (अजीर्णाशनं व्याधिमुखानाम्). In vathathapika rasayana, the second meal has to be the rasayana. For this, the rasayana has to be somewhat tasty, to be taken in such a quantity. Many medicines prescribed in certain diseases like kasa, swasa, yakshma etc. are termed rasayana, (Agastyarasayana, Kooshmanda rasayana, Elajamoja rasayana and Amruthaprasa rasayana) and there are medicines prescribed in the chapter on rasayana (Chyavnaprasa, Brahmarasayana, Narasimha rasayana, Abhayamlaka rasayana etc.). These medicines are indicated in specific systemic conditions and symptoms. So medicine suited to the particular constitutional conditions and personal susceptibilities can be selected to be used as rasayana. It can be inferred, that rasayana can be used to eradicate long standing (याप्य) diseases, as well as to ward off most diseases of middle and old age. In modern times a tiffin in the morning, a meal in the noon, and supper after sunset have become the habit of most people. In rasayana treatment, allowing the noon meal, the tiffin and supper have to be the medicine. A little of the rasayana with milk can be taken in the morning as tiffin, and as much rasayana as can be taken without aversion, with milk as supper. If milk is not constitutionally suitable, water boiled with dry ginger and coriander (शुण्ठी धान्य) can be taken as anupana (अनुपान) as also to quench thirst.

There are differences of opinion among the acharyas, that the total digestion and assimilation of the food is completed in one day itself going through the various processes of metabolism (धातुपाक) and nourishing all the dhathus and that the processes are finished only in seven days, and that the all processes are over in the course of one month. We can take that the opinion of seven days' period for total assimilation is the most reasonable, from experience (केचिदाहुरहोरात्रात् षडहादपरे परे। मासेन याति शुक्लत्वमन्नं पाकक्रमादिभिः॥) By six days the essence of the food, going through the various processes of assimilation is converted into the seventh dhathu (शुक्ळ) and on the seventh day, the digestion of the seventh dhathu also is completed. It has to be assumed that certain drugs, with particular prabhava show instant benefit. Usually treatment is prescribed for seven days, and after reviewing the results, changes if necessary are made(सप्ताहेन फलालाभे क्रियामन्यां प्रयोजयेत्). With seven days of treatment, with the medicine as half of the quantity of daily food, all the tissues of the body become permeated with the essence and spirit of

the medicine. It can be continued to two weeks, three weeks and four weeks. Considering the opinion that the processes of digestion and absorption are completed in one month, the course of rasayana treatment can be for that period. The effect of the rasayana treatment is the renewal and nourishment of whole range of tissues, dhathus, the complete system (लाभोपायो हि शस्तानां रसादीनां रसायनम्) with all the passages (स्रोतांसि) cleared and cleaned of the metabolic wastes which have accrued in the course of years of unnatural life, hindering the proper circulation of the dhathus. The word rasayana has also a meaning denoting circulation (अयन) of the dhathus (रसादिधातु). As such, with rasayana treatment, health, vitality, vigour, longevity, excellence of intelligence and memory are achieved.

Now-a-days, there are many diseases like AIDS, for which radical remedies are not available, and diseases, even though scientifically treated are not cured. Because of bad habits of life and nutrition, the tissues and passages (धातवः स्रोतांसि) are contaminated, the doshas get entangled in them. Because of the intimate association (आधाराधेयभावः) the doshas and the dhathus influence each other, The chief reason for the dietetic restrictions (पथ्य) essential in the treatment is to purify the dhathus, so that by proper medication the rythm of the doshas (दोषसाम्य) can be easily restored without hindrance from the impure dhathus. Doshas are potential in the sense that they regulate the functions of the dhathus. But if due to impure diet and improper habits of life, the dhathus are generated with deficiencies and impurities, the doshas can do very little to correct the functions of the dhathus. It is just like the man and his surroundings. Man can make or mar the surroundings. But if the surroundings get contaminated with something beyond the control of man, then the surroundings hamper man's efforts to maintain health in his own way. Then the sources of contamination have to be cleared and corrected for the efforts of man to succeed. In the same way, the deficient tissues, resulting from impure diet and improper digestion hamper the corrective influences of the doshas, for the rythm of which treatment is generally given.

The dose of Agastyarasayana is prescribed as two myrobalans (अभय) and as much leha (लेहं द्वे चाभये नित्यमतः खादेद्रसायनात्). Agastyarasayana has hundred myrobalans (अभयाशतं) and as such it has to last for fifty days. Presently the practice is to separate the myrobalans cooked with the other ingredients and to grind and mix it with the decoction before making the leha (लेह). A yoga (prescription) with hundred myrobalans of Agasthyarasayana will be about ten kilograms, the prescribed dose per day comes to two hundred grams. It may be difficult to consume so much of the leha at a time. The alternative is to take as much of it that can be taken without difficulty in the morning as tiffin and as much at night also, with the noon meal as usual. A yoga may last for some more time than fifty days. The consolation is that the prescribed dose of medicine is only an average one (मध्यं तु मानं निर्दिष्टम्) and that it can be changed to suit the systemic conditions of the individual (मात्रायनव्यवस्थास्ति). The desired effect of Agastyarasayana can be attained only if it is taken in the vatathapika method of rasayana. A spoonful

of Agasthyarasayana may only relieve congestion in the throat and other symptoms. From experience it can be said that Agasthyarasayana cures all conditions and symptoms indicated (फलश्रुति) in the yoga, if taken in the vatathapika rasayana dose. This is true of all other rasayana medicines and their desired effects can be obtained only if taken in the rasayanik way. As the dose is a bit massive, the rasayana chosen has to be deepana and pachana (promoting digestion and easily assimilable). The rasayana medicine has to be properly digested and assimilated to give the desired effect of the renewal of the dhathus. It has to be selected according to the principles, most suitable to the systemic condition of the individual. In my practice, I have had occassions to test the efficacy of Agasthyarasayana, Chyavanaprasa and Narasimha rasayana with the most beneficial results, used as vathathapikarasayana.

The case of Vathathapika rasayana is an example as to how attempts can be made to re–evaluate and revive many of the textual prescriptions, which due to various reasons have become neglected in the course of time. Another example is of Ksharasoothra (क्षारसूत्र) which has been revived by the research done by the Banaras Hindu University (Ayurvedic faculty). That has to be the model of research to be done to regenerate the system of Ayurveda, to suit the present conditions of our country and the world. ●

Prosperity doth best discover vice,
but adversity doth best discover virtue.

BACON

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* *

Reading a book is only the fiirst step in the relationship. After you have finished it, the book begins its real career. It stands there as a badge, a blackmailer, a monument, a scar. It is both a flaw in the room, like a crack in the plaster, and a decoration. The contents of someone's bookcase are part of his history, like an ancestral portrait.

ANATOLE BROYARD

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THE EFFECT OF OIL PREPARED FROM *WRIGHTIA TINCTORIA* R. Br. IN PSORIASIS

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ABSTRACT

Objective – To assess the efficacy of oil prepared from the leaves of *Wrightia tinctoria* externally, when used alone and along with internal indigenous medicines. This is a continuation to the Siddha study (Vide Ref. 3).

Design – Prospective clinical trial of 90 days followed by one year follow up. Comparative study of two groups, one with externally used oil preparation of wrightia tinctoria alone and the second with the same external medicine plus internal indigenous medicines.

Subjects – Sixty patients of psoriasis with varying clinical typs of lesions.

Parameters for diagnosis – Clinical appearance with Auspits and Koebner phenomenon.

Parameter for assessment – Clinical improvement, i. e. disappearance of lesions, reduction in surface area of skin involved and reduction in scaling.

Results – After 30 days of usage, complete disappearance of lesions was noted in 8 cases (26.67%) in Group I and in 10 cases (33.33%) in Group II. At the end of the study (after 90 days) Group I showed complete disappearance of lesions in 24 cases (80%) and group II in 26 cases (86. 67%).

Conclusion – This study shows that although concurrent use of internal indigenous medicines is beneficial along with oil prepared from *Wrightia tinctoria* in psoriasis, the additional benefits from internal medicines are only marginal.

Introduction:

Psoriasis is a recurrent, non-allergic, non-infectious papulo-squamous chronic inflammatory disorder constituting more than 3% of all skin diseases in this country. In temperate zones, upto 2% of the white population is affected and is less common is summer and in dark

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skins. Although the disease affects patients of all age groups, the typical fresh patient is a young adult. The mode of inheritance is not clear. However, evidence of dominant as well as polygenic patterns exist with association of HLA antigens B13, B17, B27, CW6 and DR7. It is characterised by the presence of reddish brown papules and plaques covered by layers of silvery scales which when scraped off leave five bleeding points (Auspitz phenomenon.*) These bleeding points correspond to the apices of underlying dermal pappillae. The pathological hall-mark is the 10 fold increase in the speed of epidermal cell proliferation such that the horny layer is not properly produced. Such epidermal cells remain nucleated even when shed. Parakeratosis (less compact and still partially uncleated scale) is a notable feature with air spaces in between the layer of parakeratotic cells. It is by virtue of this condition that the scales of psoriasis are silvery white in appearance. Dermal papillae becomes elongated and club shaped with dilated capillaries and as the rete malphigii overlying these papillae are thinned, bleeding occurs when the scales are removed. The microvasculature is characterised by tortuous leaky capillaries, immature lymphatics and generous protein exudation. Trauma in uninvolved areas precipitate the formation of lesions (Koebner phenomenon)** and this explains the favourite sites of psoriasis—elbows, knees, buttocks etc., which are areas exposed to repeated trauma.

The cell cycle time of human epidermis has not been measured properly due to technical difficulties. Thus it is not understood whether the reason of psoriasis is just a faster cell cycle or increased potential for cell division from the germinal layer. On the other hand, the factors responsible for inhibition of the cell cycle (ex: chalones) may be reduced. A variety of factors such as somatomedins, epidermal growth factor, fibroblast growth factor and cell surface factors on the immature psoriatic cell or even various proteases related to plasmin and complement (ex: activated complement C3 in psoriatic epidermis) are considered to be playing their part in the genesis of psoriasis. It is a fact that in psoriasis, there is immunoglobulin antibodies to the stratum corneum and depressed T cell number and function. Candidates to the biochemical stimulus involve deficiency of sulphur, increased activity of certain enzymes in the glycolytic pathway, fatty acid deficiency and prostaglandin.

Even the unaffected skin of a psoriatic patient is not normal and trauma and medicines such as chloroquine and lithium can precipitate new lesions in fresh areas. Glycogen levels in unaffected skin is below normal, but the level is so high in skin of lesions. As soon as the requisite trauma is effected, the region is invaded by mast cells and macrophages. Except in typical lesions, especially during the development or resolution of psoriasis, the clinical appearance is unmistakable. The lesions have well defined margins with silvery scales originating from the plaque. The most active part of the lesion is the edge with healing perhaps noted in the centre. Although the scalp may be first effected,

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* Auspitz, Heinrich (b. 1835) German physician

** Koebner, Heinrich (b. 1838) Breslau dermatologist.

all areas of high epidermal turnover as the elbows, knees, sacral region, trunk etc., are the favourite sites. In a substantial percentage of cases, the nails become affected too. The face is not affected as a rule but in Guttate psoriasis (common in children), face is also affected. For clinical varieties of psoriasis, see Table 1.

One view is that psoriasis is a result of a specific chain of bio–chemical changes of a genetic nature to a variety of stimuli. The treatment also remains nonspecific. Various 'remedies' including arsenic and gold were tried in the past. Local steroids, Coaltar, Dithranol and various combinations of Calamine, Salicylic acid. Zinc oxide, photootherapy,

TABLE – I

Various clinical presentations of Psoriasis

Sl. No.	Variety	Clinical Presentation
1)	Flexural Psoriasis	Special predeliction for flexural surfaces.
2)	Generalised Pustular Psoriasis	Pustular, rebound phenomenon of steroid withdrawal or with hypoparathyroidism
3)	Guttate Psoriasis	Common in children, after vaccinations, small lesions over entire body including face.
4)	Nummular discoid	Commonest form, coinshaped lesions, symmetrical well defined chronic lesions.
5)	Ocular Psoriasis	Lesions on the conjuctivae
6)	Palmar & Plantar (Pustular) Psoriasis	Sterile pustular lesions of cracks over palms of soles.
7)	Psoriasis of Nails	Pinpoint pitting, onycholysis with salmon pink discolouration of the base of nail, nail distorted, thickened and fragile.
8)	Psoriasis arthropathica	Joint involvement – inter – phalangeal arthritis/severe polyarthritis/rheumatoid type arthritis.
9)	Psoriasis erythroderma	Generalised redness with hypo/hyperthermia and profuse exfoliation

Psoriatic arthritis is a recognised entity and is more than co-incidental. This is a sero–negative inflammatory arthritis, sometimes poly–arthritic and rheumatoid in nature. Rarely, an ankylosing type of arthritis known as psoriatic arthritis mutilans, is also seen. The incidence of poly–arthritis is about 7% in hospital cases and 4% of all inflammatory polyarthritis cases have psoriasis. The aetiology of psoriasis is not known. long–wave ultraviolet ray therapy, climatotherapy, ACTH/prednisolone, immunosuppressive agents as methotrexate Retinoic acid are all instruments in the arsenal now.

The primary aim is to make the patient cosmetically acceptable by depressing the epidermal turnover, There should not be any damage to the skin or other organs. The management

should include a sympathetic hearing of the patient. Almost all the preparations of western medicine has either side effects or the application is tedious and cosmetically unacceptable. The side effects are serious-steroid addiction, skin atrophy, irradiation complications, risk of skin cancer, irreversible vertebral osteoporosis, liver fibrosis, marrow supression, hyperlipidaemia, teratogenecity and hyperostosis.

Ayurveda, with its large collection of medicaments was considered worthy of trial in this condition. Trial in psoriasis with the oil prepared from *Wrightia tinctoria* R.Br. is not new and was originally conducted as part of research in Siddha Medicine by CCRAS (Krishnamoorthy J. R. et. al. 1987 – vide Ref. No. 3). In this study the same oil was used internally also. However, in our study, we used the oil for external use only. As a comparative study involving concurrent administration of internal Ayurvedic medicines was found lacking, we used Ayurvedic drugs internally (Table IV).

Wrightia tinctoria R.Br. belong to the natural order Apocynaceae and is known locally as Thondappala, Veppala etc. It is a deciduous tree with milky juice, commonly found in parts of South India. (for lab. study details, please see Table II courtesy to CCRAS). Various diseases mentioned in the texts of Ayurveda among Kushta Nidana mimics psoriasis.

Since the relation between psoriasis and arthritis is very close, the medicines selected to be given internally for Group II was on the lines of Vatasonita Chikitsa.

Materials and methods

Sixty cases of psoriasis were selected for the study irrespective of age, sex, chronicity, presentation, prediliction to climate and food habits (See table III). However, patients within one month of use of corticosteroids and immunosuppressive drugs were not included. Patients above 65 years and those suffering from other skin diseases were excluded. The cases were divided into two groups of 30 cases each, Group I receiving the coconut oil based preparation of *Wrightia tinctoria* R.Br. for external use alone and Group II receiving the above along with internal medicines. (Table IV : list of internal medi cine).

All patients in both groups had routine haemogram (TC, DC, ESR & Hb%) prior to the treatment. Routine urine examinations before and after treatment were also done. B. P. was recorded weekly and all who had arthritis were subjected to RA test.

The oil for external use is prepared in coconut oil base from the leaves of *wrightia tinctoria* R. Br. in a ratio of 3:1 by weight. The oil was applied all over the affected area liberally twice daily after bathing without soap. After painting the oil in the morning, they were exposed to the sun for 10–15 minutes. Any excess oil was wiped off with a dry towel, but never washed off.

The two groups were similar with regards to mean age, chronicity, nature of lesions, climatic predisposition, relationship of lesions with stress etc. Duration of treatment for both the groups was fixed as 90 days. The patients were examined bi-weekly till the 90th day and bi-monthly for a further

TABLE – II

Details of laboratory / experimental studies

Sl. No.	Analysis		Value
1.	Dye	:	MYSORE PALA INDIGO (0.33–0.5%)
2.	Phytochemical	:	B–amyrin, ursolic acid, triterpine acid
3.	Latex activity (electrophoretic analysis)	:	Proteolytic
4.	Loss of drying at 110°C	:	5.84%
5.	Ash value (of oil)	:	Nil
6.	Volatile matter (steam distillation)	:	4.07%
7.	Refractive index	:	1.46% of oil
8.	Acid value	:	47.9
9.	Saponification value	:	253.9
10.	Iodine value	:	46.46
11.	Acute toxicity (Oral LD 50)	:	45 ml / kg in mice, 30 ml / kg in rats
12.	Sub acute toxicity	:	No damage to any vital structures
13.	Anti-inflammatory effect in rat paw oedema	:	21.31% (1.5 ml dose), 42.08% (3 ml dose) 32.25% (6ml dose) per kg body wt.
14.	Analgesic effect (stretching episodes) by acetic acid	:	efficacy in oral/kg doses 1.5 ml–17%, 3 ml – 30%, 6 ml – 52%
15.	Antipyretic effect	:	Nil
16.	MICROBIOLOGICAL		
	Antifungal		
	Candida	:	Not significant upto 10% concentration
	Aspergillus flavu	:	Inhibited at 24% concentration only
	Mucos Penicillium	:	Significant even at 1% concentration
	Antibacterial		
	Pseudomonas, E. Coli	:	No activity upto 10% but total inhibition at 25%
	Klebcilia, Stap, Aureus	:	Inhibited at even 1% concentration

TABLE – III

Details of cases studied

Group	Mean age	Mean chronicity	Sex		Aggravated in winter
I	35.6 yrs	6 yrs	Male Female	– 60% – 40%	66.67%
II	34.5 yrs	6.5 yrs	Male Female	– 63.33% – 36.67%	63.33%

TABLE – IV

Medicines used internally for Group II

Sl. No.	Name of Medicines	Dosage
1.	Mahamanjishtadi kashayam	90 ml bid
2.	Guloochee satwa	1 gm twice daily
3.	Kaisora Guggulu vatika	1 twice daily

TABLE – V

Results (Disappearance of lesions)

Days	Group I No of cases / percentage	Group II No. of cases / percentage
15th day	Nil	1 (3.33%)
30th day	8 (26.67%)	10 (33.33%)
60th day	21 (70%)	22 (73.33%)
90th day	24 (80%)	26 (86.67%)

period of one year. All cases were strictly advised to avoid during the study and follow–up, the following — fish, sea food, pungent/spicy food, excess of salt/chillies/sour food, eggs, synthetic dress materials and possible allergens. They were advised to follow plain vegetarian diet excluding curd and black gram.

Results :

The Results are given in Table V.

Only patients who had complete symptomatic relief (Group I – 24 and Group II–26) were examined in bi-monthly follow-up for one Year. One of Group I and two of Group II did not complete the follow-up. No patient had any relapse till the second visit. 2 cases of Group I (8.33%) and one of Group II (3.85%) showed mild relapse of lesions at the third visit (10%). These relapses were in the winter and on repitition of their treatment, they were asymptomatic within 30 days. Thereafter no relapse occured.

Discussion :

The drug for external use was selected on the basis of the studies conducted by CCRAS (Alam, M. et al). It was used by ancient practitioners of Kerala in similar conditions. This study aims at assessing the efficacy of oil prepared from *Wrightia tinctoria* R. Br., compared to those who were given also classical Ayurvedic preparations internally. The internal preparations alone does not produce any significant relief and hence a control was not included. The result of the study (Table V) shows that group II did not show significant results. The results got from the use of *Wrightia tinctoria* R.Br. cannot be explained on the basis of its known pharmacological properties. It suits the management of the disease

more than other drugs as it produces good cosmetic results and by absence of complications. It may either be acting as a catalyst to the inhibiting factors of cell cycle or it may be inhibiting the stimulating factors, In both cases, the epidermal turnover is normalised. The minor additional positive results from the use of internal medicines suggest that psoriasis can be linked with the pathology of Vatasonita. Thus, we come to the conclusion that psoriasis is a Tridoshaja condition, due to the poor response to treatment, tendency to recur and link with Arthritis. As in some instances it is familial, its Sahaja Swabhava makes it almost Asadhya also.

An interesting feature noted was that most of the patients were in the habit of taking plenty of sea food, especially dried fish. Another factor was indulgence in contradictory food habits (Virudha ahara) as majority of the patients consumed fish and curd at the same meal.

Conclusion :

The claim of relief from the symptoms of Psoriasis by the use of *Wrightia tinctoria* R.Br. based coconut oil is substantiated. Concurrent use of internal medicines were not of much value.

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DOMESTICATION OF HIGH VALUE MEDICINAL PLANTS HOLOSTEMMA ADAKODIEN *Schultz*

SARALA SAMUEL

ABSTRACT

Holostemma Adakodien Schultz – One of the high value medicinal plant was successfully acclimatised in the farm and various field trials were conducted. Phytochemical analysis showed that the tubers obtained from the domesticated plot is far superior in protein and alkaloid content when compared to market samples.

Introduction:

The high ranges of Kerala, running across the main line of Western Ghats with their luxuriant vegetation once provided abundant supply of medicinal plants to meet the requirement of Ayurveda. Due to factors beyond our control many of those plants have almost disappeared and others are in the verge of extinction. Consequently the cost of drug plants has gone up considerably.

Kerala Ayurveda Pharmacy is conducting experiments under R & D programme on the domestication of a few high value drug plants since 1989. *Holostemma adakodien* Schults. (Sanskrit: Jivanti. Malayalam: Adapathiyan) is one of such plants. According to Kerala physicians *Holostemma adakodien* Schultz is the accepted source of Jivanti. But plants like *Desmotrichum fimbriatum* Bl. and *Leptadenia reticulata* W & A. are also cited as Jivanti. the root tubers of *Holostemma adakodien* Schultz is considered to be very useful in diseases of the eye like night blindness, cataract etc. Leaves are used as vegetable, which is a very potent source of Vitamin A and Protein.

Materials and methods:

Two cent plots was selected in the medfarm area. Raised beds of size 3m × 0.75m were formed. Plants raised from clones, collected from the forest area were planted in May 1989 with a spacing of 60 cm × 60 cm (total population of 220 plants). Regular watering and frequent manuring with cowdung slurry and urea were done. 17 : 17 : 17 chemical complex fertiliser was also

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applied periodically. The vines were spread on coir net fixed at a height of 2m. This also acted as a partial shade to the base of the plants during the summer. Weeding was done once in a month. The plants were susceptible to the attack of several pests and diseases. During October/November dark, brown and rusty spots appeared on the leaves. The spots spread throughout the leaves and they became black and dried up, affecting the photosynthetic activity of the crop. Detailed microscopic examination of the leaves did not show any pathogen. Later it was known that the symptoms found on the leaves were due to the attack of mites. During the first week of December in addition to the leaves vines were also affected. Prompt measures were adopted by spraying with common insecticides and fungicides (Ecalax and Dithene – M) which gave positive response. After cutting off the diseased portions, the plants rejuvenated and grew normally.

Observations

Tubers (White in colour) were harvested after 17 months by uprooting the plants. Certain roots attained a length of more than one metre. The growth of this tuber crop is quite interesting. The thin roots go deep till it reaches the hard surface, where it starts thickening from end upwards. Out of 7 to 10 roots only 3 or 4 developed tubers. In seedling stage 20 to 25 normal roots were seen. Size of the tubers obtained from trial cultivation ranged from 30–50 cm in length and 5 to 10 cm in circumference. The size of the tuber is much bigger than that obtained from wild sources as well as from those seen in earlier reports. (Narayana Iyer K. & Kollammal 1960). Therefore it is suggested that the method of bed preparation for this plant is to be modified so that the quantum of loose soil should be reduced to the minimum in the bed for the uptake of nutrients.

The total yield of tuber obtained from trial plot (80 sq.m was 68 kilogram (fresh wt.) and when dried under sun 29kg. quality tuber was obtained giving a driage percentage of 44. The calculated yield per hectare comes to 1450 kilograms.

The total cost for the trial cultivation was Rs. 2500/- or Rs. 1,25,000/- per hectare. The total income would be on an average about 3.6 lakhs at an average rate of Rs. 250/Kg for an anticipated 1450 Kgs approximately. The expenditure can be reduced when large scale cultivation is done. Wen compared to the remuneration obtained from other cash crops and plantation crops, this is quite attractive and beneficial to the growers.

For fixing the optimum period of harvest, chemical analysis of the raw materials (tuber) was carried out on the crop from the eighth months onwards. The results obtained are given in Table No. 1.

TABLE 1

Month of Harvest of Tuber	Carbohydrate %	Protein %	Alkaloid %
8th	58.14	3.94	1.1
9th	56.5	8.95	1.25
11th	56	10	1.4

Sample obtained from the 11th month was compared with samples

from bulk purchase with respect to all components. The figures are given in Table II.

TABLE 2

No.	Sample	Carbohydrate %	Protein %	Alkaloid %
1	Market Sample	40	5.5	1.3
2	Harvested Sample	56	10	1.4

The glycoside content could not be estimated. The percentage of carbohydrate was decreased with a simultaneous significant increase in the protein content. The alkaloid content also increases when growth advances. It is to be noted that the protein content of the farm samples was almost double that of the market samples from wild sources. From this trial the exact stage of the decline in the quality of the tuber could not be found out. Another trial will be conducted to assess this. It is also necessary to study the effect of nitrogeneous fertilizers on the protein content of the tuber.

Inference

Holostemma adakodien Schoultz. (Asclepiadaceae) is one of the high value medicinal plants used in Ayurveda. It is a climbing shrub which comes up well in plains under partial shade. Regarding the preparation of bed for the crop it is advisable to have loose soil at the top level and a hard pan below so that the tuber will not go very deep for thickening. The plant was found to be moderately susceptible to pests which should be controlled. Tubers obtained from the cultivated plants were larger when compared to market samples. Phytochemical analysis of the tuber showed that the farm tubers are far superior in protein and alkaloid contents when compared to market samples. Therefore it is clear that the quality and quantity of the tubers can be increased considerably by cultivating it scientifically.

Acknowledgement

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ചീനപ്പാവ് *

ഇത് ഏറ്റവും പ്രധാനപ്പെട്ട ഔഷധങ്ങളിൽ ഒന്നാകുന്നു. കേരളത്തിലെ നാട്ടുവൈദ്യന്മാർ വ്രണങ്ങളിൽ ഒരു സിദ്ധൌഷധമായിക്കരുതാറുള്ളതിതിനെയാണെന്നുള്ളത് ഒരിക്കലും വിസ്മരിക്കത്തക്കതല്ല. എങ്കിലും എന്നുമുതൽക്കാണു? എന്തുശാസ്ത്രത്തെ അടിസ്ഥാനപ്പെടുത്തിയാണു? ഇതിനെ ഇങ്ങനെ സുലഭമായി ഉപയോഗിച്ചുതുടങ്ങിയതെന്നു ധരിച്ചിട്ടുള്ളവർ വളരെ ദുർല്ലഭമാണു. അതുകൊണ്ടിതിനെപ്പറ്റി ഒരു ചുരുങ്ങിയ വിവരണം എഴുതുന്നതു പലർക്കും ഉപകാരപ്രദമായിവന്നേക്കാമെന്നു വിചാരിക്കുന്നു.

''ചീനപ്പാവു'' എന്ന പേരുതന്നെ ഇതിന്റെ ഉല്പത്തിസ്ഥാനത്തെ സൂചിപ്പിക്കുന്നുണ്ടല്ലോ. എന്നാലിതിനുള്ള മറ്റു പര്യായങ്ങളും ഇതുപോലെതന്നെ ''ഇതു ചീനരാജ്യത്തെ ഒരു സാധനമാണു'' എന്നുള്ള അർത്ഥത്തിൽത്തന്നെയാണു പ്രയോഗിക്കപ്പെടുന്നതു. ഹിന്ദുസ്ഥാനി മുതലായ വടക്കൻ ഇന്ത്യയിലെ ഭാഷകളിൽ അധികവും ഇതിനു ''ചോബുചിനി'' (Chobchini) എന്ന പേർ പ്രസിദ്ധമാകുന്നു. ''ടുഹു'' അല്ലെങ്കിൽ ടുഹുലിങ്ങു എന്നു ചൈനയിലും ''ശങ്കിര'' എന്നു ജാപ്പാനിലും ''കേസുക്കാക്ക'' എന്നു കൊച്ചിൻ ചൈനയിലും ''ഖാഷബുസു സിനി'' എന്നു അറബിയിലും ''ഷുക്കു ചിനാ'' എന്നു ബംഗാളിയിലും ''റഉസീൻ അഫെഡറോഫ'' എന്നു ബമ്മയിലും ''ചുബാചിനി''യെന്നു പാർസിയിലും ''ദ്വീപാന്തരവചാ'' എന്നു സംസ്കൃതത്തിലും ''പിറങ്കിച്ചുക്ക'' എന്നു തിലുങ്കിലും ''പൊറിംഗായ'' എന്നു തമിഴിലും ചീനപ്പാവു അല്ലെങ്കിൽ പാവു എന്നു മലയാളത്തിലും ഇതിനു പേരുകരം ഉണ്ടു. ''സ്പിലാക്കു ചിനൻസിസു'' അല്ലെങ്കിൽ ''സ്പിലാക്കു ഗ്ലാബ്രാ'' ഈ രണ്ടും ലാറ്റിൻപേരുകളാണു. ''ചൈനാറൂട്ടു'' എന്നും ''ബ്രിയാർറൂട്ടു'' എന്നും ഇംഗ്ലീഷിൽ പറയും. എന്നാൽ സംസ്കൃതനാമം അടുത്തകാലത്തു ആരോ നിർമ്മിച്ചതാണെന്നുഹിക്കേണ്ടിയിരിക്കുന്നു. എന്തെന്നാൽ ചരകം, സുശ്രുതം, അഷ്ടാംഗസംഗ്രഹം, അഷ്ടാംഗഹൃദയം മുതലായ പുരാതനഗ്രന്ഥങ്ങളിലൊന്നു മാത്രമല്ല, ഒരു നാലു ശതാബ്ദത്തിനുമുമ്പു രചിച്ചതായ ഒരു സംസ്കൃതഗ്രന്ഥത്തിലും ഇതിന്റെ പേർ പ്രസ്താവിച്ചതായിക്കാണുന്നില്ല.

ചൈനയിൽനിന്നു ഈ ഔഷധത്തെ ആദ്യമായിക്കൊണ്ടുവന്നതു ''ഗോവ'' എന്ന പോർത്തുഗീസ്സു സംസ്ഥാനത്തിലാണു. ഇതു ക്രിസ്താബ്ദം 1535 ൽ ആണെന്നും കാണുന്നു. പോർത്തുഗീസ്സുകാർ ഇതിനെ ക്രമത്തിൽ പേർഷ്യയിലേയ്ക്കു കൊണ്ടുചെന്നു പ്രചാരപ്പെടുത്തി. 1969 ൽ ഇതിനെ അവിടെ ഒരു സിദ്ധൌഷധമായിഗണിച്ചിരുന്നതായി റിക്കാർഡുകളാൽ തെളിഞ്ഞിരിക്കുന്നു. ''മക്സാനൽഅദ്വിയ'' എന്ന യൂനാനിവൈദ്യഗ്രന്ഥത്തിലാണു ഇതിനെപ്പറ്റി ആദ്യം വിസ്താരമായി വിവരണം പ്രസിദ്ധപ്പെടുത്തിയതു. ഇതു

*ധന്വന്തരി, 1088 മകരം 1–ാംനു-ക്കു 1913 ജനവരി 13–ാംനു- തിങ്കളാഴ്ച

പലമാതിരിയുണ്ടെന്നും അതിൽ ഗ്രന്ഥമുള്ളതും ചുവപ്പുനിറമുള്ളതും കഴമുഴകളില്ലാത്തതും ആണ് സ്വീകാര്യമായിട്ടുള്ളതെന്നാണ് തൽക്കർത്താവ് പറഞ്ഞിട്ടുള്ളത്. രക്തവാതം, പറങ്കി, ശ്വക്ഷയം ഇവയിലെല്ലാം ഇതു വിശേഷമാണെന്നും അതിൽ സിദ്ധാന്തിച്ചിട്ടുണ്ട്.

ചാറൽസ് പഞ്ചമൻ (Charles V) എന്ന ചക്രവർത്തിക്ക് ഒരു കാലത്ത് ''ഗൌട്ട്'' (ഒരുതരം രക്തവാതം) എന്ന രോഗം പിടിപെടുകയും അതു മറ്റൌഷധങ്ങളെക്കൊണ്ടൊന്നും ശമിക്കാതെ അവസാനം ചീനപ്പാവുകൊണ്ട് ആശ്വാസപ്പെടുവാനിടവരുകയും ചെയ്തപ്പോഴാണിതിന്റെ പ്രസിദ്ധി യൂറോപ്പിലെങ്ങും വ്യാപിച്ചത്. അതിനു ശേഷം ഇതിനെപ്പറ്റി പല പുസ്തകങ്ങളും യൂറോപ്യന്മാരാൽ എഴുതപ്പെട്ടിട്ടുണ്ട്. പക്ഷേ ഇതു കുറെ അധികം ശ്രമിക്കയാണെന്നു് ഉടനെ മനസ്സിലാകാതിരുന്നില്ല. എങ്കിലും രക്തശുദ്ധികരവും രസായനവും ആണെന്നുള്ള നിലയിൽ 17–ാം ശതാബ്ദത്തിലിതിനെ അവിടെ ധാരാളം ഉപയോഗിച്ചിരുന്നു. ഇപ്പോഴും ചില ഔഷധനിർമ്മാണശാസ്ത്രഗ്രന്ഥങ്ങളിൽനിന്നിതു വിട്ടുപോയിട്ടും ഇല്ല.

കിഴക്കൻരാജ്യങ്ങളിലെ സ്ഥിതി അങ്ങനെയല്ല. അതിനെ ഇന്നും പല രോഗങ്ങളിലും സിദ്ധൌഷധം എന്ന നിലയിൽ ആദരിച്ചുകൊണ്ടുതന്നെയിരിക്കുന്നു. ഇതുനിമിത്തം ചൈനയിലെ ഏറ്റവുമതിയിൽ ഇതു് ഒരു പ്രധാനഭോഗമായിത്തീർന്നിട്ടും ഉണ്ട്.

പുരാതനമായ ആര്യവൈദ്യഗ്രന്ഥങ്ങളിലൊന്നും ഇതിനെപ്പറ്റി പ്രസ്താവിച്ചിട്ടില്ലെന്നു മുമ്പു പറഞ്ഞുവല്ലോ. എന്നാൽ എല്ലാം അഷ്ടാംഗഹൃദയത്തിൽ സംഗ്രഹിച്ചിട്ടുണ്ടെന്നു് വാദിക്കുന്ന ചില കൂട്ടർ അതിൽ വിവരിച്ചിരിക്കുന്ന ''മൂലകം'' (മൂലേരിക്കിഴങ്ങ്) എന്ന സാധനം ചീനപ്പാവാണെന്നു ശാഠ്യം പിടിക്കാതിരിക്കുന്നില്ല. പക്ഷേ മൂലകം തമിഴ്നാട്ടിൽ ധാരാളം നടപ്പുള്ള ''മുള്ളങ്കി''യാണെന്നു പലപരീക്ഷകളാലും തീർച്ചപ്പെട്ടുപോയിട്ടുണ്ട്. വിശേഷിച്ചു മുൻപറഞ്ഞയുനാനിവൈദ്യഗ്രന്ഥകർത്താവ് ചീനപ്പാവിന്റെ കിഴങ്ങ് ഉണങ്ങാതെ ഒരിക്കൽ സമ്പാദിക്കുകയും അതു കഴിച്ചിട്ടു മുള്ളങ്കി നോക്കുകയും ചെയ്തതായി കാണുന്നു. അതിന്റെ ഇല മുള്ളങ്കിയുടെമാതിരി ചെറുതായിട്ടാണപ്പോഴും കണ്ടത്. കിഴങ്ങു കെട്ടുപോകയും സ്ഥലഭേദത്താലോ മറ്റോ വേരുകൾക്കു പറഞ്ഞ ഗുണം കിട്ടാതിരിക്കയും ആണ് ഫലം ഉണ്ടായതെന്ന് അദ്ദേഹം പറഞ്ഞിട്ടുണ്ട്. മുള്ളങ്കിയുടെ ഇല അതു ചെറുതല്ലെന്നു സൂക്ഷ്മമാണല്ലോ. ''പതിറ്റടിപ്പുവ്'' എന്നു പറയുന്ന ഒരുതരം ചെടിയുടെ കിഴങ്ങാണിതെന്നു ചില വൈദ്യന്മാർതന്നെ പറഞ്ഞുകേട്ടിട്ടുണ്ട്. പക്ഷേ ഞങ്ങൾക്കതു പരിശോധിച്ചുനോക്കുവാൻ ഇതുവരെ സാധിച്ചിട്ടില്ല. ഇതിനെപ്പറ്റി ഒരു സംസ്കൃതഗ്രന്ഥത്തിലാദ്യം പ്രസിദ്ധപ്പെടുത്തിക്കണ്ടതു ഭാവപ്രകാശത്തിലാകുന്നു. വിനോദലാലസേനന്റെ കൃതിയായ ആയുർവ്വേദവിജ്ഞാനത്തിലിതിനെത്തന്നെ പകർത്തിയിട്ടിട്ടുമുണ്ട്. അതിൽ താഴെ പറയുന്നപ്രകാരം പറഞ്ഞിരിക്കുന്നു:

> ദ്വീപാന്തരവചാ കിഞ്ചി–
> ത്തിക്തോഷ്ണാ വഹ്നിദീപ്തികൃത്
> വിബന്ധാധ്മാനശൂലഘ്നീ
> ശകൃന്മൂത്രവിശോധനീ
> വാതവ്യാധിമപസ്മാര–
> മുന്മാദം തനുവേദനാം
> വ്യപോഹതി വിശേഷേണ
> രുധിരംഗാമയനാശിനീ.

മേല്പറഞ്ഞ ഗ്രന്ഥകാരന്മാർ ഇതിനു ദ്വീപാന്തരവചാ എന്നു പേരിട്ടതിന്റെ കാരണം യഥാർത്ഥത്തിൽ ഞങ്ങൾക്ക് നിശ്ചയമില്ലെന്നതന്നെ പറയണം. ചൈനവേറെ ഒരു ദ്വീപല്ലാത്ത സ്ഥിതിക്ക് ഇങ്ങിനെ പേരിടുവാൻ യുക്തി കാണുന്നില്ല. പാവിന്റെ ചില കഷണങ്ങൾക്കു വയമ്പിന്റെ ഛായ കാണുന്നതുകൊണ്ടായിരിക്കാം ''വചാ'' എന്നു നാമകരണം ചെയ്തത് എന്നു ഊഹിക്കുന്നു. ഏതായാലും ഈ സാധനം അല്പം തിക്തരസത്തോടുകൂടിയതും ഉഷ്ണവീര്യവും ദീപനകര

വും സ്രോതോബന്ധം, വയർവീർപ്പ്, വേദന ഇവയെ ശമിപ്പിക്കുന്നതും മലമൂത്രങ്ങളെ വേണ്ടുംവിധം പ്രവർത്തിപ്പിക്കുന്നതും വാതവ്യാധി, അപസ്മാരം, ശ്വാസം, മേൽവേദന ഇവയെ എല്ലാം ആശ്വാസപ്പെടുത്തുന്നതും പ്രത്യേകിച്ചു പറങ്കിരോഗത്തെ മാറ്റുന്നതും ആകുന്നു എന്നാണ് മേല്പറഞ്ഞ വാക്യങ്ങളുടെ സാരം. ഇതു ഭാവപ്രകാശനിർമ്മാണകാലത്തിലുള്ള വൈദ്യന്മാരുടെ അനുഭവത്തെ അടിസ്ഥാനപ്പെടുത്തി എഴുതിയതായിരിക്കണം.

എന്നാൽ മലയാളത്തിലെ കഥ ഇതിൽനിന്നും വളരെ വ്യത്യസ്തമായിട്ടാണ് കാണുന്നത്. എന്തെന്നാൽ ''ദ്വീപാന്തരവചാ'' എന്നും മറ്റും നമ്മുടെ വൈദ്യന്മാർ ഇതിനു പേരിട്ടിട്ടില്ല. ഇവിടെ ഇതിനു സംസ്കൃതനാമം ''മധുസ്നുഹി'' എന്നാണ്. ഈ പേർ മലയാളികൾ ഒഴിച്ച് ആരും ഉപയോഗിച്ചു കാണാത്തതുകൊണ്ടും അന്യദിക്കിലെ പേർ ഇവർ എടുക്കാത്തതുകൊണ്ടും ഇതു ചീനരാജ്യത്തിൽനിന്നു മുൻപറഞ്ഞ വഴിക്കല്ല മലയാളത്തിൽ എത്തിച്ചേർന്നതെന്നു വിചാരിക്കേണ്ടിയിരിക്കുന്നു. ഒരുകാലത്തു ചീനരാജ്യക്കാരുമായി മലയാളരാജ്യക്കാർ നേരിട്ടു കച്ചവടം നടത്തീട്ടുണ്ടെന്നു പഴയ ചരിത്രങ്ങൾ നോക്കിയാൽ കാണാം. അതുകൊണ്ടിതു നേരിട്ടു പ്രചരിക്കുന്നതിനും വിരോധമില്ലല്ലോ. ഇതിനെന്നു മുതൽക്കാണിവിടെ പ്രചാരം വന്നതെന്നു നിശ്ചയമില്ലെങ്കിലും ഇപ്പോഴുള്ള നാട്ടുവൈദ്യന്മാക്കിതു വളരെ പരിചിതമായ വസ്തുവാകുന്നുവെന്നു നിസ്സംശയം പറയാം. ഏതു വ്രണത്തിനും അകത്തേക്കു സേവിക്കുവാൻ പ്രധാനമായിക്കരുതുന്നതിവർ ഇതിനെയാണ്. തിക്തം, മഹാതിക്തം മുതലായ കഷായയോഗത്തിൽ ചേർത്തും മധുസ്നുഹിരസായനം മുതലായ വിരേചനത്തിൽ ലേപത്രപേണയും ത്രിഫല മുതലായ പൊടികളോടു ചേർത്തും ഇങ്ങനെ പലവിധത്തിലും ഉപയോഗപ്പെടുത്തിവരുന്നുണ്ട്. എങ്കിലും വ്രണം എന്ന വിഷയത്തിലല്ലാതെ ഇതധികംപേരും പ്രയോഗിച്ചു കാണുന്നില്ല. അതൊരു സമയം ഇതിന്റെ ഗുണം മുഴുവൻ അറിയാത്തതുകൊണ്ടോ മറ്റു രോഗങ്ങളിൽ ഇതിലും നല്ല ഔഷധങ്ങൾ ധാരാളം ഉള്ളതുകൊണ്ടോ ആയിരിക്കണം. എന്നാൽ പല രോഗങ്ങൾക്കും ഇതു പ്രത്യേകം ഫലമുള്ളതാണെന്നു ഞങ്ങളുടെ അനുഭവത്താൽ കണ്ടിരിക്കുന്നു. എല്ലാറ്റിലുംവെച്ച് അധികം ഫലം കാണുന്നതു പറങ്കിരോഗത്തിൽതന്നെ. കലശലായ കഷ്ടങ്ങൾ ഒഴിച്ചു ബാക്കി ഏതു രക്തദോഷത്തിനും ഇതു സിദ്ധൗഷധം എന്നുതന്നെ പറയാം. എന്നാൽ ഒരുവിധം ശക്തിമത്തായ കഷ്ടവും ഇതിന്റെ നിരന്തരോപയോഗത്താൽ മാറുമാറില്ലെന്നില്ല. ഇതു രണ്ടും കഴിഞ്ഞാൽ പിന്നെ അധികം ഗുണം കാണുന്നതു രക്തവാതത്തിലാകുന്നു. എന്നാൽ ശ്വിത്രക്ഷയത്തിങ്കലും ഇതു നല്ല ഫലം കാണിക്കുന്നുണ്ടുതാനും. ഇവയിലെല്ലാം അതാതിനു വിധിച്ചിട്ടുള്ള യോഗങ്ങളിൽ ഓരോ പ്രധാനഭാഗം ഇതുംകൂടി ചേർത്തു ശരിപ്പെടുത്തിയാൽ മതിയാകുന്നതാണ്. ഉദാഹരണം പറയുന്നതാണെങ്കിൽ പറങ്കികഷ്ടം ഇവയിൽ തിക്തം, മഹാതിക്തം ഇവയിലും രക്തവാതത്തിങ്കൽ ഗ്രൽഗ്രുതിക്തം, രാസ്നാദി ഇവയിലും ശ്വിത്രക്ഷയത്തിൽ ഇരട്ടിമധുരം മുന്തിരിങ്ങ മുതലായതിലും ചേർത്തു സേവിക്കാവുന്നതാണ്. ശ്വിത്രക്ഷയത്തിൽ ഇതിട്ട പാലുകറുക്കിക്കുടിക്കുന്നതും കൊള്ളാം. സ്ഥായിയായി നില്ക്കുന്ന തലവേദനയ്ക്കു ചീനപ്പാവും നന്നാറിയുംകൂടി പൊടിയാക്കിയോ കഷായമായോ പാലുകറുക്കിയോ മറേറാ സേവിക്കുന്നതു നല്ലതാണെന്നു 'ഇൻഡ്യൻ മെറേറീരിയാമെഡിക്ക' എന്ന പുസ്തകത്തിൽ കാണുന്നു. ഏലത്തരി, പച്ചില, കളർമാവിൻകായ (Masataki) ഇവയോടു സമം ചീനപ്പാവും ചേർത്തു പാല്ലഷായമായി ഉപയോഗിക്കുന്നതു വാതം, ഗൌട്ട് (രക്തവാതം), അപസ്മാരം ഇവയിൽ വളരെ വിശേഷമാണെന്നും അതിൽ പറഞ്ഞിട്ടുണ്ട്. അപചി, ശ്വിത്രക്ഷയം, പറങ്കി (മൂന്നാംനില) രക്തക്ഷയം ഇവയിലും ഇതുതന്നെ മതിയാകുന്നതാണത്രേ.

ദീപനത്വം മുതലായ ഗുണങ്ങളും ഇതിനു പറഞ്ഞിട്ടുണ്ടെങ്കിലും അത് ഒന്നും അത്ര സാരമുള്ളതല്ല. വ്രണത്തിൽ ഉപ

യോഗപ്പെടുത്തുന്ന അധികം മരുന്നുകളും (മഹാതിക്തം മുതലായത്) ശീതവീര്യങ്ങളും ഗുരുക്കളും അഗ്നിയെ താളം തെറ്റിക്കുവാൻ എളുപ്പമുള്ളവയും ആകുന്നു. എന്നാലിതിന്ന് ആവക ദോഷങ്ങളും ഇല്ലെന്നമാത്രമേ ഇതിൽ നിന്ന് അർത്ഥം ഗ്രഹിക്കേണ്ടതുള്ളൂ. എന്നാൽ അകത്തു പണ്ണുമുതലായതുകൊണ്ടുണ്ടാവുന്ന ദീപനക്ഷയം, വയറ്റിൽവേദന ഇവയിലെല്ലാം ഇതു പ്രത്യേകം ഫലിക്കയും ചെയ്യും.

ചീനപ്പാവു നല്ലതായാലുള്ള ലക്ഷണം യുനാനിവൈദ്യപ്രകാരമുള്ളതു മുമ്പു വിവരിച്ചുവല്ലോ. മലയാളിവൈദ്യന്മാക്കിതിൽ കറെ അഭിപ്രായഭേദം ഉണ്ട്. കനം കുറഞ്ഞതും ഉറക്കത്തിയതും പൊട്ടിച്ചാൽ വെളുപ്പുനിറമധികം ഉള്ളതും ആണെടുക്കേണ്ടതെന്നാണിവരുടെ സിദ്ധാന്തം. ഇതു ശുദ്ധി ചെയ്യേണ്ടതോണെന്നും വൃദ്ധവൈദ്യന്മാർ പറയുന്നുണ്ട്. ഇതു കഴുകി പാലിൽ തിളപ്പിച്ചു വറുക്കയാണ് ശുദ്ധിയുടെ സമ്പ്രദായം. ഇതു സേവിക്കുന്ന കാലത്തു വലിയ പഥ്യനിഷ്ഠയും അത്യാവശ്യമാണ്. പക്ഷേ ഇത് അത്താഴം കഴിഞ്ഞ് സേവിക്കുന്നതിലതുതന്നെ വിചാരിപ്പാനില്ല.

ചീനപ്പാവിന്നു മലയാളത്തിലെ സംസ്കൃതനാമം ''മധുസ്നുഹി'' എന്നാണെന്നു മുമ്പു പറഞ്ഞുവല്ലോ. ഇതിന്നു വേറെയും ചില പര്യായങ്ങളും ഉള്ളതായി ഇവിടെ ഒരു പഴയ ഗ്രന്ഥത്തിൽ കാണുന്നു. ഇതേതു കാലത്ത്? ആരെഴുതിവെച്ചു? ഈ പര്യായങ്ങളും മറുനാട്ടിൽ നടപ്പു വരാതിരിപ്പാൻ കാരണമെന്ത്? ഈവക സംഗതികൾക്ക് ഒന്നും മതിയായ സമാധാനം കിട്ടീട്ടില്ല.

''മധുസ്നേഹീ രക്തനേത്രാ രക്താഖ്യാ
രക്തപുഷ്പാ കക്കടീതി ച ചീനപ്പാവിന്റെ പേരുകൾ—''

''മധുസ്നുഹീ ശ്രുലജിദഗ്നികാരിണീ
കാന്തിപ്രദാ കാമവികാരദാ ച
മനസ്വിനീ മാഗധവംശജാതാ
വിശേഷതഃ കൃഷ്ണവ്രണാപഹാരിണീ.''

മേല്പറഞ്ഞ ശ്ലോകങ്ങൾ ആർ എഴുതിയിട്ടിരുന്നതായാലും ഇതിൽ പറഞ്ഞ ഗുണപാഠം മിക്കതും അനുഭവത്താൽ സാധുകരിക്കപ്പെടാവുന്നതാണെന്നു തീർച്ചയാണ്. മഗധരാജ്യം എന്നു മുമ്പു ചീനയ്ക്കു പേരുള്ളതായി മാഗധി എന്നു ചീനത്തിപ്പലിക്കു പേരിട്ടതുകൊണ്ടു വിശ്വസിക്കാം. പറകിരോഗത്തിന്നിത് എത്രയും വിശേഷപ്പെട്ട മരുന്നായിരിക്കെ ഈ ശ്ലോകത്തിൽ അതിനെപ്പറ്റി പ്രത്യേകം പറയാതെ 'വ്രണാപഹാരിണീ' എന്നു മാത്രം വിധിച്ചതു വിചാരിക്കുമ്പോൾ ഒരു സമയം പറകിരോഗം ഇവിടങ്ങളിൽ പ്രചരിക്കുന്നതിന്നു മുമ്പുതന്നെ ഒരു ഔഷധം ഈ ദിക്കിൽ നടപ്പാവുകയും ഈ ശ്ലോകത്തിന്റെ നിർമ്മാണവും കഴിഞ്ഞിരിക്കുന്നുവോ എന്നും സംശയിക്കേണ്ടിയിരിക്കുന്നു. ഏതായാലും ചീനരാജ്യത്തിൽ നിന്ന് ഇറക്കുമതി ചെയ്യുന്നതിനേകം വിശേഷപ്പെട്ട സാധനങ്ങളിൽവെച്ച് ഇത് ഒട്ടും അപ്രധാനമല്ലാത്ത ഒന്നാണെന്നു പ്രത്യേകം പ്രശംസിക്കാതെ കഴിയുന്നതല്ല. ●

വടിയെപ്പറ്റി

വിശ്വാമിത്രാഹിപശ്വാദീൻ
വാരയത്യംബു കർത്തമേ
ആന്ധ്യേ തമസി വാങ്മയ്യേ
യഷ്ടീരിഷ്ടസുതൈരിവ.

പക്ഷി (വി), പട്ടി (ശ്വാ), ശത്രു (അമിത്രു), പാമ്പു (അഹി), പശു (മൃഗം) മുതലായവയെ തടുക്കുന്നു. വെള്ളത്തിലും, ചളിയിലും, ആന്ധ്യത്തിലും, ഇരുട്ടിലും, വാങ്മയത്തിലും, യഷ്ടി (വടി) ഇഷ്ടസുതരെപ്പോലെ സഹായിക്കുന്നു.

HERBAL COSMETICS IN ANCIENT EUROPE

Since very early times, people, especially women, have been spending small fortunes on cosmetics to keep up their beauty or to delay the inevitable marks, i.e. wrinkles etc., on the skin and for that they have mainly relied on plants. Herbal cosmetics have been so popular since the beginnings of the Christian era that Pliny and Ovid have prescribed several recipe for this purpose. Ovid, in fact wrote a whole poem, *Medicamina Faciei Feminaeae*, devoted to beauty treatment for women. Here is one of them for a clear skin:

Grind together three pounds each of Lentils and the best Libyan Barley. Mix it with ten eggs and dry the mixture. Regrind the dried material and mix it with hartshorn and six bulbs of Narcissus (Daffodils), peeled and finely chopped. Add to it three ounces of gum arabic, same amount of Tuscan wheat and twenty ounces of honey. Make it into a paste, smear it on the face and leave it overnight.

Most people in the cold climates, use cold cream to protect their skin from dry cold, These days, we have several brands of it in the market. But, the first cold cream was made by the I century Greek physician, Galen. He melted together 6 ounces of white wax and a pound of oil of roses and stirred it into a paste in a cupful of water laced with vinegar. Lately, oil of roses has been replaced by almond oil and even liquid paraffin.

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