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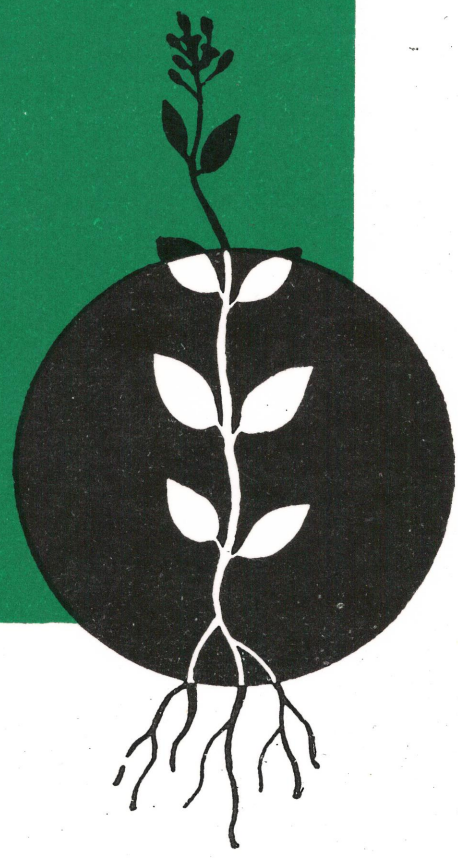

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āryavaidyan

Aryavaidyan is an international Journal for 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 medicines. This is the one and only periodical for scholars, practising physicians, students and lovers of the subject.

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HINDI

āryavaidyan

सततध्ययनं, वादः परतन्त्रावलोकनम्।
तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः॥

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EDITORIAL.....

भद्रं भद्राभिलाषिणाम्

The conferment of various Presidential Awards on the eve of Republic Day on eminent citizens for their illustrious achievements is a convention approved and appreciated by all. This provides an occasion for the whole nation to recognise and congratulate such outstanding personalities for their meritorious service to the society.

We have great pleasure and an element of pride as well, to note the fact that this year's awardees include three senior practitioners of ayurveda. The selection of Aryavaidyan P.K. Warrier of Kerala, Vaidya Balendu Prakash of Dehradun and Dr. Devendra Triguna of Delhi for the award of Padmasri is a praiseworthy decision. They represent both the senior and the younger generations of ardent followers of this ancient system of health care. It is a matter of great joy for the ayurvedic fraternity that the government has chosen to once again treat this unique Indian wisdom on par with the other areas of human endeavour. This event also provides an occasion for the academicians and the practitioners of ayurveda to sit back and take a close look at the various critical factors affecting the growth of this important national heritage. There is an increased need now than ever before for the experts to consider and adapt various action-plans to enhance the inherent strength of the system. On the academic level, it has now become imperative that concerted efforts should be made to make in-depth studies of classical knowledge in its entirety. It should be possible to do so by preserving the original fidelity and at the same time by refining and sharpening its ability to adapt to the changing socio-economic scenarios. During its evolution through the past centuries, ayurveda has shown its vitality and versatility by assimilating the essence of all the various knowledge streams. It is this special strength of ayurveda, which should be fine-tuned to equip itself to enter the new millennium and provide succour to as many members of the ailing humanity as possible. This involves an element of rediscovering the original capabilities as well as anticipating the future potentials. Such efforts are exemplified in the achievements of Dr. Warrier, Dr. Prakash and Dr.Triguna.

We congratulate them on their recognition and wish them all the best in their endeavours.

भिषजां साधुवृत्तानां भद्रमागमशालिनाम् ।
अभ्यस्तकर्मणां भद्रं भद्रं भद्राभिलाषिणाम् ॥

Aryavaidyan Vol.XII, No. 4, May - July -1999, Pages 196 -204

FROM THE PAGES OF VAGBHATA – XLVII

Varier, N.V.K.

Abstract: Continuing discussion on *snehapana*, this issue presents the criteria for fixing the dose and duration of *snehapana* in different conditions and diseases. The regimen to be followed in *snehapana* is also described.

युक्त्याऽवचारयेत्स्नेहं भक्ष्याद्यन्नेन वस्तिभिः ॥ १४ ॥
नस्याभ्यञ्जनगण्डूषमूर्द्धकर्णाक्षितर्पणैः ।

(*Yuktya'Svacarayetsneham*
bhaksyadyannena vastibhih ॥ 14 ॥
Nasyabhyanjanagandusa
murdha karnaksitarpanaih ।)

Sneha can be used in a suitable way along with food or as *vasti* (enema), *nasya* (errhines), *abhyanga* (inunction), *gandusa* (gargling), *sirovasti*, *aksitarpana* and *karnapurana.*

Here the various ways by which *sneha* can be administered are pointed out. Taking of pure ghee, oil, fat or marrow is described as *snehapana*. But in other conditions where *snehapana* is not allowed, it can be administered by other techniques such as taking along with food i.e. solid food, drinks, *leha* (electuries), etc., or by *vasti*. Usually in *kasayavasti,* a certain amount of oil or ghee also is added. In *snehavasti, sneha* alone is used. *Nasya* or errhines are also done by various preparations of *sneha*. Again, medicated *sneha* and pure oil are used for inunction of the body and gargling. They are used for *dhara* and *sirovasti*. Pouring oil in the ears and eyes also is done in specific conditions.

रसभेदैककत्वाभ्यां चतुःषष्टिर्विचारणाः ॥ १५ ॥
स्नेहस्यान्याभिभूतत्वादल्पत्वाच्च क्रमात्स्मृताः ।

(*Rasabhedaikakatvabhyam*
catuhsastirvicaranah ॥ 15 ॥
Snehasyanyabhibhutatva-
dalpatvacca kramatsmrtah ।)

Because of the different tastes and of the mode of administration, which results in *sneha* influencing the body in parts only, there are sixty-four *vicarana.*

There are two forms of administering *sneha.* If pure ghee, oils and others are taken in as per the dose and conditions it is called a *acchapana*. But if *sneha* is taken along with food or is used in *nasya, vasti*, etc. it is called a *vicarana*. These *vicarana* are 64 in total. When we take *sneha* with food, we have to remember

that the food has various tastes and 63 different tastes are recorded. Because of the dominance of other tastes or of the presence of opposite tastes, the full effect of the *sneha* is not seen. When *sneha* is used in *vasti*, etc., it influences the related part of the body only. Here we do not get the full effect of *snehapana*. Thus, altogether we have 64 *vicarana*.

यथोक्तहेत्वभावाच्च नाच्छपेयो विचारणा ॥ १६ ॥
स्नेहस्य कल्पः स श्रेष्ठः स्नेहकर्माशुसाधनात् ।

(*Yadhoktahetvabhavacca*
nacchapeyo vicarana ॥ 16 ॥
Snehasya kalpah sa srestah
snehakarmasusadhanat ।)

Since there are no such causes, taking *sneha* in pure form is not a *vicarana*. This is called *acchapeya*. This is the best form in which *sneha* is to be administered. In *acchapeya*, *sneha* works very quickly.

If *sneha* is taken pure or prepared as *sneha* itself, without combining with food or with techniques like *vasti*, *nasya*, etc. it is called *acchapeya*. In this case, there are no chances for lessening of its original property. It is the best way to administer *sneha*. Here the full effect of *sneha* is immediately obtained. That is why it is regarded as the best way for the administration of *sneha*.

द्वाभ्यां चतुर्भिरष्टाभिर्यामैर्जीर्यन्ति याः क्रमात् ॥ १७ ॥
ह्रस्वमध्योत्तमा मात्रास्तास्ताभ्यश्च ह्रसीयसीम् ।
कल्पयेद्वीक्ष्य दोषादीन् प्रागेव तु ह्रसीयसीम् ॥ १८ ॥

(*Dvabhyam caturbhirastabhir*
yamairjiryanti yah kramat ॥ 17 ॥
Hrasvamadhyottama matra-
stastabhyasca hrasiyasim ।
Kalpayedviksya dosadin
prageva tu hrasiyasim ॥ 18 ॥)

In *acchapeya* the doses of *sneha* that are digested by two *yama* (6 hours), by 4 *yama* (12 hours) and 8 *yama* (24 hours) are the *hrasvamatra* (small dose), *madhyamamatra* (medium dose) and *uttamamatra* (optimum dose) respectively. When prescribing these doses one has to study carefully the *dosa* and other conditions of the patient. And once the dose is determined the administration may be done at a lesser dose first and after observing the digestion and conditions, the real dose may be given.

Now we have three doses prescribed – small, medium and optimum. Before determining the exact dose to be given to a particular patient first observe and study the actual conditions of the patient in relation to the tolerance i.e. the condition of the *dosa*, the type of medicine, the locality, the season, the time, the strength of the patient, his *prakrti* (type), his vitality and food-habits. But anyhow one must be careful to prescribe comparatively a lesser dose only at the beginning so that the final dose is left to be administered later, because one cannot judge the exact condition of the patient regarding his ability to digest properly in time and if a heavier dose is administered at the beginning it may create trouble. So before administering the final dose, whether it is a small, medium or optimum dose, first serve only a lesser dose and observe how it works and then only give the prescribed dose. This is the safest method of *snehapana*.

ह्यस्तने जीर्ण एवान्ने स्नेहोऽच्छ शुद्धये बहुः ।
शमनः क्षुद्वतोऽनन्नो मध्यमात्रश्च शस्यते ॥ १९ ॥
बृंहणो रसमद्याद्यैः सभक्तोऽल्पः हितः स च ।
बालवृद्धपिपासार्तस्नेहद्विण्मद्यशीलिषु ॥ २० ॥

स्त्रीस्नेहनित्यमन्दाग्निसुखितक्लेशभीरुषु ।
मृदुकोष्ठाल्पदोषेषु काले चोष्णे कृशेषु च ॥ २१ ॥

(Hyastane jirna evanne
snehoऽccha sudhaye bahuh ।
Samanah ksudvatoऽnanno
madhyamatrasca sasyate ॥ 19 ॥
Brmhano rasamadyadyaih
sabhaktoऽlpah hitah sa ca ।
Balavrddhapipasarta
sneha dvinmadya silisu ॥ 20 ॥
Strisnehanityamandagni
sukhitaklesabhirusu ।
Mrdukostalpadosesu
kale cosne krsesu ca ॥ 21 ॥)

For purificatory purposes, optimum dose of *sneha* is to be given in the morning when it is felt that the food taken in the previous day is fully digested. For purification (*sodhana*), it is the optimum dose that is intended. For *samana* or pacification of the *dosa* it is the medium dose that is generally accepted and this dose of *sneha* is to be given in the morning only when the patient feels hunger. Here one has to see not only that the food taken in the previous day is well digested but also that he feels hunger. *Sneha* in the minimum dose is given in small quantity with food along with meat soup, wines, etc. and this is intended for *brmhana* or nourishing the body. This type of administration is good for children, old men, people who are thirsty and those who have aversion towards *sneha*. Alcoholics, those who over-indulge in sex, those who use *sneha* daily, those with poor digestive power, idlers, those who are afraid of restrictions related to *snehapana*, those who have soft bowels (liable to get more bowel movements even if a small quantity of *sneha* is taken), those who have only a little *dosa* provoked, the emaciated and generally for others in summer season, a minimum dose is given.

According to Susruta there are five doses prescribed - the quantity that digest with one *yama*, with two *yama*, with three *yama*, with four *yama* and with eight *yama*. The first of this is *dipana* that promotes digestion. The second is *brmhana* that promotes nourishment, third is *snehana* that is lubricating, the fourth is *samana* that pacify *dosa* and the fifth is *sodhana* or purificatory. The first is for those who have only little *dosa* and the second is for those with medium *dosa*. The third and fourth for excessive *dosa* and the fifth is intended to cure diseases like *kustha* (diseases of the skin including leprosy), *visa* (poisonous afflictions), *unmada* (insanity) *grahabadha* and *apasmara* or epilepsy.

प्राङ्मध्योत्तरभक्तोऽसावधोमध्योर्ध्वदेहजान् ।
व्वाधीञ्जयेद्बलं कुर्यादङ्गानां च यथाक्रमम् ॥ २२ ॥

(Prangmadhyottarabhaktoऽsava-
dhomadhyordhvadehajan ।
Vyadhinjayedbalam kuryad
anganam ca yathakramam ॥ 22 ॥)

This (intake of *sneha* in small dose) if administered as before food, in the midst of food or after food, conquers diseases affecting the lower, middle and upper part of the body respectively and renders strength to these parts in the same order.

There are three ways of taking *sneha* with food:- 1) *Pragbhaktam* - taking *sneha* just before the meal, 2) *Madhyabhaktam* - taking *sneha* in the midst of the meal. and 3) *Uttarabhaktam* - taking *sneha* after the meal. *Sneha* taken before meal helps to pacify the diseases affecting the

lower parts of the body and strengthens these parts. *Sneha* taken in the middle of the meal helps to heal the diseases of the middle part of the body and gives more strength to these parts. *Sneha* taken at the end of the meal helps to conquer the diseases of the upper part of the body and strengthens these parts.

वार्युष्णमच्छेऽनुपिबेत् स्नेहे तत्सुखपक्तये ।
आस्योपलेपशुद्ध्यै च, तौवरारुष्करे न तु ॥ २३ ॥
जीर्णाजीर्णविशङ्कायां पुनरुष्णोदकं पिबेत् ।
तेनोद्गारविशुद्धिः स्यात्ततश्च लघुता रुचिः ॥ २४ ॥

(*Varyusnamacche Snupibet*
snehe tatsukhapaktaye ।
Asyopalepasuddhyai ca,
tauvararuskare na tu ॥ 23 ॥
Jirnajirnavisankayam
punarusnodakam pibet ।
Tenodgaravisudhih syat
tatasca laghuta rucih ॥ 24 ॥)

After taking the *sneha* as *acchapana* (*sneha* alone) take warm water as an after- drink. It is for the easy digestion of the consumed *sneha* and for cleansing the coating in the mouth (created by the *sneha*). But do not take warm water after taking the *sneha* of *tuvaraka* (*Hydrocarpus laurifolia*) and *aruskara* (*Semecarpus anacardium*). When there is difficulty in deciding whether the *sneha* is digested or not, hot water can be taken. By drinking warm water erectations become pure, lightness is felt and appetite restored.

भोज्येऽन्नं मात्रया पास्यन् श्वः पिबन् पीतवानपि ।
द्रवोष्णमनभिष्यन्दि नातिस्निग्धमसङ्करम् ॥ २५ ॥
उष्णोदकोपचारी स्यात् ब्रह्मचारी क्षपाशयः ।
न वेगरोधी व्यायामक्रोधशोकहिमातपान् ॥ २६ ॥
प्रवातयानयानाध्वभाष्यात्यासनसंस्थितीः ।
नीचात्युच्चोपधानाहःस्वप्नधूमरजांसि च ॥ २७ ॥
यान्यहानि पिबेत्तानि तावन्त्यन्यान्यपि त्यजेत् ।

(*Bhojye Snnam matraya pasyan*
svah piban pitavanapi ।
Dravosnamanabhisyandi
natisnigdhamasankaram ॥ 25 ॥
Usnodakopacari syat
brahmacari ksapasayah ।
Na vegarodhi vyayama
krodhasokahimatapan ॥ 26 ॥
Pravatayanayanadhva
bhasyatyasanasamsthitih ।
Nicatyuccopadhanahah
svapnadhumarajamsi ca ॥ 27 ॥
Yanyahani pibettani
tavantyanyanyapi tyajet ।)

The one who has to take *sneha* the next day, the one who is already taking *sneha* as per the course, and the one who has completed the course are all to be fed with food made more liquid with *curries* (recipes) joined to it. It should be hot and should not increase *kapha*. It should not be too unctuous. It should not be mixed with wholesome and unwholesome menu and should be in the proper dose. All cleansing are to be performed using warm water. He should follow celibacy and should sleep properly at night. *Vega* (natural urges) should not be blocked. Exercises, becoming overwhelmed by passions like anger, sorrow, etc., exposure to mist or snow, exposure to powerful winds as cyclones, travel in vehicles or by foot, incessant talk, continuous sitting in one seat, use of pillows either too low or too high, day sleep and exposure to dust are to be shunned on those days.

This regimen should start one day prior to the beginning of *snehapana* and has to be continued during the course and for a period equal to the number of days of *snehapana.*

सर्वकर्मस्वयं प्रायो व्याधिक्षीणेषु च क्रमः ॥ २८ ॥
उपचारस्तु शमने कार्यः स्नेहे विरिक्तवत् ।

(*Sarvakarmasvayam prayo*
vyadhiksinesu ca kramah ॥ 28 ॥
Upacarastu samane
karyah snehevirikta vat ।)

These restrictions are to be followed in all operations in general and by those who are weakened by diseases. In palliative *sneha* course (*samana sneha*), the restrictions prescribed for *virecana* (purgation), detailed in the eighteenth chapter of *sustrasthana,* are to be followed.

त्र्यहमच्छं मृदौ कोष्ठे क्रूरे सप्तदिनं पिबेत् ॥ २९ ॥
सम्यक्स्निग्धोऽथवा यावदतः सात्मीभवेत्परम् ।

(*Tryahamaccham mrdau koste*
kruresaptadinam pibet ॥ 29 ॥
Samyaksnigdho'thava yavad
atah satmibhavetparam ।)

In soft bowels, *acchapana* of *sneha* is to be done for three days and in hard bowels it is to be done for seven days. Or, it has to be continued until signs of proper oleation appear. If carried along still, the *sneha* becomes accustomed (*satyma*).

Soft bowels are due to *pitta* predominance and hard bowels are due to *vata* predominance. Since *pitta* itself is a bit unctuous, proper oleation is achieved by taking *sneha* up to three days. But since *vata* is excessively dry, to find proper unctuousness, it takes at least seven days. From these observations, one may assume that in *kapha*- bowels it may take five days to achieve proper oleation. But this assumption has no place since *kapha*-bowels are generally exempted from intake of unmixed *sneha.* This may be the reason for keeping silence here as regards to the case of *kapha*-predominated bowels. These are general instructions to help to calculate the number of days required in a *snehapana* course. Anyhow, it follows that whatever may be the nature of the bowels one has to proceed until proper signs are shown. If prolonged further, it may get accustomed and would not serve the purificatory purpose.

वातानुलोम्यं दीप्तोऽग्निर्वर्चः स्निग्धमसंहतम् ॥ ३० ॥
स्नेहोद्वेगः क्लमः सम्यक्स्निग्धे, रूक्षे विपर्ययः ।
अतिस्निग्धे तु पाण्डुत्वं घ्राणवक्त्रगुदस्रवाः ॥ ३१॥

(*Vatanulomyam dipto'gnir*
varcah snigdhamasamhatam ॥ 30 ॥
Snehodvegah klamah samyak
snigdhe, rukse viparyayah ।
Atisnigdhe tu pandutvam
ghranavaktragudasravah ॥ 31 ॥)

Correct (downward) movements of *vata*, properly stimulated gastric fire, excretion of faeces in a loose and unsolidified form, aversion to *sneha* and exhaustion are the signs of proper oleation. In improper oleation (*ayogam*) the signs are opposite to these. The signs of excessive oleation are pallor and secretions from the nose, mouth and rectum.

अमात्रयाऽहितोऽकाले मिथ्याहारविहारतः ।
स्नेहःकरोति शोफार्शस्तन्द्रास्तम्भविसंज्ञताः॥ ३२ ॥
कण्डूकुष्ठज्वरोत्क्लेशशूलानाहभ्रमादिकान् ।

(*AmatrayaShitoSkale*
mithyaharaviharatah ।
Snehah karoti sopharsa
standrastambha visamjnatah ॥ 32 ॥
Kandukusthajvarotklesa
sulanahabhramadikan ।)

The intake of *sneha* in improper doses, intake of *sneha* unsuitable to the particular disease or condition, untimely intake, intake along with unwholesome food and following wrong life style causes dropsy, haemorrhoids, lassitude, rigidity (loss of movement), loss of sensation, itching, skin diseases, fever, increase and provocation of *dosa* from inert state to active state, stomachalgia, distention of the stomach, dizziness, etc.

क्षुत्तृष्णोल्लेखनस्वेदरूक्षपानान्नभेषजम् ॥ ३३ ॥
तक्रारिष्टखळोद्दाळयवश्यामाककोद्रवम् ।
पिप्पलीत्रिफलाक्षौद्रपथ्यागोमूत्रगुग्गुलु ॥ ३४ ॥
यथास्वं प्रतिरोगं च स्नेहव्यापदि साधनम् ।

(*Ksuttrsnollekhanasveda*
ruksapanannabhesajam ॥ 33 ॥
Takraristakhaloddala
yavasyamakakodravam ।
Pippalitriphalaksaudra
pathyagomutraguggulu ॥ 34 ॥
Yathasvam pratirogam ca
snehavyapadi sadhanam ।)

Enduring hunger and thirst, inciting emesis and perspiration, giving drinks, food and medicines which are dry, use of *takrarista* (*arista* prepared from buttermilk), *khala* (drugs ground into a paste, boiled with buttermilk and concentrated), *uddala* (a type of rice), *yava* (*Hordeum vulgare*), *syamaka* (*Panicum sumatrense*), *kodrava* (*Paspalam scrobiculatum*), *pippali* (*Piper longum*), *triphala* (*Terminalia chebula, Terminalia bellerica, Emblica officinalis*), *ksaudra* (honey), *haritaki* (*Terminalia chebula*), *gomutra* (cow's urine) and *guggulu* (*Commiphora mukul*) can be used to deal with diseases caused by improper oleation.

विरूक्षणे लङ्घनवत्कृतातिकृतलक्षणम् ॥ ३५ ॥

(*Viruksane langhanavat*
krtatikrtalaksanam ॥ 35 ॥

The symptoms of proper and excess *viruksana* (drying) and *langhana* are the same.

The proper signs of *ruksana* (drying) are clearness of the organs, proper movement of the faeces and others as presented for proper signs of *langhana.* Signs of excess *ruksana* are excessive emaciation, giddiness, cough, thirst, etc., as described for excess *langhana. Ruksana* is to be done where there is excessive oleation. If it is not enough, the symptoms of excessive oleation prevails.

स्निग्धद्रवोष्णधन्वोत्थरसभुक् स्वेदमाचरेत् ।
स्निग्धस्त्र्यहं स्थितः कुर्याद्विरेकं, वमनं पुनः ॥३६॥
एकाहं दिनमन्यच्च कफमुत्क्लेश्य तत्करैः ।

(*Snigdhadravosnadhanvottha*
rasabhuk svedamacaret ।
Snigdhastryaham sthitah kuryad
virekam,vamanam punah ॥ 36 ॥
Ekaham dinamanyacca
kaphamutklesya tatkaraih ।)

The properly oleated, then, should take unctuous and hot liquid food along with meat

soup of similar nature (meat soup prepared with the meat of *jamgala* animals) for three days. Sudorific treatments also should be done during this period. On the fourth day do *virecana*. If one is intended to take emesis, remain oleated taking such unctuous food for one day and after undergoing sudatory treatments on the next day (second day), take food that is creative of *kapha* and capable of moving *kapha* from its seat. Then take *vamana* on the next (third) day.

मांसळा मेदुरा भूरिश्लेष्माणो विषमाग्नयः ॥ ३७ ॥
स्नेहोचिताश्च ये स्नेह्यास्तान् पूर्वं रूक्षयेत्ततः ।
संस्नेह्य शोधयेदेवं स्नेहव्यापन्न जायते ॥ ३८॥
अलं मलानीरयितुं स्नेहश्चासात्म्यतां गतः ।

(*Mamsala medura bhuri*
slesmano visamagnayah ॥ 37 ॥
Snehocitasca ye snehya
stan purvam ruksayettatah ।
Samsnehya sodhayedevam
snehavyapanna jayate ॥ 38 ॥
Alam malanirayitum
snehascasatmyatam gatah ।)

Those with excess muscle tissue, excess fat tissue, excess phlegm, irregular digestive fire and those using *sneha* regularly are to be subjected to *ruksana* before oleation. This prevents troubles of *sneha*-intake. Here the *sneha* does not become accustomed and helps to move and expel the *mala* (*dosa* and wastes).

The body of those with excess of muscle tissue, excess fat, excess phlegm, etc. is more unctous. If they are subjected to oleation all troubles due to over-oleation may manifest. In irregular gastric fire troubles due to excess digestion (*atyagni*) or lack of digestion (*mandagni*) are produced. So the first step in such cases is to subject them to treatments which create dryness by serving with dry food of bitter, acrid and astringent taste and by techniques like fasting, walking, etc., described as *langhana* steps. If *sneha* is given after these steps, they will be free from accustomedness.

Irregularity of digestive fire is either due to excess of *vata* or due to troubles of other conditions. Even though drying is not advisable in *vata,* it may not be harmful in this context as the irregularity is due to other conditions. In mixed provocation of *pitta* and *kapha* also, the digestive fire becomes irregular. Since in irregular gastric fire calculation of the dose of *sneha* is very difficult, the first step is to see that this irregularity is removed. For this *ruksana* is helpful.

बालवृद्धादिषु स्नेहपरिहारासहिष्णुषु ॥ ३९॥
योगानिमाननुद्वेगान् सद्यःस्नेहान् प्रयोजयेत् ।

(*Balavrddhadisu sneha*
parihara sahisnusu ॥ 39 ॥
Yoganimananudvegan
sadyahsnehan prayojayet ।)

The one who cannot tolerate the rigours due to abstaining from the contraindicated food and routine can be served with the following recipe which do not create any aversion but act as immediately-acting-unctuants, termed *sadyasneha.*

प्राज्यमांसरसास्तेषु पेया वा स्नेहभर्जिता ॥ ४० ॥
तिलचूर्णश्च सस्नेहफाणितः, कृशरा तथा ।
क्षीरपेया घृताढ्योष्णा, दध्नो वा सगुडः सरः॥ ४१॥
पेया च पञ्चप्रसृता स्नेहैस्तण्डुलपञ्चमै ।
सप्तैते स्नेहनाः सद्यः स्नेहाश्च लवणोल्बणाः ॥ ४२॥
तद्ध्यभिष्यन्द्यरूक्षं च सूक्ष्ममुष्णं व्यवायि च ।

(*Prajyamamsarasastesu*
peya va snehabharjita || 40 ||
Tilacurnasca sasneha
phanitah krsara tatha |
Ksirapeya ghrtadhyosna
dadhno va sagudah sarah || 41 ||
Peya ca pancaprasrta
snehaistandulapancamai |
Saptaite snehanah sadyah,
snehasca lavanolbanah || 42 ||
Taddhyabhisyandyaruksam ca
suksmamusnam vyavayi ca |)

In them, the soups prepared with meat containing abundant fat (as that of poultry, pig, etc. or more meat boiled in less water), rice gruel seasoned with ghee, the powder of sesame (*tila*) with *sneha* and *phanita* (low jaggery or molasses prepared from sugarcane), *krsara* (rice and peas boiled together with *phanita* and *sneha* added), hot gruel with milk and more ghee, the upper creamy layer of curd with jaggery and the gruel named *pancaprasrta,* are the preparations that can be given to them. These are all preparations that render immediate unctuousness. *Sneha* with more salt mixed also act similarly because salt is trickling, and hence creating exudation, does not cause drying, is subtle, hot and pervading.

The seven formularies that can be used as to give immediate unctuousness are presented above. *Sneha* with more salt is good to move *kapha* and it does not create dryness. It is hot and subtle and acts as one that pervades the body. *Pancaprasrta* is the preparation with four unctuous medicines as oil, ghee, fat and marrow and rice. All these five are taken one *prasrta* or two *palam* each. (One *palam* is about 60g and 2 *palam* 120g). So, it is called the *pancaprasrta* gruel.

गुडानूपामिषक्षीरतिलमाषसुरादधि || ४३ ||
कुष्ठशोफप्रमेहेषु स्नेहार्थं न प्रकल्पयेत् |
(*Gudanupamisaksira*
tilamasasuradadhi || 43 ||
Kusthasophapramehesu
snehartham na prakalpayet |)

Jaggery, *anupa* meat (meat of animals thriving on marshy lands), milk, *tila*, *masa, sura* (beer / alcohol prepared from pasted grains) and curd are not to be suggested in diseases of *kustha* (skin troubles), swellings and diabetes.

त्रिफलापिप्पलीपथ्यागुग्गुल्वादिविपाचितान् || ४४ ||
स्नेहान् यथास्वमेतेषां योजयेदविकारिण |
क्षीणानां त्वामयैरग्निदेहसन्धुक्षणक्षमान् || ४५ ||
(*Triphalapippalipathya*
guggulvadivipacitan || 44 ||
Snehan yathasvametesam
yojayedavikarina |
Ksinanam tvamayairagni
dehasandhuksanaksaman || 45 ||)

In the above cases, as per the case, give *sneha* prepared with ingredients as *triphala*, *pippali*, *haritaki* and *guggulu* whichever are found suitable. For those who are weakened by diseases, *sneha* prepared with ingredients which help to promote the strength of the body and increase the digestive faculty are to be given.

दीप्तान्तराग्निः परिशुद्धकोष्ठः
प्रत्यग्रधातुर्बलवर्णयुक्तः |
दृढेन्द्रियो मन्दजरः शतायुः
स्नेहोपसेवी पुरुषः प्रदिष्टः || ४६||
(*Diptantaragnih parisuddhakosthah*
pratyagradhaturbalavarnayuktah |

Drdhendriyo mandajarah satayuh
snehopasevi purusah pradistah ॥ 46 ॥)

It is assessed, that one who uses *sneha* as per the rules prescribed, completes his life of hundred years with digestive fire - ever in proper blaze, the stomach pure and the tissues always rejuvenated and so ever new, with good strength, complexion, stable organs and retarding aging.

इति श्रीवैद्यपतिसिंहगुप्तसूनुश्रीमद्वाग्भटविरचितायामष्टाङ्गहृदयसंहितायां सूत्रस्थाने स्नेहविधिर्नाम षोडशोऽध्यायः ।

(*Iti srivaidyapatisimhaguptasunu srimad vagbhataviracitaya mastangahrdayasamhitayam sutrasthane snehavidhirnama sodasoऽdhyayah*)

So the sixteenth chapter of Astangahrdaya-samhita of Sutrasthana, rules and instructions for use of *sneha* composed by Vagbhata, the son of Vaidyapati Simhagupta.

A Seminar on Indigenous Efforts to Combat Cancer

A very timely Seminar was organised at Thiruvananthapuram on 27.5.99, on the theme of cancer treatment by the AKG Centre for Research and Studies, in collaboration with the Regional Cancer Centre. The organisers of this Seminar, including the Kerala Chief Minister, Shri. E.K. Nayanar, deserve whole hearted congratulations for this academic endeavour on a very topical subject. The one-day Seminar was attended by several experts and the main outcome of the deliberations was a call to all professionals to come forward to evolve a multidisciplinary and multipronged approach to deal with this deadly disease.

One major session of the Seminar consisted of a remarkable presentation by the reputed Dr. Balendu Prakash of Dehradun of his experimental data on the use of the *Rasasastra* stream of ayurvedic system to treat various types of cancer with particular reference to Leukemia. He made an effective presentation with the aid of documented facts and figures. An additional feature was the presence of several of his patients who briefed the gathering about the marked improvement of their distressing condition. Dr. Prakash, who happens to be the Chairman of the Technical Advisory Board for Ayurveda, Siddha and Unani, also made a plea for standardising the ayurvedic products and processes.

There was also an interesting session where some of the experts talked about their experiences. Dr. M. Krishnan Nair, the famous cancer specialist and the Director of the Regional Cancer Centre, referred to the need for modern parametrical approach while assessing the claims of the various cancer cures. He expressed his firm faith in the unassailability of modern methodologies.

The invigorating talk by Dr. P.K. Warrier, the reputed Chief Physician of Arya Vaidya Sala, highlighted the need for an open-minded approach to evolve a pragmatic and socially viable therapeutic scheme. He cited several of his experiences and exhorted the physician community to look beyond the statistical details of treatment and to perceive the patient as a social entity. He stressed that what mattered was the adoption of apt approaches in order to improve the quality of the patient's life.

Many other professionals also shared their experiences and views with the large number of professionals and informed laymen who attended the Seminar.

Another important item of the Seminar was the dignified felicitation of Dr. P.K. Warrier and Dr. Balendu Prakash, the recent Padmashree awardees, by the Kerala Chief Minister, Shri E.K. Nayanar. Dr. Warrier also released a collection of scientific papers by Dr. Prakash by presenting a copy to Dr. M. Krishnan Nair.

By all counts, the Seminar was a worthwhile attempt and it is hoped that it will give a timely impetus to the multidisciplinary efforts to combat cancer.

Aryavaidyan Vol.XII, No. 4, May - July -1999, Pages 206 -210

STANDARDISATION OF THE PROCESSING OF AYURVEDIC MEDICINES

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Abstract: The ayurvedic medicine manufacturing industry is presently poised at a cross-road of development. There are many positive factors that create conditions which are conducive to its growth and development. At the same time, there are many critical factors exerting a negative pressure on the industry. It is observed that increased global recognition is accorded to the principles and practices of the ayurvedic system. This changed global scenario necessarily demands that certain updating and revalidation are incorporated in ayurvedic drug manufacturing. An attempt is made here to view the traditional medicine manufacture and to suggest the possibility of incorporating appropriate technological innovations in the drug processing with a view to strengthening the system.

Introduction

The ayurvedic drug-manufacturing industry is passing through a state of transition. Various kinds of pressures are exerted on it. Some of these forces are positive in nature and they create conditions which are conducive to the growth and expansion of the ayurvedic system. The increased awareness of the people about the utility of the system even in modern times, the publication of Official Formulary[1] and Pharmacopoeial Standards[2], and the use of the methods and tools of modern technology in the processes are a few examples of such positive forces. They have helped to strengthen the inherent capabilities of the system and to expand the scope of its application. There are also certain forces which suppress the natural growth of the ayurvedic system. The critical nature of the availability of the vast variety of natural materials required for drug manufacture, the apparent element of non-compatibility between some of the basic aspects of drug processing with the ways of the modern technology, and the informal and subjective nature of the traditional practices are examples of such negative forces. That is why, the ayurvedic drug industry is at a cross-road. It is imperative that the captains of the industry should make some very critical choices and decide on some pragmatic course of action in order to take advantage of the changing global scenario and

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give the industry a sense of direction. While doing so, the primary guiding factor should be the preservation and enrichment of the fundamental principles and practices enshrined in the ancient texts.

The nature of drug processing

The ayurvedic medicine manufacturing process involves a basic cooking process. The Official Formulary[1] enlists about 20 categories of dosage forms. The preliminary step in the preparation of most of those forms starts with the preparation of a *kvatham*. This is done by the boiling of raw herbs in appropriate quantity of water under moderate heating[3]. The filtered *kvatham* is further processed to obtain the various dosage forms like *avaleha, arista, taila, ghrta,* etc. There are, of course, other dosage forms like *sindura, curna*, etc. where preparation of *kvatham* is not a necessary step.

The various classical textbooks describe the medicine processing procedure, the raw material requirements and the dose administration aspects. The important point is that all the ingredients used are naturally occurring items and the processing involves a cooking procedure. Another important aspect is the fact that the classical texts envisage only small dosage preparations rather than bulk production. Moreover, the physicians used to design tailor made formulations to suit the constitution and symptoms of the patient. The medicines were prepared by the physician himself or by the patient as instructed by the physician. This practice was quite appropriate at a time when there was cohesiveness among the different constituents of the society. The situation has undergone drastic changes now. Presently, both the physician and the patient prefer to have the medicines readily available in the market in a packed dosage form. And consequently, the physician, the stockist, the retailer and the patient have all become different social entities having divergent interests. That is why it has become necessary to establish and maintain objective methods of standardisation at every stage of manufacture. It is evident that the ancient *acarya* have taken into account the salient aspects of the process and product standardisation. However, the present times demand more rigorous and objective parameters and procedures. This is more so with reference to the expanding global market potential for ayurvedic medicines.

Ayurvedic drug industry

The ayurvedic medicine manufacturing industry is basically of three types. The first type consists of those few organizations which are quite large in their operations and in their reach. They have already been able to incorporate many of the modern methodologies and techniques in their processes. There are only a few of such institutions. The second type consists of the medium sized units which essentially rely on the traditional methods and practices in their processes. They have limited reach but committed patronage. They are at the threshold of modernisation. The third group comprises a very large number of small time operators dispersed throughout the length and breadth of the country. There are thousands of such units which have only localised areas of operation based on individual efforts.

Given such a diverse and complex composition of the industry, it becomes evident

that efforts to implement uniform methods of standardisation is a difficult proposition. Added to this is the complexity contributed by the existence of very many regional variations prevailing in the traditional practices. In any case, it has become imperative that standardisation measures should be initiated with statutory supervision with the objective of improving the uniformity, realibility and viability of the ayurvedic medicines.

Standardisation aspects

There are three specific stages where standardisation steps should be attempted separately. They are the areas related to the raw material aspects, processing aspects and finally product quality aspects. When the first two areas are monitored and controlled, then the third area of product quality will automatically be taken care of. That is not to say that there is no need for product quality checks. It is only intended to highlight the importance of raw material and process control measures.

Raw material quality assurance measures can actually be perceived as part of the process control measures. But the practice is to have a separate set up for the purpose. The industry uses about 500 different kinds of items as ingredients for producing about 600 products. About 80% of these raw items belong to the vegetable kingdom. The remaining items are of animal or of mineral origin. As far as the standardisation of such a complex set of natural substances is concerned, the major stumbling block is the fact that there exists a lack of uniformity in the choice of raw herbs. The basic reason for this non-uniformity is the large amount regional variations in the interpretation of Sanskrit originals. The Official Formulary[1] has made an attempt to compile a uniform glossary. It is not quite sure whether that attempt has really taken into account the various regional traditions. There have been earlier attempts[4,5] and recent ones[6,7,8]. It is also worth referring to published information on the TLC profiles of many herbs[9]. Similarly, other countries like Britain, Japan etc. have also brought out Herbal Pharmacopoeia[10].

These manuals and monographs can be effectively used as guidelines for ascertaining the identity of the raw herbs. Subsequently comes the step of quality assurance. RRL, Jammu, has brought out a basic manual[11] specifying the various quality tests required to be conducted for ascertaining the quality of the herb. They include measures based on organoleptic as well as physico-chemical examination. Macroscopic and microscopic examination will form part of this exercise. Apart from that, looking for the presence of insecticides, other chemicals, bacteria and even radioactive traces are also included in these procedures.

The ground reality has to be conceded that the herbs are originating from different areas having different conditions of topography, season, soil character etc. Thus, certain broad standards may have to be established as a pragmatic approach. Otherwise, the narrow ranges of standard might stifle the industry in view of the precarious condition of raw material availability.

With regard to the processing aspects, the situation is equally complicated. A manufacturer may usually produce about 450 medicines. And

mostly the batch sizes will be quite small. The largeness of the product variety and smallness of the batch size make it quite difficult to effectively implement technological innovations. There are many subjective parameters which play a critical role in the processing steps. To cite a simple example, reference may be made to the concept of "tantumat" which decides the finality of *avaleha* processing[12]. This specifies the thready stature of the cooked item, to be ascertained by touch and visual examination. It may be considered whether equipmental intervention is possible here to monitor the viscosity or flowability. There are similar other subjective parameters which may also have to be considered. Application of objective methods to replace subjective methods is a vital element of standardisation. But, while designing technological aids to control the processing, care must be taken to see that such aids should not negate the fundamental tenets of the ayurvedic system. For example, in our eagerness to modernise and optimise the process, the basic cooking cannot be speeded up by employing the available techniques like the use of thermic fluids or pressure-cooking. Because the texts specifically refer to moderate heating[3] and that stricture cannot be violated. Similarly, the basic step of processing is the preparation of an aqueous extract. Thus, application of organic solvents cannot be employed in spite of their proven effectiveness for any other applications.

Thus, a balanced view has to be taken while implementing modern methods as a part of process modernisation and standardisation. Computer aided measures may become very handy in such efforts. Rigorous checking of materials and processes and monitoring and controlling batch activities can be achieved with the aid of a computer. Even then, manual intervention will continue to play a key role in the processing of ayurvedic medicines.

Conclusion

An attempt has been made here to view in perspective certain salient aspects of ayurvedic medicine processing in relation to the possibility of incorporating modern methodology for achieving standardised practices. The objective was only to cite a few examples to illustrate general principles rather than to make an exhaustive study. It may be concluded by suggesting that the time is opportune for the ayurvedic industry in general to come off age by adapting appropriate technological inputs so that it becomes ready to meet the challenges of the new millenium.

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 211 - 216

PHYTOCHEMICAL STUDIES ON *LAWSONIA INERMIS* Linn.

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Abstract: *Lawsonia inermis* Linn. (Lythraceae), since the time of Susruta has been known as an economically and medicinally important plant. In the present investigation the amount of primary and secondary metabolites like proteins, phenols and flavonols of the leaf were estimated and found to be 60.96 mg / 100 gm, 1.96 mg / 100 gm and 0.84 mg / 100 gm respectively. Phenols and alkaloids were separated on TLC and the Rf values were recorded.

Introduction

Among the economically important medicinal plants *Lawsonia inermis* Linn. has its importance, as it has immense curative properties. The medicinal properties of this plant were known way back in 600 BC when its use was mentioned for the treatment of jaundice and enlargement of spleen. To-date it has been exploited for various other medicinal properties like antiviral activity[1], anti-inflammatory activity[2] and against disorders like asthma, dysentery, fever, gonorrhoea and piles[3].

In the present investigation, the primary and secondary metabolites which are indirectly responsible for these curative properties were estimated. The alkaloids and phenols were separated on TLC and Rf values were recorded.

Materials and methods

Source of explant

The plant material was obtained from the Botany garden of Gulbarga University and Cowl bazaar area of Bellary and identified using the "Flora of Presidency of Madras" by Gamble[4] and "Flora of Hassan district" by Cecil J Saldanha[5].

Preliminary phytochemical tests[6] were conducted using fresh leaf material for phenolics, flavonols and alkaloids (Table I).

Quantitative estimations were also conducted by using crude leaf extract. Estimation of protein was done by Folin-Lowry method[7], estimations of phenols by Folin-Denis method[8] and estimation of flavonols by Swain-Hillis method[9].

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Table I. Showing the occurrence of phenols, flavonoids and alkaloids in *Lawsonia inermis* Linn.

Sl.No.	Test	Observation	Inference
1.	Test for phenols		
	a) Hot water test	Brown band at juncture	Present
	b) Phenol test	Precipitate	Present
2.	Test for flavonoids		
	a) Flavonoid test	Precipitate	Present
3.	Test for alkaloids		
	a) Mayer's reagent	Cream colour precipitate	Present
	b) Wagner's reagent	Dirty red precipitate	Present

Separation of Alkaloids and Phenols

For Alkaloids: Plant material was extracted with ethanol and 10 ml of KOH was added to the extract. Precipitate was discarded and supernatant evaporated and used for chromatographic studies. The solvent system used was chloroform: methanol (80:20).

For Phenols: Plant material was extracted with ethanol and condensed the volume to ¼th. The solvent used for Ist direction was benzene: acetone : ethylacetate (84:10:6). For IInd direction toluene : acetone : ethylacetate (80:10:10) was used. Chromatographic plates were prepared for separation of both phenols and alkaloids as formulated by E. Stahl[10].

Observation

The phytochemical observations were carried out on different aspects by conducting the preliminary tests for compounds like phenols, flavonoids, alkaloids, etc. In hot water test, the immediate appearance of a brown coloured ring at the junction of the dipped and undipped portion of the leaf indicated the presence of phenols. In phenol test, when treated with ferric chloride, intense colour with white precipitate indicated the presence of phenols. Similarly, flavonoid test by producing precipitation with magenta colour when the ethanolic extract was treated with a few drops of sulphuric acid and magnesium turnings. A cream coloured precipitation and dirty red precipitation detected the presence of alkaloids when the ethanolic extract was treated with Mayer's reagent and Wagner's reagent respectively (Table I).

The protein, phenol and flavonol in leaves were estimated. It was found to be 60.96 mg / 100 gm, 1.96 mg / 100 gm and 0.84 mg / 100 gm respectively (Table II).

Table II. Showing quantity of proteins, phenols and flavonols present in *Lawsonia inermis* Linn.

Sl. No	Parameter	Quantity (mg/100 gm)
1.	Protein	60.96 ± 3.1
2.	Phenols	1.96 ± 2.3
3.	Flavonol	0.84 ± 1.0

Phenolic separation: A spectrum of six bands of different Rf values was seen. The Rf values and colour of the bands in visible light were recorded. After the second run the number

of bands almost doubled indicating the resolution capacity of double direction TLC (Table III., Fig. 1).

Alkaloid separation: About nine bands with different Rf values were encountered as indicated in Table IV, Fig. 2.

Table III. Qualitative separation of leaf phenol in *Lawsonia inermis* Linn.

Sl.No.	Rf Values		Band colour in visible region
	I	II	
1.	3.70	00	Red
2.	5.16	00	Light Green
3.	7.00	00	Green
4.	9.67	00	Light Yellow
5.	9.67	4.19	Yellow
6.	79.35	00	Light Green
7.	83.87	00	Grey
8.	83.87	47.90	Grey
9.	83.87	56.68	Light Green
10.	83.87	62.87	Grey
11.	90.32	00	Light Green
12.	90.32	17.96	Light Green
13.	92.90	00	Yellow
14.	92.90	68.26	Yellow
15.	92.90	72.45	Grey
16.	92.90	97.84	Yellow
17.	92.90	82.03	Grey
18.	92.90	86.82	Orange
19.	92.90	89.82	Light Green
20.	92.90	92.81	Yellow

Table IV. Qualitative separation of alkaloids in *Lawsonia inermis* Linn.

Sl.No.	Rf Values	Band colour in visible region
1.	08.82	Dark Grey
2.	17.5	Light Yellow
3.	55.8	Light Grey
4.	64.1	Yellow
5.	70.5	Light Yellow
6.	84.1	Dark Green
7.	86.4	Light Green
8.	90.00	Grey
9.	95.20	Yellow

Fig.1 Chromatogram showing separation of phenols by double direction method in *Lawsonia inermis* Linn.

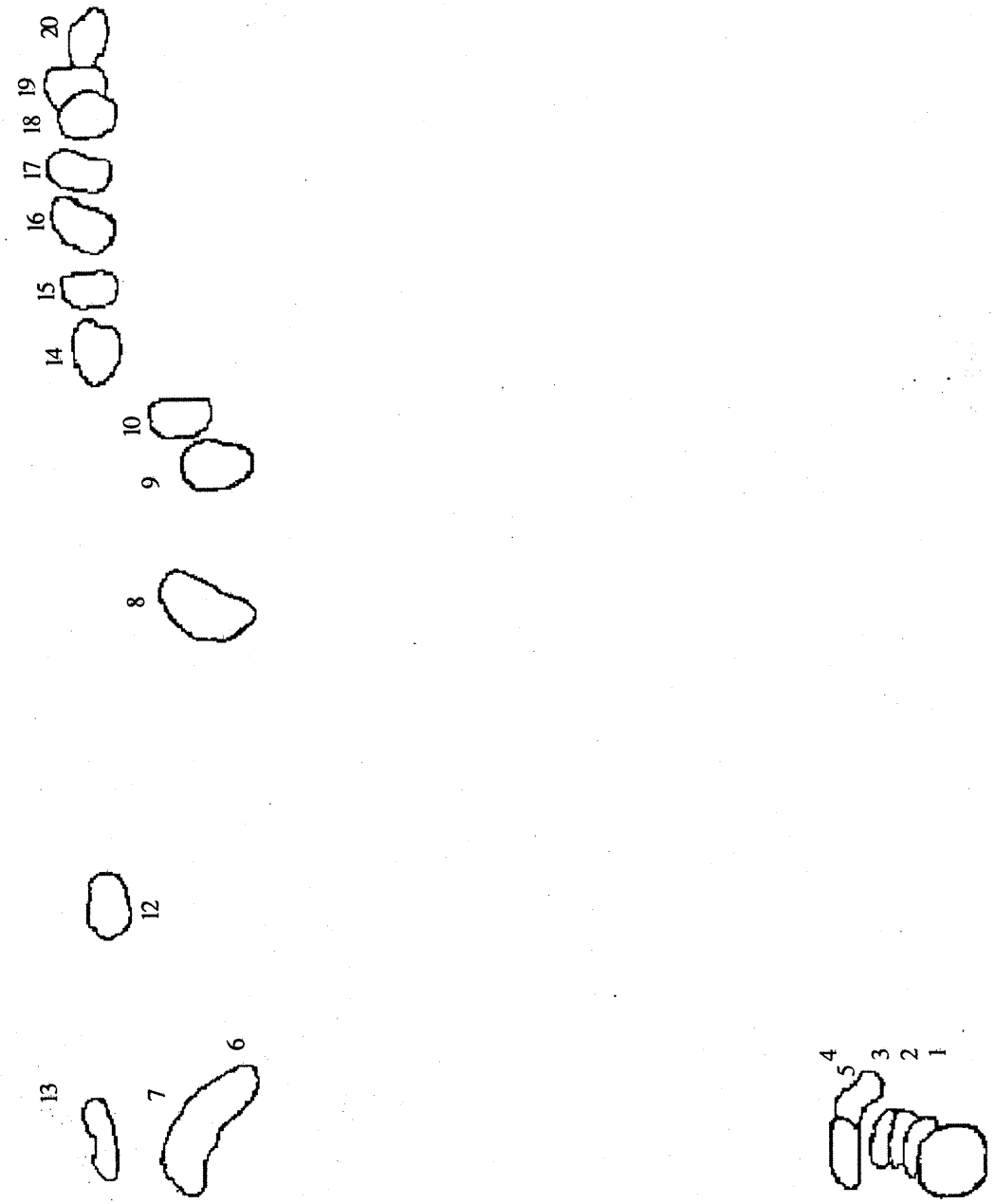
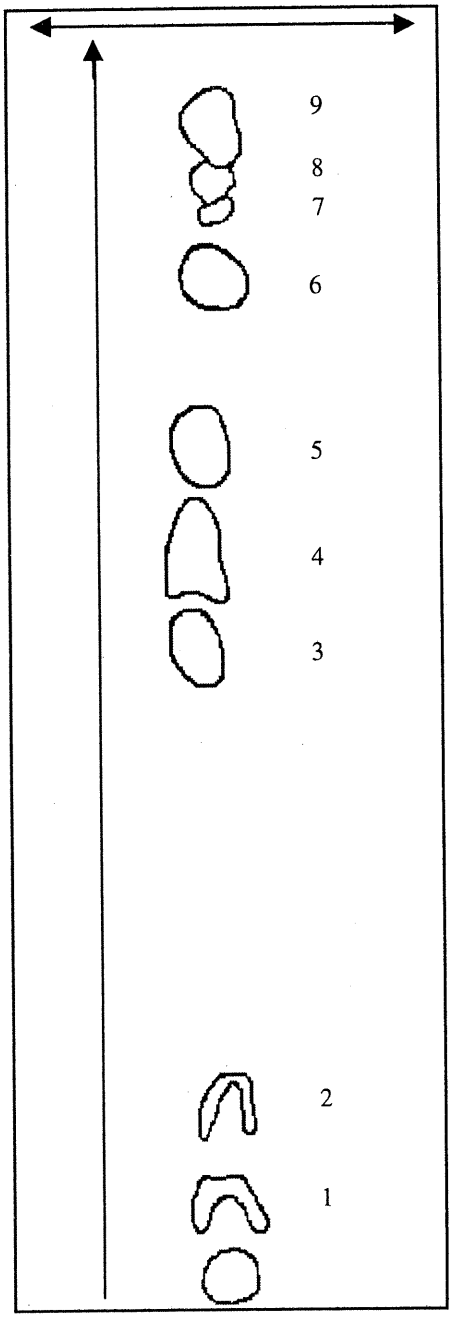


Fig.2 Chromatogram showing separation of alkaloids in *Lawsonia inermis* Linn.



Discussion

Among 100s of chemicals known to occur in plants phenols like phytoalexins have a prominent role to play in combating the diseases. It acts as anti-fungal agent[11]. It is also known that the phenolics are useful as anti-allergic drugs[12]. Flavonols are known to have medicinal value for cardio-vascular diseases[13]. Alkaloids are the active principles in majority of the medicinal plants[14] and therefore an investigation was undertaken to identify the groups of plant compounds present in *Lawsonia inermis* by conducting preliminary tests and also the estimations of these important group of organic compounds. The utility of *Lawsonia inermis* Linn. is time tested and can be used as drug for various ailments[15]. The preliminary tests carried out to ascertain the occurrence of several compounds is indicated by the positive reaction for a few tests. These tests have indicated the occurrence of phenols, flavonoids and alkaloids. This is supported by the estimation giving their quantity in unit gram of plant. The qualitative separation has indicated varying number of spots of phenols and alkaloids. These have been identified based on their colour and Rf values.

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RASAVAISESIKA-XIX

Raghavan Thirumulpad, K.*

Abstract: Continuing discussion on the *pancabhutatmakatva* of the *dravya,* the manifestation of *rasa, guna, virya* and *vipaka* is described here. Officinal parts of the *sthavara-dravya* and *jamgama-dravya* are also listed.

118. रसगुणवीर्यविपाकाः प्रत्येकं च ॥

रसगुणवीर्यविपाकाः प्रत्येकं च ।

(*Rasa, guna, virya* and *vipaka* also manifest separately).

In the manifestation of *dravya*, *agnibhuta* associates by the process of combustion. By general combustion, the *dravya* is formed. Then particular types of combustion take place. These particular types of combustions are known as *vijatiyatejassamyoga* (विजातीयतेजस्संयोग). *Rasa* etc. are the result of these particular combustions. In each particular combustion, a particular group of *bhuta* becomes baked resulting in some particular *rasa, guna, virya* or *vipaka.* The difference in grouping of the *bhuta* may be in proportion or arrangement.

119. भूतानामुत्कर्षापकर्षसन्निवेशविशेष-
समूहादेकस्माद् व्यवकीर्णाद्वा ॥

भूतानां एकस्मात् उत्कर्षापकर्षसन्निवेश विशेषसमूहात्
रसगुणवीर्यविपाकाः भवेयुः । व्यवकीर्णात्
उत्कर्षापकर्षसन्निवेशविशेषसमूहात् वा भवेयुः ।

(All the four characteristics, *rasa, guna, virya* and *vipaka,* may manifest from the same kind of combination of the *bhuta* in different proportions and arrangement.)

In a *dravya,* all the four characteristics, *rasa, guna, virya* and *vipaka* may manifest from the same kind of combination of the *bhuta* in different proportions and arrangement. *Utkarsa* and *apakarsa* denote proportional existence and *sannivesa* denotes arrangement. But in some *dravya* for the manifestation of *rasa*, there may be a particular combination, for *guna* there may be some other combination, for *virya* still another combination and some other combination for *vipaka*. Some times, the difference may be only in the case of one characteristic, sometimes for two, sometimes for three, sometimes for all the four. रसवीर्यप्रभृतयो भूतोत्कर्षापकर्षतः एकरूपा विरूपा वा द्रव्यं समाधिशेरते. Because of the difference in the proportion of the *bhuta, rasa, virya*, etc. manifest with similarity or dissimilarity. If *rasa,* etc. are the result of the same kind of combination, they are said to be *ekarupa*, similar. If *rasa,* etc. are

* *Raghava Ayurvedics, Chalakkudi.*

the result of different kinds of combinations, they are said to be *virupa,* dissimilar. The particular combination, which is acted upon by the particular *tejassamyoga*, produces *rasa, guna, virya* and *vipaka* with dissimilarity in action. The difference in proportion and arrangement of the *bhuta* that is acted upon by the *vijatiyatejassamyoga* causing *rasa* etc. resulting in the difference in action in *rasa, guna, virya* and *vipaka* - all these things are inferred (*anumana*) and there is chance for difference of opinion among the *acarya.* The similarity or dissimilarity of the *rasa,* etc. is inferred by the actions of the *dravya*, attributed to *rasa,* etc.

120. यदस्य बलवत् तेन कर्म ॥

यद् अस्य बलवत् तेन कर्म भवति ।

(The particular action of the *dravya* takes place with that which is efficient in the *dravya.*)

Some *dravya* acts with *rasa*, some with *vipaka,* some with one or other *guna,* some with *virya,* still some with *prabhava* (किञ्चिद्रसेन कुरुते कर्म पाकेन चापरं गुणान्तरेण वीर्येण प्रभावेणैव किञ्चन). With that which of the *rasa,* etc is efficient, the *dravya* acts. *Vipaka* is more efficient than *rasa. Virya* is more efficient than *vipaka* and *rasa. Prabhava* is more efficient than all the three. This is the natural degree of efficiency. (रसं विपाकस्तौ वीर्यं प्रभावस्तान् व्यपोहति । बलसाम्ये रसादीनामिति नैसर्गिकं बलम् ॥) It can be assumed that the *guna* is the least efficient. At times *rasa, guna, virya* or *vipaka* act with particular efficiency due to some particular deviation in the process of manifestation of the *dravya.* Then the *dravya* acts with that particular characteristic. At times the action of the *dravya* is ascribed to *rasa, guna, virya* or *vipaka* in a vague way but actually *dravya* acts and *guna,* etc. only determine the kind of action. All the characteristics in the *dravya* can be classified as *guna* in general. The *dravya* is defined as that which has *kriya* and *guna.* (क्रियागुणवद् द्रव्यं). The *kriya* (*karma*) is of the *dravya*, not of the *guna.* And the *guna* also can be of the *dravya* only, not of *karma.*

121. यत्र सर्वमेकस्मात् समूहात् तत् प्रधानं द्रव्यम् ॥

यत्र सर्वं एकस्मात् समूहात् भवति
तत् प्रधानं द्रव्यम् ।

(*Dravya,* in which all aspects are out of the same particular kind of combination, that *dravya* is important.)

All aspects mean *rasa, guna, virya* and *vipaka.* The importance of such a *dravya* is its suitability to be used as food and medicine. The action of such a *dravya* will be without any contradiction (*vairuddhya*) in itself. In *dravya* where different aspects (*rasa, guna, virya* and *vipaka*) has resulted from different kinds of combinations of the *bhuta,* the *vairuddhya* in the actions because of the dissimilar *rasa,* etc. may contradict just as in the case of *viruddhadravya*, incompatibles. The use of such *dravya* generally in food or medicine may cause some problems in the system in maintaining or promoting the rhythm of the *dosa, dosasamya* which is the basis of health and cure. Hence, such *dravya* are *apradhana* - generally unsuitable to be used as food or medicine.

122. स्यात् प्रधानमितरन्न वा ॥

इतरत् प्रधानं स्यात् न वा स्यात् ।

(Other kinds of *dravya* with dissimilar *rasa, guna, virya* and *vipaka,* due to the dissimilar combinations of the *bhuta* in their manifestation,

may be important as food or medicine or may not be important to be used as food or medicine.)

Vagbhata classifies *dravya* as *samana-pratyayarabdha* and *vicitra-pratyayarabdha*. *Samana* means the same kind, similar. *Pratyaya* means cause, here the combination of the *bhuta*. *Arabdha* means produced of, so the term denotes the *dravya* in which *rasa, guna, virya* and *vipaka* are produced with the same similar combinations of the *bhuta*. *Vicitra* means dissimilar, different. Where the *rasa, guna, virya* and *vipaka*, one or some or all are produced by different dissimilar combinations, the *dravya* is *vicitra-pratyayarabdha*. In Rasavaisesika, division is *pradhana* and *apradhana*, depending on the usability and benefit when used in food and medicine. All *samana-pratyayarabdha dravya* are *pradhana*. But in the *vicitra-pratyayarabdha dravya* only some are *pradhana*. We have to think that, only by experience, the two can be differentiated and in this matter the *sastra*-texts in which the experiences of the *acarya* through the ages are codified is the *pramana*, the authority. (आगमेनोपयोक्तव्याः)

There is the fifth aspect, *padartha,* namely *karma*. It is the application. It is accepted as a *padartha,* as the benefit of the other *padartha* are realised only when applied. But it is not conditioned by the structural *bhuta*-combination of the *dravya*. It is conditioned by the suitability to the particular circumstance. There is another *karma,* the action of the drug in the individual. *Sodhana* (elimination), *samana* (pacification), *medhajanana* (promoting intelligence), *mada-janana* (intoxicating), etc. are said to be such *karma*. They cannot be particularly ascribed to *rasa, guna, virya* or *vipaka* or to any kind of particular combination of the *bhuta* in the *dravya*. Perhaps, every question cannot be answered with reason (*yukti*) alone. Even if something is beyond *yukti*, if beneficent in experience, it has to be accepted and made use of on the basis of good results. Vagbhata says of *prabhava*. It denotes the action of a *dravya* which cannot be explained by *rasa, guna, virya* or *vipaka* which at times is in contradiction to the possible action ascribed to *rasa,* etc. If we consider *karma* as the fifth aspect of a *dravya* inherent in it, then *prabhava* can be taken as *karma*. Every *dravya* will have some particular action which can be taken as its *prabhava.*

123. शारीरेषु शरीरं व्याख्यातम् ॥

शारीरेषु शरीरं व्याख्यातम् ।

(In the texts that expand *sarira*, the body in its all aspects is explained.)

In fact, the human body also is a *pancabhautika dravya*, just like everything else. The human body is *jangama.* The difference is that all other *dravya* are studied to be of use as food and medicines, for the maintenance and correction of the human body. The study of human body in its birth, growth and death is to understand its natural condition (health) and its unnatural condition (disease). Here, in Rasavaisesika, the study is to evaluate the properties of the *dravya* to be used as food and medicine. The human body is not used as food or medicine. Transplantation of human organs and the transfusion of blood etc. have become possible with the advancement of technology and as such medical study of the human tissues and organs has become a necessity. But at the time when Rasavaisesika and other earlier texts of ayurveda were written there was no such

possibility.

124. मूलसारस्कन्धत्वक्पत्रपुष्पफलमज्जाप्रवाळ फल्गु-लिंशकपरिपोटककन्दास्थिवृन्तस्नेहक्षीरवेष्टकरसनिर्मोकाःवृक्ष वीरुदोषधिवनस्पतिप्रभृतीनामवयवाः। धातुजतुलोह पाषाणमणि प्रभृतयश्च स्थावराणाम् । रसशोणितमांस मेदोऽस्थिमज्जा शुक्ळक्षीरमूत्रपुरीष चर्मनखवसास्कन्धकपोल विषमदरोचना पित्तप्रभृतयो जङ्गमानां च । उपयुज्यन्ते यथायोगम् ।

स्थावराणां वृक्षवीरुदोषधिवनस्पतिप्रभृतीनांमूलसा-रस्कन्धत्वक् पत्रपुष्पफलमज्जाप्रवाळ फल्गुलिंशक परिपोटककन्दास्थिवृन्तस्नेहक्षीरवेष्टकरसनिर्मोकाः अवयवाः धातुजतुलोहपाषाणमणिप्रभृतयः जंगमानांरसशोणित मांसमेदोऽस्थिमज्जाशुक्ळक्षीरमूत्रपुरीषचर्मनख वसास्कन्ध कपोलविषमदरोचनापित्तप्रभृतयः अवयवाः च यथायोगं उपयुज्यन्ते ।

(Of the immobile *dravya, vrksa, virud, osadhi, vanaspati,* etc., parts like *mula, sara, skandha, tvak, patra, puspa, phala, majja, pravala, phalgu, limsaka, paripotaka, kanda, asthi, vrnda, sneha, ksira, vestaka, rasa, nirmoka, dhatu, jatu, loha, pasana, mani* and of the mobile *dravya* parts like *rasa, sonita, mamsa, meda, asthi, majja, sukla, ksira, mutra, carma, nakha, vasa, skandha, kapola, visa, mada, rocana, pitta,* etc. are used in medicine as and when required, according to their suitability.)

The ingredients used in the preparation of medicines are the parts of mobile and stationary *dravya. Vrksa* (tree), etc. is classified as immobile and *mrga* (animal) is classified as mobile. *Mula* (root), etc. of the tree and *rasa* (soup), etc. made of the tissues of animals is used for medicine. *Vrksa* (tree), *virud* (creeper), *osadhi* (plants), *vanaspati* (tree which fruits without flowering), *mula* (roots like *dasamula*), *sara* (hardwood like *candana*), *skandha* (trunk like *devadaru*), *tvak* (bark like *nimba*), *majja* [the portion inside the fruit (pulp like *dadima* and *vilva-phala*)], *phalgu* (soft wood), *limsaka* (inner skin), *paripotaka* (outer skin), *asthi* (kernel - like the kernel of mango fruit), *vrnda* (stalk like that of the mango leaf), *sneha* (oil like gingely oil), *ksira* (milk like that of *arka, snuhi*), *vestaka* (gum like *srivestaka*), *rasa* (juice), *nirmoka* (scrapping like that of the arecanut tree and coconut tree) *bija* (seed like *avalguja*), *dhatu* (like *anjana*), *jatu* (like *laksa*), *loha* (metal like iron), *pasana* (like stone), *mani* (like diamond) are the parts of immobile things. *Rasa,* etc. of the animals, birds, etc. are the seven *dhatu. Ksira* (milk), *mutra* (urine), *mala* (dung), *nakha* (nail), *vasa* (marrow), *skandha* (shoulder part), *kapola* (cheekbone), *visa* (poison), *mada* (like *mrgamada* or *kasturi*), *rocana* (*gorocana*) and *pitta* (bile). The *saptadhatu*, *rasa* (chile), *rakta* (blood), *mamsa* (flesh), *meda* (adipose tissue), *asthi* (bone), *majja* (marrow), and *sukla* (semen). Anything, everything in the world, of any origin can be used with discretion in some or other form for medicine (जगत्येवमनौषधं न किञ्चिद् विद्यते द्रव्यं वशान्नानार्थयोगयोः). There is nothing in the world that cannot be used as medicine, with various benefits and modes of application. It will be worthwhile to find out how and where all these different things are used in treatment. Thus ends the commentary on the second chapter of Rasavaisesika, of Bhadanta Nagarjuna.

गुरुपादपदाम्भोज रज उन्मिषितेक्षणः ।
परीक्षतेऽर्थं रसवैशेषिके राघवो भिषक् ॥

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DETECTION OF PHYTOCONSTITUENT RESPONSIBLE FOR ANTIMICROBIAL ACTIVITY OF *PANCAVALKAL*

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Abstract: *Pancavalkal* is a combination of the barks of five trees viz. *Ficus benghalensis, Ficus religiosa, Ficus glomerata, Ficus infectoria* and *Albizzia lebbeck,* possessing a very good antimicrobial activity. The phytoconstituents from *pancavalkal* were extracted and detected by various qualitative chemical tests. It was mainly found to contain phytosterols, tannins and glycosides. These phytoconstituents were isolated by chemical methods and then tested for antimicrobial activity against various Gram-positive, Gram-negative and fungal cultures. It was observed that tannins had the best antimicrobial activity in comparison with glycosides and phytosterols.

Introduction

Pancavalkal is a combination of the barks of five trees viz. *Ficus benghalensis, Ficus religiosa, Ficus glomerata, Ficus infectoria* of the family Moraceae and *Albizzia lebbeck* of Leguminosae mentioned in the ayurvedic text, Bhavaprakash Nigantu. For therapeutic purpose, all five barks are mixed in equal proportion and used. *Pancavalkal* has a very good antimicrobial activity. Vaginal tablets containing *pancavalkal* have been prepared and clinically tested for antifungal activity[1]. Ointments containing *pancavalkal* have also been prepared and are used to control bacterial infections in burn wounds[2]. The individual barks of the *pancavalkal* were studied phytochemically as well as for their pharmacological actions by various scientists but hardly any attempts have been made to find out which of the chemical constituents are responsible for the broad-spectrum antimicrobial activity of the drugs. This research paper deals with phytochemical examination of *pancavalkal* and attempts are made to detect which one of them possesses the highest antimicrobial activity.

Materials and methods

The barks of *F. benghalensis, F. religiosa, F. glomerata* and *A. lebbeck* were obtained as gift samples from M/s Zandu Pharmaceuticals

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works, Mumbai and that of *F. infectoria* from crude drug market at Kalbadevi, Mumbai. The authenticity of the barks was confirmed by studying the transverse sections and powders of the barks microscopically and comparing them with the available literature[3,4,5,6]. The barks were pulverized to 60#, mixed in equal proportion and stored in air tight containers at room temperature throughout the experimental work.

Preparation of the extract and its fractionation

About 250 g of the air-dried, powdered *pancavalkal* was extracted with methanol in a Soxhlet extractor. The extract was concentrated by distilling methanol at low pressure and then drying on a water-bath. The percentage of the total methanolic extract was found to be 14.74% w/w with respect to air-dried drug. The residue obtained by total methanolic extraction of *pancavalkal* was subjected to fractionation by extracting successively with different solvents viz. petroleum ether (60^{o} - 80^{o}) (5x15 ml), toluene (5x15ml), dichloromethane (5x15 ml), methanol (5x15 ml) and water (5x15 ml). The extracts thus obtained were concentrated by distilling off the solvents and evaporating to dryness on water bath. The % w/w of the extracts with respect to air dried drug is given in Table I.

Table I. % w/w Extractive of the fractions.

Name of the Fraction	% w/w
Petroleum ether fraction (PEF)	3.40
Toluene fraction (TE)	1.45
Dichloromethane fraction (DCMF)	1.14
Methanol fraction (MF)	66.38
Water fraction (WF)	35.04

Phytochemical screening of the fractions

The preliminary phytochemical screening was carried out on each fraction by performing various qualitative chemical tests for alkaloids, glycosides, carbohydrates, flavonoids, sterols, fixed oils & fats, saponins, tannins, proteins and free amino acids, mucilage and volatile oils[7]. All the reagents and chemicals used were of analar grade. The observations are given in Table II.

Determination of antimicrobial activity of each fraction

The antimicrobial activity of the fractions was tested against *Staphylococcus aureus, Staphylococcus epidermidis* (Gram-positive organisms), *Escherichia coli, Proteus vulgaris, Pseudomonas aeruginosa* (Gram-negative organisms) and *Candida albicans* (fungus) by cup-plate method. Identity and purity of the cultures was tested by microscopical examination and biochemical reactions.

The test culture of the micro-organism was prepared by inoculating a loopful of the organism from the agar slant in 10 ml of sterile normal saline.

The test solutions were prepared in the concentration of 1%, 2% and 3% w/v in N, N-dimethylformamide.0.25% w/v solution of Rifampicin, prepared in N, N-dimethylformmaide was used as a standard for Gram-positive and Gram-negative bacteria whereas 0.5% w/v solution of Clotrimazole, prepared in N, N-dimethylformamide was used as standard for fungal culture.

All the glassware was sterilized by dry heat

Table II. Phytochemical screening of the fractions.

	PEF	TF	DCMF	MF	WF
Alkaloids	-	-	-	-	-
Carbohydrates	-	-		+	+
Cardiac glycosides	-	-	-	+	+
Anthraquinone glycosides	-	-	-	+	+
Sterols	+	+	-	+	
Fixed oils/Fats	-	-	-	-	
Saponins	-	-	-	-	-
Tannins	-	-	-	+	+
Proteins/Amino acids	-	-	-	-	-
Gums/Mucilages	-	-	-	-	-

sterilization. Nutrient agar and Sabourand's agar of Hi-Media Lab. Pvt. Ltd., was used for the preparation of the media. The media and the normal saline were sterilized by autoclaving at 25 lbs pressure for 20 min.

For testing the antimicrobial activity[8], agar plates inoculated with respective micro-organisms were prepared and cylinders were bored in the inoculated medium with sterile cork borer to give a cup of 6 mm diameter. A uniform volume of test solution was added in each cylinder. All the operations were carried out under aseptic conditions of laminar flow area.

The petriplates were incubated at 37° C for bacterial cultures and at 20° C for fungal cultures. The zone of inhibition was measured at the end of 24 hr. incubation. A negative control was carried out for N, N-dimethylformamide. The average diameter of zone of inhibition in mm (average of three experiments) is represented in Table III.

Isolation of the plant constituents

The results of antimicrobial activity of each fraction of the total methanolic extract of *pancavalkal* showed that amongst all, the methanol fraction and water fraction had the best antimicrobial activity. Phytochemical screening of these fractions revealed mainly the presence of glycosides, tannins and phytosterols. To find out which of these phytoconstituents are responsible for the antimicrobial activity, it was necessary to isolate them and determine their activity.

The glycosides were isolated by Stass and Otto method as described by T.D. Turner[9]. The total glycosides found by this method was 4.1% w/w. Tannins were isolated by procedure described by A.H. Israili[10]. The total tannins was found to be 3.3% w/w. The phytosterols were isolated as per the procedure given in Indian Pharmacopoeia for separation of unsaponifiable matter[11]. They were present to the extent of 0.56% w/w.

Table III. Antimicrobial activity of different fractions (Diameter of zone of inhibition in mm)

Test organism		S.a.	S.e	E.c.	P.v.	P.a.	C.a.
PEF	1%	10.3	10.0	10.0	11.0	10.0	10.0
	2%	11.6	11.6	10.6	13.0	11.6	10.8
	3%	12.6	12.3	11.0	15.0	13.3	11.7
TF	1%	10.3	10.3	10.0	12.6	10.3	10.2
	2%	12.0	11.6	12.3	13.6	11.3	11.1
	3%	13.0	12.0	13.6	15.3	13.0	11.8
DCMF	1%	11.6	10.3	10.1	13.0	10.6	10.1
	2%	13.3	11.6	11.6	14.3	12.3	10.9
	3%	15.6	12.0	12.6	15.6	15.3	11.6
MF	1%	11.6	11.3	13.6	14.0	13.6	12.1
	2%	14.6	12.6	14.6	15.6	15.3	13.3
	3%	16.3	14.6	16.3	18.3	18.3	14.2
WF	1%	15.6	10.6	12.3	16.3	14.3	13.4
	2%	18.0	12.3	13.3	18.0	16.3	14.5
	3%	20.3	13.3	15.0	21.3	18.6	16.9
STD		19.3	15.1	15.6	19.5	17.6	-
1: Rifampicin (0.25%) 2: Clotrimazole (0.5%)		-	-	-	-	-	15.1

S.a : *Staphylococcus aureus.*
S.e. : *Staphylococcus epidermidis.*
E.c.: *Escherichia coli.*
P.v. : *Proteus vulgaris.*
P.a. : *Pseudomonas aeruginosa.*
C.a.: *Candida albicans.*

Determination of antimicrobial activity of the isolated phytoconstituents

The glycosides, tannins and phytosterols isolated from the *pancavalkal* were tested for antimicrobial activity by cup-plate method as described earlier against the same microorganisms and the saturated solutions of the glycosides, tannins and phytosterols were made in N, N-diemthylformamide. The average diameter of the zone of inhibition is given in Table IV.

Table IV. Antimicrobial activity of the phytoconstituents. (Diameter of zone of inhibition in mm)

Test Organism	Glycosides	Tannins	Sterols
E.c.	11.5	13.0	10.0
P.v.	15.0	18.0	12.0
P.a.	13.0	15.0	11.0
S.e.	12.0	14.0	11.0
S.a.	12.0	16.0	10.0
C.a.	14.0	16.0	11.6

Results and discussions

From the study it was clear that mainly petroleum ether, methanol and water extracts of *pancavalkal* showed good, graded antimicrobial activity against the test micro-organisms. Hence phytoconstituents present in these extracts viz. phytosterols, glycosides and tannins were isolated by chemical methods and tested for their antimicrobial activity. It was observed that all the three constituents showed antibacterial activity against all the micro-organisms tested. Tannins were more active than phytosterols and glycosides. Hence it can be concluded that the main constituent responsible for the antimicrobial activity was tannins. At the same time, methanol and water fractions showed the maximum activity and therefore there can be synergistic effect of phytoconstituents from all sources.

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 226 - 230

A STUDY ON THE EFFECT OF *YOGA* IN GLUCOSE TOLERANCE ABILITY OF NIDDM PATIENTS

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Abstract: Seven patients (male and female) belonging to an age group of 25–55 years having NIDDM were selected from the OP department of Vaidyaratnam P.S. Varier Ayurveda College, Kottakkal and admitted in the hospital. Glucose Tolerance Test (GTT) was conducted in all the patients. Eight days training based on the integrated approach of yoga therapy techniques was given to the patients. After the discharge, patients were asked to follow the yoga practices. After 6 months, again GTT was done in all the patients and comparison of initial and final readings revealed that *yoga* therapy helped to reduce GTT curve pattern.

Introduction

In the present era Diabetes mellitus is neither a dreaded disease nor a killer disease. A diabetic can live a long active life, if he follows a strict diet and drug regimen. Many effective drugs and therapies are mentioned in the management of this disease. After the discovery of insulin in 1922 by Banting and Best, death due to diabetic coma was reduced considerably. This improved the quality of life of many diabetic patients.

In India 1.2% of the rural population and 2.4% of the urban population have diabetes[1]. Among this, 80 - 90% have NIDDM (Non-insulin Dependent Diabetis mellitus) and the rest of them are suffering from IDDM[1] (Insulin Dependent Diabetis mellitus). Even-though the knowledge of Diabetes mellitus is available from vedic texts, the search for a permanent remedy is still continuing. Most of the drugs used in diabetes have some side effects on continuous use. *Yoga* therapy has been believed to be useful in controlling diabetes for a long time.

Diabetes mellitus – *yoga* perspective

According to *yogavasista*, diseases are classified into *adhija* and *anadhija* (diseases born out of stress is called *adhija*, whereas disease which is born due to other causes is called *anadhija*). When hereditary factors are

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involved, it is classified as *sara* under *adhijavikara*. When psychological problems lead to disease, then they are grouped as *samanya* (common) diseases. When we consider the aetiopathology of Diabetes mellitus, all the above causes are involved in the manifestation of the disease. *Anadhija prameha* occurs due to surgery, infection, trauma, chemicals and drugs. *Anadhija prameha* affect *annamayakosa* (physical sheath) initially. Due to prolonged stress and strain *manomayakosa* (mental sheath) become disturbed, causes imbalance at *pranamayakosa* (energy sheath) and gradually affects *annamayakosa*. At *annamayakosa* level, endocrine system becomes hyperactive or inhibited. As the situation continues, the organ gets damaged. Sometimes stress and strain may affect the function of immune system, causing auto immune response. Such reactions may also damage the pancreas and cause diabetes. According to *yoga*, auto immune response is an imbalance at *vijnanamayakosa* (intellectual sheath). Hereditary causes are also seen in diabetes. *Anandamayakosa* (spiritual sheath) is affected in this case.

While suggesting treatment, different phases of the disease are also to be considered. In the pre-diabetic phase or psychic phase, imbalance of *vijnanamayakosa* and *manomayakosa* are to be focussed more. In suspected Diabetes mellitus (psychosomatic phase) *pranamayakosa* and *manomayakosa* are to be corrected. Whereas in chemical diabetes (somatic phase), *pranamayakosa* and *annamayakosa* are more involved. In the last phase of diabetes i.e., overt diabetes (organic phase) *annamayakosa* is very much affected. Different *yoga* practices like, *sudhikriya, asana, pranayama,* meditation, *yogic* counselling and diet control can be judiciously applied in the different phases of the disease (Table I).

Our present effort is to evaluate the efficacy of the integrated approach of *yoga* therapy in

Table I.

Kosa	Cause	Treatment
Annamayakosa	*Anadhija*	*Sankha praksalana, Asana,* Physical exercise, Diet control
Pranamayakosa	*Samana agnivikrti*	*Pranayama, Asana Sankha praksalana*
Manomayakosa	*Samanya* (Stress & Anxiety)	*Pranayama, Asana* Meditation, Psycho therapy
Vijnanamaya	Auto immune response	Psychotherapy, *Pranayama* Meditation, *Asana*
Anandamaya	*Sara* (hereditary)	Meditation, Pranayama + *sad karma*

Diabetes mellitus. A six-month study has been done with GTT (Glucose Tolerance Test) as the main parameter.

Subjects and method

7 patients in the age group of 25 - 55 from both sexes (male and female) were selected for this study from the OP department of Vaidyaratnam P.S. Varier Ayurveda College, Kottakkal. Only known NIDDM patients were included in the study. Patients having complications like coma, infections, pyelo nephritis, postural hypotension, hypertension, heart diseases and gangrene were excluded from the study.

The GTT value was the criteria for this study[2]. GTT was done in all the patients before the treatment. *Yoga* training was given for a period of eight days. Integrated approach of *yoga* therapy developed by Vivekananda kendra, Bangalore[3] was used for the training. A daily schedule of *yoga* practice including basic sets of *asana*, *pranayama*, special techniques and cyclic meditation were taught during the camp. *Sankha praksalanakriya*[4] was taught on the fourth day. Detailed theory classes were given about *yoga*, diabetes and diet. A low caloric vegetarian diet[5] was given for the patients. At the time of discharge, advices were given for one and half hour daily *yoga* practice and low caloric diet. The patients were permitted to continue medicines they were using. Strict instructions were given not to increase or add medicines during the period of study. Monthly follow-ups were conducted to monitor the regularity of practice. At the end of the sixth month GTT were repeated.

Results

The values of GTT results were available on the day of admission and at the end of the sixth month. These were taken for assessment. Values of GTT on admission are given in Table II. Values of GTT at the end of six month is given in Table III. Difference between the mean is given in the table IV and in the graph.

Table II. showing GTT values on admission mg %

No.	Fasting	After $^1/_2$ hr.	After 1 hr.	After 2 hrs.
1	249	315	357	302
2	137	234	300	375
3	127	160	194	133
4	68	150	200	180
5	115	185	231	177
6	85	138	185	173
7	133	220	307	280

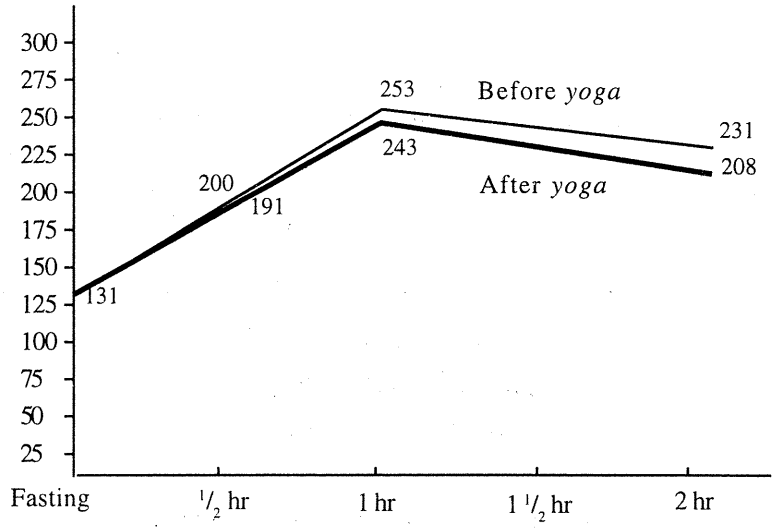
Table III. showing GTT values after six months

No.	Fasting	After $^1/_2$ hr.	After 1 hr.	After 2 hrs.
1	235	324	339	295
2	66	87	178	252
3	126	178	209	148
4	120	202	270	150
5	109	178	213	174
6	130	160	240	205
7	132	206	250	229

Table IV. showing the difference between the mean

	Fasting	After $^1/_2$ hr.	After 1 hr.	After 2 hrs.
Before yoga	131	200	253	231
After yoga	131	191	243	208

Graph showing difference in mean GT curve before and after *yoga*



Discussion and conclusion

The GTT curve before and after *yoga* therapy shows a prominent difference. This may be an indication that *yoga* treatment causes an increase in the production of insulin after the ingestion of glucose. Most of the patients were able to reduce their medicines without a hike in the blood sugar level.

However, since the sample size was small, more studies are required to establish the reliability of the study. More biochemical studies are to be done for analysing the mechanism which helped the reduction in GTT. A control group is also essential for a comparison with *yoga* therapy group.

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 231 - 233

CONTRACEPTIVE EFFICACY OF NEEM LEAVES (*AZADIRACHTA INDICA* A. JUSS) IN MALE RATS

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Abstract: Subcutaneous treatment of 50% extract of Neem leaves (*Azadirachta indica*) to male rats at the dose of 20 mg for 30 days caused arrest of spermatogenesis. The diameter of seminiferous tubule and Leydig cell nuclei were significantly reduced ($P \leq 0.001$). Sperm motility and density were significantly reduced. Reduced protein, sialic acid and fructose content manifested the arrest of spermatogenesis and depletion of androgen level.

Introduction

Search for natural dietary methods for controlling population is of current interest. *Azadirachta indica* commonly known as Neem belongs to the family Meliaceae. Almost all parts of Neem tree are used for medicinal purposes[1]. Different parts of Neem tree are known to contain over 34 bitter principles[2].

The present work is aimed to assess the anti-fertility potential of Neem leaves (50% EtOH) extract in male albino rats with a view to develop a contraceptive of plant origin for human male.

Material and methods

20 mature albino rats weighing 190-200 g were used. They were maintained on rat feed and water *ad libitum*. They were divided into two groups. Gr-B received Neem leaves (50% EtOH) extract at the dose of 20 mg subcutaneously for 30 days, whereas Gr-A served as control.

The animals were kept for fertility test from 25th day to 30th day with cyclic female (1:3) and sacrificed after 24 hrs. of the last treatment by using ether anaesthesia. The sperm motility and density were assessed in the testes and cauda epididymides[3]. Testes, epididymides and seminal vesicle were fixed in Bouin's fluid for block preparation. Tissues were analysed biochemically for protein[4], sialic acid[5] and fructose[6].

Histometry was carried out for seminiferous

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tubule and Leydig cell nuclei diameter with the help of Camera lucida at x80 and x800. The data were reported as mean ± SEM. The significance was observed by applying student's "t" test.

Results

Subcutaneous administration of Neem leaves caused significant reduction ($P \leq 0.001$) in seminiferous tubule and Leydig cell nuclear diameter. Sperm motility and density in testes and cauda epididymides declined significantly ($P \leq 0.001$, Table I). Biochemical analysis showed a reduction in the protein and sialic acid contents in the testes and accessory sex organs. Fructose concentration of seminal vesicle was significantly reduced in Neem leaves-treated rats (Table II).

Table I. Histometrical parameter, fertility test and sperm dynamics of Neem leaves treated intact rats (Mean of 5 animals ± SEM)

Treatment	Sperm density (million / ml)		Sperm Motility %	Fertility Test %	Seminiferous nuclei diameter (μm)	Leydig cell nuclear diameter (μm)
	Testes	Cauda				
Intact (control) (Gr.-A)	3.91 ± 0.17	59.62 ± 2.62	76.4 ± 4.6	90(+)	292.52 ± 2.63	5.32 ± 0.41
Intact + Neem leaves for 30 days (Gr.-B)	0.79[c] ± 0.06	11.12[c] ± 0.05	5.06[c] ± 0.06	100 (-)	182.2[c] ± 2.6	2.12[c] ± 0.06

[c]$P \leq 0.001$ (Highly significant) Gr.-B compared with Gr.-A

Table II. Tissue Biochemistry of Neem leaves treated rats (Mean of 10 animals ± SEM)

Treatment	Fructose (mg/g) Seminal vesicle	Protein (mg/g)			Sialic acid (mg/g)		
		Testes	Cauda	Seminal Vesicle	Testes	Cauda	Seminal Vesicle
Intact (control) (Gr.-A)	4.6 ±0.13	210 ±7.6	189.3 ±8.32	180.2 ±5.31	4.73 ±0.16	4.32 ±0.25	5.9 ±0.31
Intact + Neem leaves for 30 days (Gr.-B)	2.82[c] ±0.05	89.76[c] ±0.72	130.1[b] ±0.26	132.59[c] ±0.29	1.46[c] ±0.21	2.76[b] ±0.03	1.32[c] ±0.07

[b]$P \leq 0.01$ (Significant) Gr.-B compared with Gr.-A

[c]$P \leq 0.001$ (Highly significant)

Discussion

The reduced testicular seminiferous tubule diameter and Leydig cell nuclear diameter in the present study reflect wide spread cellular damages and androgen imbalance[7,8]. Significantly reduction in the sperm motility of cauda epididymides was observed in Neem leaves treated rats. This may be due to inhibitory effects of Neem leaves on the enzyme of oxidative phosphorylation[9].

In the present findings the various androgen dependent parameters i.e. protein, sialic acid and vesicular fructose reveal a significant decrease in circulating androgen levels. All these parameters are mainly based on androgen[10]. In conclusion, Neem leaves (50% EtOH) extract showed its anti-fertility effects via affecting Leydig cell function. Further work is in progress.

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 234 - 236

GARGLING WITH *TILA TAILAM* (SESAME OIL)*

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Abstract : These days gargling (*gandusadharanam* and *kabalagraham*) has become a popular health exercise in Andhrapradesh. *Gandusadharanam* and *kabalagraham* have been described in detail in ayurvedic texts. A number of diseases of neck, mouth and head can be cured by this practice. This paper presents the details of this practice as it is described in the ayurvedic texts.

Introduction

Gandusadharanam and *kabalagraham* are ancient health practices, part of *dinacarya* in ayurveda. In *gandusadharanam* liquid material is filled in the mouth to its maximum capacity and kept still. In *kabalagraham* the mouth is filled partially and the liquid is rolled[1]. Gargling with *tila tailam* has become very popular since last two or three years in Andhrapradesh and is considered as a panacea.

Materials for *gandusadharanam / kabalagraham*

Several materials have been suggested for this practice, such as sesame oil, *mamsarasa* [*kasaya* (decoction) of meat], honey, milk, ghee, water, warm water, sugarcane juice, cow's urine, tender coconut water, wine, fermented rice water with/without salt, *suktam* (a fermented medicated liquid), *ksarodakam* (alkaline water) and various *kasaya* (decoctions). Out of these, *tila tailam* (sesame oil) and *mamsarasa* are said to be the most beneficial[2] for daily use.

Characteristics of *Tila tailam*

Tila taila reduces *vata* and *kapha*. It gives good colour to skin, improves eye sight, destroys worms, relieves uterine pain, controls excessive urination, builds muscles and heals ulcers, cuts, wounds and fractures. It is an antidote for poisonous bites and stings[3].

Recent researches have demonstrated that sesame oil has anti-cancerous properties and can prevent cancerous growth and proliferation because it contains greater amounts of linoleates in triglycerides. Other oils such as coconut oil, olive oil and mineral oils do not have this property as they do not contain sufficient linoleates in triglycerides[4].

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Indications

It is indicated in diseases of the neck, head, ear, oral cavity, eye, throat, nose and in conditions of excessive salivation, dryness of mouth, nausea and vomiting, chronic drowsiness and loss of appetite[5]. These cover a wide range of maladies[6]. They are listed below.

Diseases of lips

Vatika ostam and *khandostam* (cracked lip), *paittika ostaprakopam* (herpes labialis – simplex, aphthous ulcer), *kaphaja ostaprakopam* (herpes labialis), *sannipatika ostaprakopam*, *raktadusta ostaprakopam* (lip granuloma), *medodusta ostaprakopam* (macrochelia, hypertrophy of the lip), *mamsadusta ostaprakopam* (epithelioma of the lips), *abhighataja ostaprakopam* (harelip), *jalarbudam* (cyst in the lip), *gandaroga – gandalaji* (cellulitis of the cheek).

Diseases of gums

Sitadam (spongy gums or bleeding gums), *dantapupputam* (gingivitis, gum boil, alveolar apical abscess), *dantavestakam* (pyorrhoea alveolaris), *upakusa* (pyorrhoea alveolaris/ stomatitis), *danta vaidarbha* (allergic gums), *vardhana, khali vardhana, adhidantam* (extra tooth), *adhimamsa* (impacted wisdom tooth), *sausiram* (apical abscess or chronic gingivitis), *maha sausiram* (cancrum oris), *paridaram* (gangrenous stomatitis), *danta nadi* (sinus of gums).

Diseases of tooth

Dhalanam (toothache or odontina or cracked tooth), *dantaharsam* (odontitis due to exposed nerve, carious tooth), *danta sarkara* (tartar), *kapalika* (enamel separation), *bhanjanakam* (cracked / fissured tooth), *krmidantakam* (dental caries), *syavadantam* (black tooth), *hanumoksam* (dislocation of jaw-mandible), *karalam* (ill-formed teeth), *dantacala* (loose tooth), *dantavidradhi* (gumboil / alveolar abscess) *dantasula* (toothache).

Diseases of tongue

Vatika jihvakantakam (chronic glossitis), *paittika jihvakantakam* (acute superficial glossitis, red glazed tongue), *slaismika jihvakantakam* (chronic leukoplakia, superficial glossitis), *alasa* (sublingual infected dermal cyst, abscess or cancer) *upajihva / adhijihva / upajihvika* (ranula).

Diseases of palate

Galasundhika / kantasundhika (elongated uvula, uvulitis), *tundikeri* (tonsillitis, palatitis), *adhrusa* (palatitis, tonsillitis), *kacchapa – talu kacchapa* (adenoma of palate), *arbuda* (epithelioma / cancer / tumour of palate), *mamsaghatam* (fibroma / adenoma of the palate), *talupupputa* (epulis / fibroma / cystic swelling), *talusosa* (constitutional diseases of cleft palate), *talupaka* (ulceration of the palate).

Diseases of throat

Rohini (diphtheria), *kantasulakam* (adenoids / nasopharyngeal tonsil), *adhijihvika* (epiglottitis), *valaya* (benign / malignant tumour in the throat), *valasam* (tumour in the throat / larynx / pharynx), *ekavrndam, vrndam, cilayu* (benign growth or cyst), *galavidradhi* (retropharyngeal or peritonsillar abscess), *gatagham* (retro pharyngeal abscess), *svaragnam* (tuberculosis / cancer of larynx or paralysis of larynx), *mamsatanam* (cellulitis or cancer of throat), *vidari* (gangrenous stomatitis / retropharyngeal abscess), *galarbudam* (benign throat tumour), *galagandam / sarvamukharoga/*

sarvamukhapakam (stomatitis), *urdhvagudam, putivakrata.*

Diseases of head

Kaphaja sirorogam (headache due to cold, sinusitis), *suryavartam / bhaskaravartam / sankha suryavartam* (frontal sinusitis / migraine), *anantavatam* (trigeminal neuralgia / migraine), *ardhavabhedakam* (hemicrania, migraine, glaucoma), *sankhaka rogam* (lateral sinus thrombosis, mastoid abscess, encephalitis).

Diseases of nose

Pakva pratisyayam, paittika and *raktaja pratisyayam, sannipatika pratisyayam.*

Diseases of ear

Slesmaja karnasula (chronic otitis media).

Contra indications

Gandusadharanam and *kabalagraham* are contraindicated[7] in fever, acute eye disorders, diarrhoea, jaw disorders and pregnancy.

Procedure

Gargling is done in shade protected from wind. At first massage the face, shoulders and neck with sesame oil and then give fomentation. Then take the oil in the mouth, close the lips, raise the head slightly and gargle the oil in the mouth for the prescribed duration. After the prescribed duration spit out the oil and clean the mouth with warm water. Talking is not allowed for a few minutes immediately after the procedure. Filling the mouth with half its capacity is considered as the most beneficial, one-third capacity as moderately beneficial and one-forth capacity as minimally beneficial[8].

Gargling is done till the mouth is full with saliva or nasal discharge begins or the eyes are filled with tear[9] or until the forehead, throat and cheek start perspiring. It is done once, thrice or five times a day for as many days as necessary[10]. Healthy people may gargle once a day throughout their life. The best time for gargling is between 6 am and 7.30 am[11]. It can be administered from the age of five[12].

Results

Proper gargling with sesame oil for the prescribed time results in lightness and freshness of mouth, relief from the diseases and alertness of senses. If performed for a lesser duration heaviness of body, *kaphotklesam* and loss of taste may occur. If it is done for more than the prescribed duration, inflammation of mouth, dryness of mouth, excessive thirst and loss of taste may follow[13].

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 237 - 241

EXPERIMENTAL ANTINOCICEPTIVE STUDIES ON *ERAND* (*RICINUS COMMUNIS* LINN.)

*** Pandey, P.S. and Pandey, D.N.**

Abstract: The management of pain has been a challenge since the birth of human being. Many experimental researches have been done so far on various synthetic and semi-synthetic analgesic drugs. But none of these are devoid of untoward effects. In view of these facts, a search was made in the texts of ayurveda where a large number of drugs have been mentioned for the management of pain. The present study was performed on albino rats and mice to evaluate the efficacy of an indigenous drug *erand* (*Ricinus communis* Linn.) as an analgesic.

Introduction

In recent years, many attempts have been made to find out a narcotic or a non-narcotic analgesic that would not cause respiratory depression and addiction as an alternative to morphine. In ayurvedic literature plenty of drugs viz. *rasna, bhrngaraja, rasona, mucukunda, erandamula, tagara, nirgundi, medasaka,* etc. have been mentioned possessing these properties. Among them the drug *eranda* (*Ricinus communis,* Family: Euphorbiaceae) was selected for the present experimental study.

Materials and methods

The experiments have been conducted on adult healthy Wister strain albino rats weighing between 150 - 200 gm for tail-flick method, 50 - 60 gm for hotplate method and on albino mice weighing between 25 - 30 gm of either sex for Writhing test. The animals were divided into six groups with six animals in each group and the study was carried out on the following parameters:

1. Rat tail hot wire technique, described by Davis et. al. (1946) using a techno-analgesiometer.
2. The hot-plate method of Eddy and Leimbach (1953)
3. Writhing test of mice (Witkin et. al., 1961)

Alcoholic extract of root bark of *Ricinus communis* was prepared by soxhlet extraction apparatus, after drying over hot water bath, the yield of alcoholic extract was 10%. Alcoholic extract of *Ricinus communis* was prepared as follows:

(a) Prepared 0.5% W/V of sodium carboxy methyl cellulose (NaCMC) suspension in freshly prepared distilled water. [Initially wetted the powder (NaCMC) with two drops of glycerine, triturated it and added 5 ml of distilled water, and then added small amount in increasing order while

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triturating.]

(b) After preparing the suspension, added the desired amount of drug i.e. alcoholic extract of the drug to it and triturated followed by stirring for 1 hour to make a homogenous solution.

(c) Added 0.1% (0.1 mg in 100 ml) propyl paraben (preservative) to the suspension.

The studies were conducted by administering alcoholic extract of *Ricinus communis* intraperitoneally (i.p) one day prior to the experiment and on the day of experiment. In Writhing test it was given orally.

Results and discussion

Observations were made for the antinociceptive activity of *Ricinus communis*, on the following parameters:

(a) Effect on morphine induced analgesia

(i) The analgesic activity of the indigenous drug and effect on morphine induced analgesia were observed by using tail-flick method.

(ii) Different doses of indigenous drug were used to study the analgesic activity and effect on morphine induced analgesia, observed by using hotplate method.

(b) Effect on aspirin induced analgesia

Different doses of *eranda* were used orally to evaluate the analgesic activity and effect on aspirin (orally) induced analgesia by using Writhing test in albino mice.

It is obvious from Table I that *Ricinus communis* in the dose of 50 mg/kg did not show any significant tail-flick response during the

Table I. Showing antinociceptive activity of *Ricinus communis* in different doses using tail-flick method.

Gp. No.	Group (n=6)	Mean Latent Period of tail-flick Response (sec.) ± s.e				
		Initial	After 15 min.	After 30 min.	After 45 min.	After 60 min.
1.	Control (Vehicle)	4.66 ± 0.09	4.98 ± 0.98	5.45 ±1.22	5.92 ± 1.22	4.79 ± 0.88
2.	*R. communis* (50 mg/kg)	4.53 ± 0.79	5.02 ± 0.95	5.56 ±1.00	5.97 ± 0.98	5.06 ± 0.73
3.	*R. communis* (100 mg/kg)	5.35 ± 1.97	5.49 ± 0.98	6.43 ±0.34	10.45 + 0.98*	6.55 ± 0.67
4.	*R. communis* (200 mg/kg)	5.45 ± 1.27	5.52 ± 0.63	7.36 ±0.39	11.36 ± 0.87*	6.70 ± 0.91
5.	Morphine (1.5 mg/kg)	4.42 ± 0.79	15.18 ± 1.67**	17.33 ±1.44**	10.38 ± 0.59*	5.86 ± 0.94
6.	*R. communis* (200 mg/kg) + Morphine (1.5 mg/kg)	4.33 ± 0.96	16.22 ± 0.98**	18.23 ±1.44**	13.41 ± 1.22*	7.22 ± 0.83

* Significant ($P < 0.05$); ** highly significant ($P < 0.001$); values without superscripts are insignificant.

whole observations, whereas it was significant only in the dose of 200 mg/kg after 45 minutes. *Ricinus communis* in the dose of 50 mg/kg and 100 mg/kg did not show any significant response during the whole observation (Table II). The response was significant in the dose of 200 mg/kg in the hot-plate technique, after 45 minutes of observation (Table II). The potentiation of morphine induced analgesia with *Ricinus communis* in the dose of 200 mg/kg was observed significant statistically after 45 minutes. In the dose of 200 mg/kg, it was significant even after 60 minutes in comparison with the group given morphine only.

It is obvious from Table III that the trial drug *Ricinus communis* in the doses of 50 mg/kg and 100 mg/kg did not show any significant inhibition on Writhings, whereas it was significantly inhibited in the dose of 200 mg/kg. The potentiation of aspirin (165 mg/kg) induced analgesia with the trial drug in the dose of 200 mg/kg was statistically insignificant (Table III).

The antinociceptive effect of *erand* may be due to either central or peripheral action. It would be difficult to give an explanation in terms of the neurotransmitters involved, since practically every known neurotransmitter, opoid and non-opoid are involved in antinociception.

Table II. Showing antinociceptive activity of *Ricinus communis* in rats in different doses using hot-plate method.

G.P. No.	Group (n=6)	Mean Reaction Time (sec.) ± s.e				
		Initial	After 15 min.	After 30 min.	After 45 min.	After 60 min.
1.	Control (Vehicle)	3.27 ± 1.22	1.38 ± 0.03	1.13 ±0.19	0.81 ± 0.29	0.57 ± 0.46
2.	*R. communis* (50 mg/kg)	3.51 ± 0.98	1.52 ± 0.31	1.18 ±0.21	0.94 ± 0.30	0.59 ± 0.37
3.	*R. communis* (100 mg/kg)	3.28 ± 0.43	1.60 ± 0.38	1.78 ±0.48	1.03 ± 0.42	0.79 ± 0.23
4.	*R. communis* (200 mg/kg)	3.04 ± 0.92	1.52 ± 0.29	1.83 ±0.12*	1.71 ± 0.20*	1.20 ± 0.22
5.	Morphine (1.5 mg/kg)	3.36 ± 0.89	1.72 ± 0.17	2.01 ±0.20*	1.96 ± 0.11*	1.42 ± 0.13
6.	*R. communis* (200 mg/kg) + Morphine (1.5 mg/kg)	4.02 ± 1.28	2.01 ± 0.13	1.98 ±0.09*	1.85 ± 0.23*	1.79 ± 0.13*

* Significant ($P < 0.05$); **highly significant ($P < 0.001$); values without superscripts are insignificant.

Table III. Showing effect of *Ricinus communis* in different doses on Writhing test in albino mice.

Gp. No.	Group (n=6)	Number of Wriths/30 minutes	
		Mean	± s.e.
1.	Control (Vehicle)	71.16	3.89
2.	*R. communis* (50 mg/kg)	69.66	3.23
3.	*R. communis* (100 mg/kg)	64.37	2.92
4.	*R. communis* (200 mg/kg)	60.21	2.46*
5.	Aspirin (165 mg/kg)	34.07	2.17**
6.	*R. communis* (200 mg/kg) + Aspirin (1.5 mg/kg)	32.11	3.09**

* Significant ($P < 0.05$); ** highly significant ($P < 0.001$); values without superscripts are insignificant.

Conclusion

1. Alcoholic extract of *Ricinus communis* has got significant antinociceptive effect in dose of 200 mg/kg.

2. Alcoholic extract of *Ricinus communis* did not show any marked potentiation of antinociceptive effect of morphine, when tested against the radiant heat in doses of 200 mg/kg.

3. Alcoholic extract of *Ricinus communis,* did not show any significant potentiation of the aspirin induced analgesia, using Writhing test in the dose of 200 mg/kg.

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Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 242 - 247

EXCERPTS FROM CIKITSAMANJARI - XXIX

Unnikrishnan, P.*

Abstract: Here the discussion is on the management of *agnidusti* like *ajirna*, *visucika* and *atyagni*. Classification of *ajirna*, various stages of *visucika* and *atyagni* and a number of preparations suitable for these conditions is also described.

TREATMENT OF *AJIRNA*

1. *Ajirna* caused by vitiated *kapha*, *vata* and *pitta* are termed *ama*, *vistabdha* and *vidagdha* respectively. *Ama* is treated by *lamghana* (fasting), *vistabdha* by *svedana* (sudation) and *vidagdha* by *vamana* (emesis).

2. In the initial stage, *lamghana* is done as a result of which *anulomana* (proper functioning of *vata*) is attained. Afterwards *ainkoladi kvatha* and / or *peyadi* and *kanalkari* (drugs capable of flaring up *agni*) are to be given.

A medicated gruel prepared with the following drugs, when consumed eases indigestion.

Hrasvapancamula

Brhatidvayam	*Solanum anguivi* *Solanum surattense*
Amsumatidvayam	*Desmodium gangeticum* *Pseudarthria viscida*
Goksura	*Tribulus terrestris*
Valiya kadaladi	*Achyranthes aspera*
Cukku	*Zingiber officinale* (dry)

3. Castor oil medicated with the following on consumption relieves *vata*, stabilises *agni* and gets rid of *alasya* (lethargy).

Citra	*Ricinus communis*
Ratri	*Curcuma longa*
Trvrt	*Operculina turpethum*

This preparation is purgative.

4. A medicated ghee prepared from the following consumed in the morning promotes *agni* (increases digestion).

Drava

Milk

Kati First washing of rice

Kalka

*Aksamsa*** each of -

Trikatu

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** Approx. 15 g

Sunthi	*Zingiber officinale* (dry)
Marica	*Piper nigrum*
Pippali	*Piper longum*

Muppazham

Abhaya	*Terminalia chebula*
Amalaki	*Phyllanthus emblica*
Vibhitaki	*Terminalia bellirica*

Sneha

Ghee 8 *pala*

Ghee prepared with the above *kalka* and expressed juice of *dadima* (*Punica granatum*) will yield the same result.

5. A *kasaya* prepared from the following taken along with powdered *patu* (rock salt) and *kanaparagam* (Powder of *Piper longum*) cures *cuma* (cough), *pani* (fever), *novu* (pain), *agnimandya* (indigestion) and *gudankura* (piles).

Vazhutina	*Solanum anguivi*
Vanatippali	*Piper longum* (wild var.)
Munna	*Premna corymbosa*
Nagaraka	*Zingiber officinale* (dry)
Cintil	*Tinospora cordifolia*
Mayurakam	*Achyranthes aspera*

This preparation cures *grahani* also.

6. In patients who suffer from frequent bouts of indigestion, which result in imperfectly formed stools, (containing semi-digested food), ghee medicated with *kanalkari* (capable of flaring up *agni*) drugs is effective. The ghee should be consumed early morning.

7. Medicate ghee with *kasaya* prepared from *kotuveli* (*Plumbago indica)* and milk as *drava* and *kotuveli* as *kalka* taken early in the morning digests *ama* and promotes *agni*.

The following medicated ghee should be consumed in small doses.

Kasaya prepared from *cukku* [Zingiber *officinale* (dry)] or expressed juice of *inci* [*Zingiber officinale* (fresh)] as *drava, kattutippali* (*Piper longum* wild var.) root as *kalka* and ghee as *sneha.*

8. Another medicated ghee capable of promoting *agni* which also solidifies foecal matter is given below.

Kasaya prepared from *Sunthi* [*Zingiber officinale* (dry)] and *grandhika* (*Piper longum* – root) and butter milk as *drava*, ghee as *sneha* and *pancakola* as *kalka.*

Pancakola

Pippali	*Piper longum*
Pippalimula	*Piper longum* (wild var.)
Cavya	*Piper brachystachyum*
Citraka	*Plumbago indica*
Nagara	*Zingiber officinale* (dry)

9. A *mukkuti* (*khala*) prepared from the following with *moru* (buttermilk) quickly cures *irumal* (cough), *ila* (*kaphaprasekam*) and *agnimandya* (decreased digestion). It cures *Gudajamayam* (piles) without *sastrakarma* (surgery), *ksarakarma* and *agnikarma.*

Induppu	Rock salt
Cukku	*Zingiber officinale* (dry)
Vanatippali	*Piper longum* (wild var.)
Katukka	*Terminalia chebula*

Hutabhugadi curna shall be mixed with

buttermilk and consumed. *Hingvastaka curna* mixed with ghee shall be taken at meal. *Induppu* (rock salt) mixed with butter shall be consumed in the evening.

10. A fine powder of the following mixed with buttermilk promotes agni and cures *arocaka* (anorexia).

Pathya	*Terminalia chebula*
Cukku	*Zingiber officinale* (dry)
Pippalimulam	*Piper longum* (wild var.)
Kotuveli	*Plumbago indica*
Dipyam	*Trachyspermum roxburghianum*
Krsna	*Piper longum*
Jirakayugma	*Cuminum cyminum* *Nigella sativa*
Marica	*Piper nigrum*

11. The following, all in equal quantities, finely powdered should be made to a *gulika* using *sarkkara* (sugar), which when taken flares *jatharagni*.

Nagara	*Zingiber officinale* (dry)
Pippali	*Piper longum*
Citra	*Ricinus communis*
Vidanga	*Embelia ribes* (seeds)
Putikaranja	*Holoptelea integrifolia* (bark)
Haritaki	*Terminalia chebula*

12. The following, finely powdered should be mixed with ghee and consumed daily. Termed *Vaisvanara* (fire), this preparation is capable of burning up an army of diseases; what then about food is to be said?

Vyosa

Sunthi	*Zingiber officinale*
Marica	*Piper nigrum*
Pippali	*Piper longum*
Ela	*Elettaria cardamomum* (seeds)
Hingu	*Ferula asafoetida*
Bharngi	*Clerodendrum serratum*
Vilalavana	Common salt
Yavaksara	Potassium chloride
Patha	*Cyclea peltata*
Yavani	*Trachyspermum roxburghianum*
Pincola	*Tamarindus indica* (bhasma of bark)
Ajaji	*Cuminum cyminum*
Cavyam	*Piper brachystachyum*
Dahana	*Plumbago indica*
Karikana	*Scindapsus officinalis*
Tvak	*Cinnamomum verum*
Patu	Rock salt
Grandhika	*Piper longum* (root)

Talisapatradicurna shall be consumed after food, *Vilvaleha* shall be taken. *Cirivilvapunarnavadi kasaya, Gandharvahastadi kasaya* or *Vilvadi kasaya* shall be taken in the evening depending upon the stage of the disease. When bowel movement is not satisfactory, *Gandharvahastadi* castor oil shall be added to *kasaya* as *mempoti* (*praksepa* – the medicine added to *kasaya* in small quantity just before consumption).

13. A *kasaya* is to be prepared from *kusmanda saka* (leaves of *Benincasa hispida*) to which a small quantity of *lavana* (rock salt) is to be added and consumed for the quick relief from *ajirna*.

TREATMENT OF *VISUCIKA*

1. Expressed juice of *cinca* (*Tamarindus indica*) leaves, mixed with *taila* shall be applied on the vertex. *Bhrmgamghri* (*Eclipta prostrata* - root) ground and made to a paste with water

is to be applied around the umbilicus. *Talamula* (*Borassus flabellifer* – root) shall be made into a paste with *jyesthambu* (layer formed over gruel) applied over the umbilicus in *visucika.*

2. In the presence of generalised burning and thirst, water shall be medicated with the following and used for the preparation of *lajapeya* (nocake gruel)

Nagara	*Zingiber officinale* (dry)
Bala	*Sida rhombifolia* ssp. *retusa*
Vilvamula	*Aegle marmelos* (root)

3. The patient shall drink *takra* (buttermilk), *dadhi* (curd), cold water or coconut water as a life saving measure in excessive diarrohoea.

4. *Parsni* (heel) should be subjected to *dahakarma* (burning with hot iron plate) in uncontrollable purging. The patient, thereafter should fast for the day. Later, the treatment for *virikta* (one who has undergone purgation) should be prescribed.

5. A *kasaya* or medicated water prepared from the following cures griping, thirst, fever and purgation accompanied by tenesmus.

Kalasaka	*Murraya koenigii*	6 parts
Vijaya	*Terminalia chebula*	4 parts
Mahausadha	*Zingiber officinale* (dry)	2 parts

6. In weakness, the patient should take finely powdered *sarpagandhika* (*Rauvolfia serpentina*) with warm water. If emesis and diarrohoea are present.....*

7. The abdominal region should be subjected to sudation with dry fried broken rice, bundled to a bolus. In severe *visucika*, *kalmatambu* (heel) shall be subjected to *dahakarma. Daha* shall also be done with hot *kizhi* (bolus) prepared with sand or dry bran.

8. The following should be crushed, put into water and reduced to half by boiling. Rice should be dry fried. The water and rice should be used to prepare gruel.

Plavilanetti	*Artocarpus heterophyllus* (leaf stalk)
Mavilanetti	*Mangifera indica* (leaf stalk)
Vilvam	*Aegle marmelos*
Malar	Nocake
Paccayirkil	*Cocos nucifera* (mid rib of the blade of coconut leaf)

9. The *kasaya* prepared from the following is also effective.

Amakeryirkil	*Cocos nucifera* (mid rib of the blade of coconut leaf)
Uluva	*Trigonella foenum – graecum* (seeds)
Visvam	*Zingiber officinale* (dry)
Malar	Nocake
Kuvalam	*Aegle marmelos*
Plavilanetti	*Artocarpus heterophyllus* (leaf stalk)

Tender mangoes, dried in the sun should be ground and mixed with buttermilk to which powdered *jiraka* (*Cuminum cyminum*) is to added and drunk.

10. Nocake gruel prepared from the following medicated water shall be taken in thirst, vertigo and threatened unconsciousness.

*The *sloka* is incomplete in the available edition

Nagara	*Zingiber officinale* (dry)
Balamula	*Sida rhombifolia* ssp. *retusa* (root)
Vilvamula	*Aegle marmelos* (root)

11. Coconut water mixed with powdered *vyosa* and honey cures thirst, generalised burning and *visucika* quickly.

Vyosa

Sunthi	*Zingiber officinale*
Marica	*Piper nigrum*
Pippali	*Piper longum*

Cetar neyyu (ghee) and water should be mixed together in a plate and consumed for the arrest of diarrohoea. This preparation is highly recommended in vitiated *pitta.*

12. *Muttari* (*Eleusine coracana*) ground to a paste with water shall be applied on the body frequently. Expressed juice from the tender shoots of *nara* (*Syzygium cumini*) mixed with coconut milk shall be consumed.

Kannivettila (*Piper betle* – tender leaves), leaves of *muringa* (*Moringa oleifera*) and *cukku* (*Zingiber officinale* – dry) ground and mixed with previously boiled lukewarm water cures *visucika.*

TREATMENT OF *ATYAGNI*

1. Hundreds of *dosa* can be vitiated and hundreds of diseases can cause suffering. The most important point is protection of *jatharagni* which is essential for the maintenance of life.

2. *Bala* (strength) of an individual is dependent on his *agni* and life is dependent on *agni.* The quintessence of treatment lies in the protection of *agni.**

Candana (*Santalum album*) ground to a paste with water, mixed with butter and taken cures *atyagni. Satavarigulam* shall be taken. Milk powder is also good. A *kasaya* prepared from the following shall also be consumed.

Trnapancamula

Darbha	*Desmostachya bipinnata*
Kasa	*Saccharum spontaneum*
Iksu	*Saccharum officinarum*
Sara	*Saccharum arundinaceum*
Sali	*Hygroryza aristata*
Ceruppullati	*Desmodium triflorum*
Cerupula	*Aerva lanata*

3. Milk shall be boiled and reduced to which *madhucchista* (Bee wax) shall be added when it is hot and consumed immediately. Molten ghee mixed with *madhucchista* is also good.

4. The following, finely powdered shall be mixed with milk to which a small quantity of sugar is added. During the evening, the powder shall be taken with warm water.

Vedhi	*Ferula asafoetida*
Yasti	*Glycyrrhiza glabra*
Kannaram	Asbestos
Kanmadam	Bitumen

A *kasaya* prepared from *trnapancamula*

*Note: Normal digestion is essential for the sustenance of life. Just like defective digestion, increased digestion will harm the individual by taking away his strength. Therefore, the treatment of *atyagni* requires special attention.

and *irattimadhuram* (*Glycyrrhiza glabra*) shall be drunk.

5. Ghee medicated with *tavizhama* (*Boerhaavia diffusa*) as *kasaya,* milk as *drava* and *tavizhama* as *kalka* is curative for *atyagni.*

Drksayastyahvadi ghee shall be taken (licked). Nocake and sugar, mixed with tender coconut water shall be drunk. In the evening milk is to be used.

6. A *kasaya* should be prepared with one fistful of *laksmilata* (*Ipomoea sepiaria*). *Parippu* (*Vigna radiata*) should be added to it and a *kanji* (gruel) prepared.

Cerupula (*Aerva lanata*) and *punarnava* (*Boerhaavia diffusa*) should be used to prepare a *kasaya* to which rice is to be added and *yavagu* (gruel) prepared.

The above preparations cure *atyagni.*

7. *Dravya* that increase *kapha* and those which have *guru* (heavy to digest) and *sita* (cooling) property reduces *agni.* Sleep during the day after taking food is also curative of *atyagni.*

8. Consuming of previously preserved cooked rice with curd made of buffalo's milk and drinking cold water cures *atyagni.* Rice cooked with *laksmirasa* (*Ipomoea sepiaria* - juice) will do the same.

Aryavaidyan Vol.XII, No.4, May - July -1999, Pages 248 - 253

आयुर्वेद और षट्दर्शन

वारियर, पी. आर.*

Abstract: For all the concepts of the origin of universe promulgated by Indian philosophers, ayurveda, as an applied science, has given due, practical and timely importance. Nevertheless, it approves mostly *vaisesika* and *samkhya* philosophies in dealing with basic principles.

"सत्वमात्मा शरीरम् च त्रयमेतत् त्रिदण्डवत् ।
लोकस्तिष्ठति संयोगात् तत्र सर्वं प्रतिष्ठितम् ॥"

मन, आत्मा, शरीर आदि का संयोग है जीव । आत्मा चैतन्यस्वरूप तथा असंग होने के कारण मन और शरीर की ही प्रासंगिकता आयुर्वेद विज्ञान में है । पाश्चात्य मतानुसार मन और शरीर के बीच अलग करनेवाली एक दृढ दीवार है । तंत्रधातु संबधी रोगों को neurosis और psychosis के रूप में अलग विभक्त किया गया है, इससे यह स्पष्ट होता है, यद्यपि इन दो प्रकार रोगों के मानसिक उपद्रवों में अत्यधिक साम्य देख सकता है तो भी आश्रयभेद के रूप में यह विभाजन कर सकते हैं । आयुर्वेद विज्ञान के अनुसार शरीर और मन को ऐसी एक विभजित अवस्था नहीं माना गया है, शरीर और मन को एक से एक को अलग न देख सकने की तरह उन मौलिक तत्वों को देखा गया है ।

हरेक को त्रैविद्य आरोप करने की एक प्रवृत्ति हिन्दु प्रकृति शास्त्र - तत्वशास्त्रों में कई स्थानों में देख सकते है । संसार सृजनक्रम तीन अंग के है - सृष्टि, स्थिति और संहार । इसे क्रमशः जुडे हुए गुण तीन है - रजोगुण, सतोगुण और तमोगुण । यह प्रथा वैद्यविज्ञान से अनछुआ नहीं है । वात, पित्त, कफ आदि तीन दोषों को ही शरीरगढ़क के रूप में स्वीकार किया गया है । दोष के अनुसार मन को सतो रजो तमो नामक तीन गुण होते हैं ।

आयुर्वेद के बारे में एक सर्वसामान्य आलोचना है: भौतिक विज्ञानीय, रसायन विज्ञानीय, जीवाणु विज्ञानीय आदि आधुनिक विज्ञान की शाखाओं से बने नीववाली पाश्चात्य वैद्यप्रणाली की तरह आयुर्वेद विज्ञान पर आधारित नहीं; सिर्फ प्रत्यक्ष प्रमाणों पर आधारित एक विशाल औषध विज्ञान के तरह ही उसकी प्रधानता है - आदि । यह अत्यंत दोषैकदृष्टिपूर्ण आलोचना है, षट्दर्शनों की एक दृढ नींव पर आयुर्वेद विज्ञान बनाया गया है, इस

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अनुवाद : प्रमोद कोव्वप्रत, आर्ट्स व साइंस कालेज, पो. मुट्टिल, वयनाड - 673 122

सच्चाई को, यह सुविदित सत्य जो विज्ञानवेत्ताओं को ज़रा भी नया नहीं है, इसे लगभग चर्वित चर्वण के रूप में विस्तार देना ही इस लेख का उद्देश्य है ।

यद्यपि आयुर्वेद सामान्य तौर पर सभी दर्शनों से नियंत्रित है तो भी उसका सिंहभाग सांख्य-वैशेषिक दर्शनों के चौखटे में शामिल किया गया है । विविध दर्शनों के सूत्रकाल के बारे में शायद शोध करने से बहुत सी बातें समझाया गया होगा तो भी उसमें अन्तर्निहित तत्व की खोज के बारें में किसी को ठीक पता नहीं । सांख्य-वैशेषिक दर्शन का आविर्भाव बहुत पहले ही हुआ होगा; उसे सूत्रबद्ध किए कपिल या कणाद बहुत पहले ही उसे वादविवाद में इस्तेमाल किया होगा । चरक में (8 वाँ अध्याय, विमानस्थान्, वाक्य 22) वाद मार्गों के बारे में जो कुछ बताया गया है वह सब गौतमरीति के अनुसार है। 'वाद' से 'निग्रह स्थान' तक 44 पद वैद्यों को वादमार्ग ज्ञानार्थ बताया गया है । गौतम मत पक्ष के अनुसार प्रमाण प्रमेय आदि अधिगम अन्त के रूप में यद्यपि 16 पद बताया जाता है तो भी इसमें कई संग्रहरूप में बताया गया है । उदाहरण के लिए "प्रत्यक्षानुमानोपमानशब्दाः प्रमाणानि" सूत्र से प्रत्यक्ष, अनुमान, उपमान, ऐतिह्य, अर्थापत्ति, संभव आदि 'प्रमाण' में संग्रहीत है। उसी तरह सुश्रुत में सांख्यमत का अत्यधिक अनुसरण किया गया है । "सर्वभूतानां कारणमकारणं सत्वरजस्तमोलक्षणमष्टरूपमखिलस्य जगतः संभवहेतुरव्यक्तम् नाम" (शरीरस्थान पहला अध्याय) वाक्य से यह स्पष्ट है । वादरीति (तंत्रयुक्ति अध्याय में) न्यायदर्शन के अनुसार है। 'अधिकरण' से 'ऊह्य' तक 32 तंत्रयुक्तियाँ बतायी गयी हैं । इसका यही तात्पर्य है: हिन्दु शास्त्रों के लिए आधारभूत दर्शनों में मिले हुए तत्वों के बारे में गंभीर चर्चा करने वाले लोग थे प्राचीन भारत के वैद्योपजीवि ।

प्रपञ्च संभव के बारे में सांख्यमतः

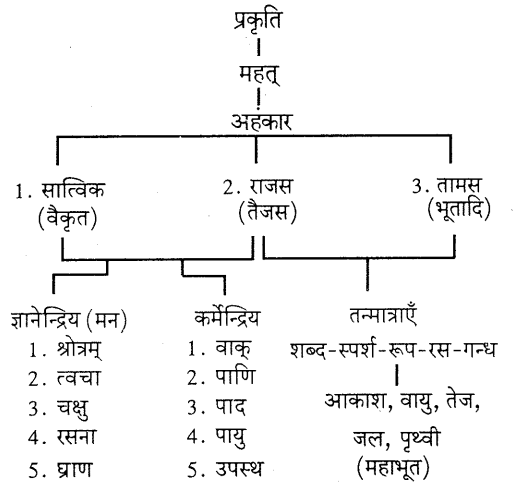
सांख्यवाले प्रपञ्च के घटने के बारे में 'विकासवाद' (theory of evolution) को आधार मानते है; लेकिन वैशेषिक तो 'सृष्टिवाद' (theory of creation) को । अर्थात सांख्यमतवालों के अनुसार सारे गोचर जगत एक अस्पष्ट आदिमूलप्रकृति से विकसित है । वैशेषिकवालों के मत में सारे जगत ईश्वर से सृजित है । सांख्यमत के अनुसार सत्ता दो को ही है - मूलप्रकृति और पुरुष । मूलप्रकृति अथवा आदिमूलप्रकृति अस्पष्ट है, अविकसित है । वही सभी स्पष्टवस्तुओं का कारण है । लेकिन वह तो कारण रहित भी है । कारण के बिना क्या कार्य की उत्पत्ति है? उत्तर की खोज में हमें यों ही अनंतता की ओर चलना पडेगा । अगर उससे बचना है तो, उस यात्रा का भी एक अंत मानकर चलना चाहिए । इस प्रकार अखिलजगत के विकासारंभ के कारण आदिमूलप्रकृति का निरीक्षण माना जा सकता है । प्रकृति और पुरुष (वस्तु और शक्ति) के मेल से ही इस जगत में एक छोटी सी हलचलतक होता है । इस तरह प्रकृति और पुरुष मिलकर कार्य करने पर प्रकृति के त्रिगुणात्मकत्व से गुणवैचित्र्य का यह जगत खिलता है ।

'सब एक ही है' तो भी गुणों की विविधता के अनुरूप ही जगत की विचित्रता आती है - जल अधिष्ठान भेद के अनुसार नदी, पोखरा, समुद्र, तालाब आदि रूपों में रूपान्तरित होने की तरह ।

किसी भी शक्ति जब काम करने लगती है तब उसे एक वस्तुनिष्ठ रक्षाशक्ति पैदा होती है । अगर वह नहीं है तो इस जगत में कोई भी व्यवस्थापित कर्म नहीं चलेगा । सार यही है कि किसी दूसरी शक्ति की नियंत्रण से ही एक शक्ति की प्रवर्तन होती है । यहाँ पुरुष शक्ति है और प्रकृति वस्तु है । शक्ति अप्रमेय होने के कारण यही हमें वस्तु ही प्रतिपाद्य है ।

अस्पष्ट प्रकृति से, आदिमूल प्रकृति से, महान तत्व (Intellect), उससे अहंकार होता है । अहंकार को तीन भाग है - सात्विक (वैकृत), राजस (तैजस) और तामस (भूतादि) । तैजसाहंकार वैकृताहंकार के साथ काम कर

के पञ्चज्ञानकर्मेन्द्रियों व मन को भी उत्पन्न करता है। भूताद्यहंकार तैजस के साथ मिलकर पाँच अणुओं अथवा सूक्ष्मभूतों को पैदा करता है। मन को ज्ञानेन्द्रिय और कर्मेन्द्रियों का प्रतिनिधित्व है। इसलिए वह उसके साथ काम करता है। प्रकृति के विकास को निम्नप्रकार बताया जा सकता है :-



'अव्यक्तं महान् अहंकारः पंचतन्मात्राणि इत्यष्टौ प्रकृतयः शेषाः षोडशविकाराः'- अस्पष्ट प्रकृति, महत्, अहंकार, पाँच तन्मात्राएँ मिलकर कुल आठ प्रकृतियाँ है। अर्थात् इन्हें प्रकृतित्व है; ये कारण है। शेष सोलह मन मिलाकर ग्यारह इन्द्रिय और पाँच महाभूत, विकृति नाम से बताया जाता है, ये कार्य है। प्रकृति में अस्पष्ट प्रकृति को छोड बाकी सातों को अस्पष्ट प्रकृति में उत्पन्न होने के कारण विकृतित्व भी आरोपित होने कि वजह, उन्हें प्रकृति विकृति भी कहा जाता है।

यह पहले बताया कि तैजस, भूतादि के साथ मिलकर पाँच तन्मात्राओं को सृजन करता है। मनुष्य अपनि सीमित क्षमता से यह सब नहीं जानता।

महाभूतों का गढ़न निम्नप्रकार है -

1. अकाश - शब्द तन्मात्रा से
2. वायु - शब्द+स्पर्श तन्मात्रा से
3. तेज - शब्द+स्पर्श+रूप तन्मात्रा से
4. अप् -शब्द+स्पर्श+रूप+रस तन्मात्रा से
5. पृथ्वी - शब्द+स्पर्श+रूप+रस+गन्ध तन्मात्रा से

इस तरह भूत जब स्थूलतर होता है तब तद्घटकों की संख्या भी बढती दीखाती है। यहाँ वैदान्तिक मत इससे भिन्न है। हरेक भूत के ओर उसके प्रमुख तन्मात्रा 50% केन्द्र में काम करके अन्य चार तन्मात्रा में एक एक $12\,^{1}/_{2}\%$ की तदाद में चक्कर काटने के रूप में है वैदान्तिक मत में हरेक भूतपरमाणु का गढ़न। इसे और आसानि से स्पष्ट कर सकता। अकाश+वायु+तेज+जल+पृथ्वि को क्रमशः AK,V,T, AP, E आदि निशानों को और उसकी तन्मात्रा शब्द+स्पर्श+रूप+गन्धों को क्रमशः ak, v, t, ap, e आदि निशानों को मानें, तो -

AK = ak - 4 (v, t, ap, e) ak - 4 केन्द्रस्थ

V = v - 4 (ak, t,ap, e) v - 4 केन्द्रस्थ

T = t - 4 (ak, v, t, e) ap - 4 केन्द्रस्थ

AP = ap - 4 (ak, v, t, e) ap - 4 केन्द्रस्थ

E = e - 4 (ak, v, t, ap) e - 4 केन्द्रस्थ

इससे यह देख सकते है कि हरेक भूत की केन्द्रस्थ तन्मात्रा अन्य निकटवर्ती चार तन्मात्राओं की संख्या के समान है। यह आधुनिक परमाणु गढ़न के विवरण से समानता रखता है। एक Atom(परमाणु) के Protone, Electrone गढ़न (भावाभावपरमाणु गढ़न) केन्द्रस्थ Protone के चारों ओर अनेक Electrones चक्कर काटने की तरह है न ?

पञ्चतन्मात्राएँ ज्ञानेन्द्रिय का विषय बनता है। श्रोत्र को आवाज़, त्वचा को स्पर्श, चक्षु को रूप, रसना को रस, घ्राण को गन्ध विषय है।

हरेक कर्मेन्द्रिय को अमुक कर्म है। वचनेन्द्रिय को आवाज़ उत्पन्न करना, पाणी को ग्रहण-निवारण आदि, पादों को देशान्तर गमन, पायु को विसर्जन, उपस्थ को हर्षण प्रत्येक कर्म है।

आयुर्वेद वैज्ञानिक सांख्यमत के पूर्ण अनुयायी नहीं है। जगत के विकासवाद तक उन्होंने इसे मान लिया है। सांख्यमतवालों में एक दल यह विश्वास करता है कि ब्रह्माण्ड को एक नियामक है। उन्हें नास्तिकसांख्य कहता है। दूसरा वर्ग भी है। उनका दृष्टिकोण वेदांतियों से भिन्न है। चरक, विकासवाद की दृष्टि से सांख्यमत के अनुयायी है, सारे जगत का एक अधीश्वर माननेवाले वैदांतिकवाद को मानते है।

हमने देखा कि सांख्यवाले परिणामवादी या विकास सिद्धांतावलंबी है। यह हम पठते हैं कि आधुनिक जीववैज्ञानिकों के मत में 'अमीबा' उसके सूक्ष्मरूप से मनुष्य गढ़न तक बढकर विकास पा आया है प्रोथवलास रूप विश्लेषण में, मनुष्य और अमीबा को अत्यंत समानता है। एक ही अंतर यह है: अमीबा के हरेक देहभाग सारे जीवधर्मों - चाहे वह जितना भी लघु हो - का पालन कर सकता है। मनुष्य के विभिन्न देहभाग विभिन्न धर्मों का निर्वाह करने के साथ जीवन की आवश्यकता की पूर्ति के लिए वह एक एक से जुडता भी है। आधुनिक जीववैज्ञानिक परिणामवाद सांख्यमत के अनुसार के परिणाम (विकास) वाद के साथ इससे अधिक तुलना या व्यतिरेक करके देखना ठीक नहीं होगा। जो भी हो यह स्पष्ट है कि सांख्यवालों को विकासवाद के बारे में कुछ दृढ मत है। किसि भी आधुनिक सिद्धान्त की तरह, तर्कपूर्ण शायद, उसमें से किसि की तरह वादहेतुक भी है।

पदार्थ

वैशेषिकों के मतानुसार 6 पदार्थ हैं - द्रव्य, गुण, कर्म, सामान्य, विशेष और समवाय। गौतम के न्यायदर्शन के अनुसार 16 पदार्थ है। बाद के ज़माने में नैयायिकों ने इसे संग्रहित करके 'अभाव' को भी शामिल करके सिद्धि किया कि कुल सात पदार्थ है। अग्निवेश या चरक के ही ज़माने में न्यायवैशेषिकदर्शन को ऐसि साहोदर्यभावना नहीं थी। ऐसा माना जाता है कि ई.पू. दूसरी शती और ई.बा. तीसरी शती के बीच यह सिद्धांत रूपित किया गया है। हम यह मान सकते है कि वैशेषिकों का यह सिद्धांत चरक के ज़माने में भी स्वीकार्य था। वैशेषिकों का खयाल सामान्यरूप से प्रायोगिक तथा अनुमानिक नहीं था, वह परमाणु सिद्धांतों का आधारित था, इसलिए आयुर्वेद आचार्यों को इन्होंने आकृष्ट किया।

पदार्थों में प्रथम द्रव्य के बारें में पहले सोचेंगे: द्रव्य क्या है ? गुणकर्मों का आधार और उससे भिन्न एक है द्रव्य। गुणकर्म से दूर की स्थिति कभी भी उसे नहीं होती। द्रव्य को 9 प्रकार से विभाजित किया गया है। पृथ्वी, अप्, तेज, वायु, आकाश, काल, दिशा, आत्मा और मन।

इसमें पहला 5 इस भौतिक जगत के गढ़क है और वह उसे स्वभाव प्रदान करनेवाले है, इसलिए उसके बारे में सोचना। शास्त्र में हरेक द्रव्य को परिभाषित करने के साथ उस द्रव्य के गुणभेदों को गिनकर बताया गया है। साथ ही उसे विविध वस्तुओं से जो संबन्ध है उसका विवरण भी है। पञ्चभूतों में हरेक को क्रमशः गन्ध, शीतस्पर्श, उष्णस्पर्श और रूपस्पर्श, स्पर्श, शब्द आदि पाँच समवायी - नित्य संबंधी - गुण है। हरेक भूत को सामान्य दो रूप है : परमाणुमय नित्य (Atomic and eternal) रूप और कार्य व अनित्य (Product and non-eternal variety) नामक दूसरा रूप। फिर हरेक भूत के शरीर, इन्द्रिय, विषय आदि भेदों को विवरण है। निम्नतालिका से वह स्पष्ट हो जाएगा।

भूत	शरीर	इन्द्रिय	विषय
पृथ्वी	जीवि शरीर	नासाग्रवर्ती घ्राणेन्द्रिय	मिट्टी, पत्थर आदि
अप्	वरुणलोकम्	रसनाग्रवर्ती रसनेन्द्रिय	पोखर, तालाब, समुद्र आदि
तेज	आदित्यलोकम्	दर्शनेन्द्रिय	आग, बिजली, जठराग्नि, लोकप्रकाश
वायु	वायुलोकम्	स्पर्शनेन्द्रिय	वृक्षादि कंपन हेतु वायु
आकाश	सर्वव्यापि और नित्य	श्रोत्रेन्द्रिय	

पदार्थ विश्लेषण के विषय में वैज्ञानिकों को परमाणु सिद्धान्त एक आसरा है जिसका आविष्कार वैशेषिकों ने किया है। आधुनिक वैज्ञानिकों ने परमाणु को Protone (भाव परमाणु) Electrone (अभाव परमाणु) आदि दो रूपों में विभक्त किया है। परमाणु के केन्द्रस्थ Protone के चारों ओर बहुत अधिक Electrone घूमते हैं। यह भावाभाव परमाणु गढ़न (Proton-electron arrangement) को एक बाह्य शक्ति से बाँटते वक्त आनिवार्य परमाणु शक्ति (Atomic energy) बन्धन मुक्त होता है। Atom bomb से कल्पनातीत परमाणु शक्ति निकलने का यही कारण है। वैशेषिकों का परमाणु भी अविभक्त नहीं, विभक्त है। भावाभावपरमाणु विभिन्न रीति व संख्य में जुडने पर भिन्न मूल पदार्थों के विभिन्न परमाणु बनता है, यही आधुनिक मत है न। मूल पदार्थों में हरेक के अणुतम अंश को परमाणु कहते है। इस परमाणु को तद्गठित मूल पदार्थ के सारे स्वरूप व स्वभाव होगा। वैशेषिक मतानुसार के मूलपदार्थ पंचभूत है न। इन पंचभूत में से हरेक का अणुतम अंश को उसी का 'द्व्यणुक' कहते है। जगत का आरंभ सिर्फ द्व्यणुकों को है। पारिमण्डलियाँ नामक अत्यंत सूक्ष्मतर 2 घटकांश के मिलन से यह परमाणु बनता है। यह पारिमण्डलियाँ जितना भी एक साथ मिलें, तो यह नहीं कि वह महत्तर नहीं होता, उसका अणुतमत्व बढता है। 'महत्वभाव' नित्यसंबन्धी होने के कारण ऐसा होता है। शून्य से शून्य जोडने पर क्या फल है ? वही ! तो फिर जगदारंभत्व द्व्यणुक कैसे पैदा हुआ ? वही रोचक है। ईश्वर की इच्छा से इस पारिमण्डलियों में एक अपरिभाषित आवेग पैदा हुआ और वह दोनों मिलकर परमाणु बना। वह परमाणु दोनों मिलकर द्व्यणुक बना। "सामन्यपरिहीनास्तु सर्वे जात्यादयो मतः पारिमाण्डल्य-भिन्नानां कारणत्वमुदाहृतम्"। मुक्तावलि में बताया है। पारिमण्डलियों के उस पार परमाणु को विभाजित करने की कोशिश उन्होंने नहीं की। क्योंकि; फिर परिणाम 'अनवस्थ' हो सकता है। जो भी हो इससे सिद्ध होता है कि सामान्यबुद्धि की पहुँच के उतने दूर तक अणुत्व की ओर आचार्यों की सोच उतरी है। तब ईश्वर शक्ति से परमाणु का गढ़न हुआ, द्व्यणुक बना, यह सारा जगत धीरे-धीरे बनता आया।

अगला पदार्थ गुण है। गुण द्रव्याधिष्ठित और अपना गुण कर्म रहित है। आयुर्वेद में गुरु, लघु, मन्द, तीक्ष्ण, हिम, उष्ण, स्निग्ध, रूक्ष, श्लक्ष्ण, परुष, सान्द्र, मृदु, कठिन, स्थिर, सर आदि 20 गुण बताये गये हैं। वैशेषिकों ने 24 गुण स्वीकार किये हैं। रंग, रस, गन्ध, स्पर्श, संख्या, परिमाण, विभिन्नता, संयोग, विभाग, दूरस्थता, सामीप्य, भार, द्रवत्व, स्निग्धता, शब्द, बोध, सुख, दुःख, इच्छा, द्वेष, आज्ञाशक्ति, अर्हता, अनर्हता, संस्कार आदि है ये। ये गुण सामान्य और विशेष के रूप में विभक्त है। दो द्रव्य में सामान्य न दिखनेवाले गुण को विशेषवर्ग में डालते है। उदाहरण:- पृथ्वी की गन्ध। उल्टे, दूरस्थता, सामीप्य आदि गुण किसी भी द्रव्य में दिखने के कारण वह सामान्य गुण के रूप में भी माना जाता है। पता नही क्यों भार, रूप, अर्हता, अनर्हता आदि गुण वैशेषिक सूत्र में नहीं बताया गया है। 'प्रशस्तपाद' नामक व्याख्याकार द्वारा सूची में शामिल किया गया है इसे। ये 24 गुण और ऊपर बताए 20 गुण शमिल है।

चरक तो ऊपर बताए 20 गुण के अतिरिक्त वैशेषिकों द्वारा बताए गए और कई गुणों को भी स्वीकार करते हैं। पञ्चेन्द्रिय विषय शब्द-स्पर्श-रूप-रस-गन्धों को भी उन्होंने शमिल किया है। बुद्धि उसी तरह दूसरा गुण है। इच्छा, द्वेष, सुख, दुःख आदि मनोवैज्ञानिकता है। विदूरस्थता, सामीप्य, युक्ति, संख्य, संयोग व विभाग, विभिन्नता, पृथक्त्व, परिणाम, संस्कार, स्वभाव आदि इसमें आता है। इसप्रकार गुण की संख्या 44 है।

कर्म

संयोग विभाग को कारणभूत द्रव्याधिष्ठित एक पदार्थ है कर्म। चरक उसे और सरल रूप से 'प्रयत्नादि कर्मचेष्टित-

मुच्यते' (सू)। कर्म पाँच प्रकार के हैं। ऊर्द्वगमन, अधोगमन, संकोच, विकास, गमन। अगला पदार्थ सामान्य और फिर विशेष है । इसकी परिभाषा में चरक बताते हैं : "सामान्यमेकत्व-करं विशेषश्च पृथक्त्वकृत्" सामान्य एकत्व का कारण बनता है। लेकिन सामान्य एकत्व का कारण है, विशेष पृथक्त्व का। अर्थात्, सामान्य को समान अर्थ है तो विशेष को विपरीतार्थ है।

सामान्य का मतलब एक वस्तुवर्ग में दिखनेवाले सामान्य लक्षण हैं। एक विशेष लक्षण विपरीत एक वस्तुवर्ग के बीच पहचाना जाता है। उदाहरण:-मान लीजिए कि हम एक भीड देखते है। व्यक्ति विभिन्न वर्ग या जाति के हो सकते हैं। लेकिन मनुष्यत्व सब में दिखता है। यह सामान्य मनुष्यत्व सब व्यक्तियों में नित्य और स्वाभाविक है।

विशेष तो, परमाणु या और कहीं रहकर द्रव्य को परस्पर अलग करके दिखाता है, एक बर्तन एक वस्त्र से भिन्न है। इसलिए हरेक द्रव्य में उसी का रूप स्वभाव को निश्चित करनेवाले पृथक्त्वभाव मिला रहता है । इस पृथक्त्वस्वभाव को विशेष कहते हैं। पृथक्त्वभाव असंख्येय होने के कारण विशेष भी असंख्येय हैं।

वैशेषिकों के पदार्थों में आखरी समवाय ही बताने को बाकी है। चरक इसप्रकार इसे बताते है: पृथ्वीव्यादि द्रव्यगुणों के अपृथक्त्व भाव है समवाय। द्रव्य और उसके गुण नित्य संबन्धी (eternal) है। संयोग से भिन्न है यह। संयोग सिर्फ एक गुण है। समवाय नित्यसंबन्धि है। लेकिन समवाय अनित्य संबन्धि (ephemeral) है। एक घडा के दो अर्द्धखण्ड मिलने के पहले अलग है न। चाहे तो उसे फिर से अलग कर सकता है। पर उन अर्द्धखण्डों से घडे को ही अलग करना न संभव है। इसलिए इन अर्द्धखणडों से बने घडे ही बात में एक समवाय संबन्ध बन जाता है। इस समवाय किस पर आधारित है यह इसप्रकार है - "अवयवावयविनोः जातिव्यक्तोर्गुणगुणिनोः क्रियाक्रियावतोरनित्यद्रव्यविशेषयोश्चः"।

भौतिक जगत के बारे में वैशेषिक सिद्धांत के आस्तिक्यवादरूप ये मूल प्रमाण, 'मिथ्यावाद'रूप वेदांत प्रमाणों से भी आयुर्वेदवाले को अत्यधिक आकृष्ट किया है। क्यों कि आयुर्वेद मनुष्यजीवन के लिए पहलुओं से अधिक जुडा हुआ है। पाञ्चभौतिक सिद्धांत और, उसके उत्भव केन्द्र और धर्मों का जो विस्तार दिया है वे सब सांख्यदर्शन या वैशेषिक पर अत्यधिक आधारित होकर है।

इतने कहने से लगभग यह स्पष्ट है कि आयुर्वेद के पुरस्कर्ताओं को अपने सिद्धांतों और अनुसंधान के तरीकों के लिए आधारभूत के रूप में कुछ दर्शन और मौलिकतत्व हुए थे और उन्हें उसके बारे में व्यापक और दृढ बोध रहा था।

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रसजविकार - एक पुनरावलोकन

संजीव कुमार ओझा*

Abstract: This is a discussion on various manifestations that appear singly or collectively as different diseases or disorders that are due to *rasajavikar* explained in ayurvedic texts. The line of treatment is to remove the cause i.e. *nidan parivarjan.* In *rasajavikar* it is *langhana* or fasting.

रस आदि (प्रथम) धातु है, जो कि आहार पर पाचकाग्नि के परिणाम स्वरूप उत्पन्न होती है तथा क्रमशः शेष अन्य धातुओं का पोषण करती है। यह प्राकृतावस्था में सम्भव है जब कि शरीर स्वस्थ रहता है व समस्त क्रियायें सुचारु रूप से चलती रहती है। लेकिन मिथ्याहार-विहार और अनेक मानसिक हेतुओं से, वैकृतावस्था में सार किट्ट विभजन भली भाँति नही हो पाता है जिसके परिणाम स्वरूप रस धातु की वृद्धि अथवा क्षय होता है। इसे साम्यावस्था में न लाया गया तो कालान्तर में रसधातुगत विकार उत्पन्न हो जाते है जो कि एक रोग न होकर रोगों का समूह प्रतीत होता है और विभिन्न प्रकार के सार्वदैहिक लक्षणों को उत्पन्न करते हैं। इस की सम्यक पहचान न होने के कारण रोगी को अपेक्षित चिकित्सकीय लाभ नहीं मिलता है। इन सबके मूल में रसज विकार होता है जिसका प्रतिकार कर उसका निराकरण किया जा सकता है। रसज विकार जानने के पूर्व रस वृद्धि एवं रस क्षय के लक्षण तथा साम्यावस्था में लाने के उपाय के बारे में जानना आवश्यक है।

रस वृद्धि के लक्षण

1) हृदयोत्क्लेद 2)प्रसेक 3) श्लेष्म वृद्धि 4) अग्निसदन 5) आलस्य 6) शैत्य 7) श्लथाङ्गत्व 8) श्वास - कास 9) अतिनिद्र 10) अंगगौरव

रस क्षय के लक्षण

1) हृत्पीड 2) शब्दाऽसहीष्णुता 3) ताम्यता 4) कम्पन 5) शून्यता 6) क्लमा 7) तृष्णा 8) ग्लानि 9) आस्य शोष

समीकरण का उपाय

प्रायः हितकर पदार्थों की इच्छा तथा अहितकर पदार्थों के प्रति अनिच्छा होती है। तदनुरूप ही हितकर पदार्थों का सेवन व अहितकर का त्याग करके दोष धातु आदि की वृद्धि को क्षय की दशा में लाकर साम्यावस्था में लायी जा सकती है।

रसज विकार

जब उपरोक्त रस वृद्धि या रस क्षय को साम्यावस्था में न लाकर प्रकृति की स्थापना नही की जाती तो वह स्थायी

*3/4 कैसर बाग कॉलोनी, लखनऊ, यू.पी. 226 001

विकार का स्वरूप ग्रहण कर एकल व्याधि न होकर लक्षण समूह (syndrome) का रूप लेती है। यह विकार निम्न लक्षणों से प्रकट होता है।

अश्रद्धाचारुचिश्चास्यवैरस्यमरसज्ञता।
हृल्लासो गौरवंतन्द्रासाङ्गमर्दोज्वरस्तमः ॥
पाण्डुत्वं स्रोतसांरोधः क्लैब्यं सादः कृशाङ्गता।
नाशोऽग्नेरयथाकालं वलयः पलितानि च ॥
रसप्रदोषजा रोगाः (च.सू. 28/9,10)

अश्रद्धा : ईश्वर, मित्र, समाज, भोजन इत्यादि के प्रति अश्रद्धा या नैराश्य भाव उत्पन्न होना।

अरुचि : मन इन्द्रियों से विरक्त होने से असफलता और नैराश्य उत्पन्न होना, जिससे किसी कार्य में मन न लगाना अरुचि है। यह दो प्रकार कि होती है - आहारजन्य और विहारजन्य।

आस्यवैरस्य व अरसज्ञता : सार किट्ट विभाजन भली भाँति न होने से जिह्वा पर मल एकत्र हो जाते हैं और स्वाद ग्रन्थियों के मुख बन्द हो जाकर तरह तरह की स्वाद न मिलना, मन इन्द्रियार्थों को न ग्रहण करना। आस्यवैरस्य मानसिक कारणों से और अरसज्ञता शारीरिक कारणों से उत्पन्न होती है।

हृल्लास : हृदय का शक्ति हीन हो जाना, शारीरिक और मानसिक अशक्तता, चक्कर आदि का अनुभव करना।

गौरव : अंगों का भारी अनुभव करना, उठने-बैठने में अशक्तता।

तन्द्रा : तमाऽधिक्य व कफाधिक्य से जागृदवस्था में भी निद्रा का अनुभव करना।

अंगमर्द : सार किट्ट विभजन समुचित न होने के परिणाम स्वरूप उत्पन्न हुए किट्ट अथवा मल से शरीर पर प्रभाव पडने से शरीर में पीडा अनुभव होता है। [अपूर्ण उपचय (oxidation) के परिणाम से लैक्टिक आसिड जैसे मलों का संचय होना जिससे इसी तरह की देह पीडा उत्पन्न होना इसी बात का संकेत है।]

ज्वर : शरीर ताप सामान्य से बढ़ जाना ज्वर है। ज्ञात कारणों के अतिरिक्त अभी भी अनेक ज्वर ऐसे हैं जिन के कारण अज्ञात है, जैसे पैरेक्सिया ओफ अणनोण ओरिजिन (P.U.O)।

तमः : शरीर में पोषक धातुओं के कमी, चक्कर आना, अन्धेरा महसूस करना, हृदय डूबना आदि का अनुभव होना।

पाण्डुत्वं : रक्ताल्पता रसज विकारों का एक मुख्य लक्षण है। धातु पोषण क्रम में सप्त धातुओं के निर्माण एवं पोषण क्रमशः उनके पूर्व धातुओं द्वारा होता है (क्षीर दधि न्याय)। अतः आदि धातु रस का समुचित निर्माण न होने से रक्त धातु के सही निर्माण एवं पोषण नही होता है। जिसके कारण रक्ताल्पता परिलक्षित होता है।

स्रोतसंरोध : रसज विकारों से अतिप्रवृत्ति इत्यादि स्रोतोरोध उत्पन्न होते हैं।

क्लैब्य : अनुलोमक्षय और प्रतिलोमक्षय जैसे कईं कारणों से धातु पोषण में बाधा होते हैं और धातुक्षय ओजोक्षय आदि रोग उत्पन्न होते हैं। इसी के फल स्वरूप क्लैब्य भी होते है।

साद : स्रोतोविस्रंसादि कईं कारणों से ओजोक्षय हो जाते हैं जिसके फल स्वरूप सन्धि विश्लेषण, दोषच्यवन, क्रियासन्निरोध आदि उपद्रव होते हैं। इन सबके परिणाम से अवसाद जैसे देह विशेष भी होती है जो कईं मानसिक रोगहेतु बन जाती है।

कृशाङ्गता : रस रक्त धातुओं के कुपोषण से मांस धातु क्षय हो जाते हैं।

अग्निनाश : रसज विकार से उत्पन्न उपरोक्त कईं लक्षणों

से अग्निनाश होता है जिससे मनुष्य खाने पीने लायक नहीं होते हैं ।

अकाल पालित्य खालित्य : बाल समय के पूर्व पक जाना साथ ही झड जाना धातुओं के कुपोषण को परामर्शित करता है ।

इसके अतिरिक्त उदरपूर्णता, थकान, हृद्रोग आदि लक्षणों का वर्णन भी आचार्य सुश्रुत ने किया है ।

चिकित्सा

रसज विकारों की चिकित्सा लङ्घन है । लङ्घन-बृहंणीय अध्याय में दस प्रकार के लङ्घनों का वर्णन किया गया है जिस में सर्वाधिक सहज विधि उपवास है ।

रसजानां विकाराणां सर्वं लङ्घनमौषधम् ॥
(च.सू. 28/24)

उपवास से सिर्फ भूखे रहना या लघु आहार करना ही नही, लौकिक अर्थ से उपवास का अर्थ ईश्वर के साथ रहना भी है । इससे दो लाभ प्रत्यक्ष है । 1) चित्त का स्थिर हो जाना । 2) अपक्व धातु रसों का सम्यक् परिपाक होने से शरीर का पोषण और मलों का त्याग होना ।

सम्यक् लङ्घन के लक्षण

अपान वायु, मल-मूत्र ठीक ढंग से त्याग होना, शरीर में हलकापन, हृदय, उद्गार, कण्ठ व मुख के शुद्ध होना, तन्द्रा व सुस्ती समाप्त होना, सर्वाङ्गस्वेद होना, भोजन के प्रति रुचि उत्पन्न होना, भूख-प्यास ठीक लगना, मन में कष्ट या दु:ख न होना ये सब सम्यक् लङ्घन का लक्षण है ।

उपवास के विधि

उपवास दो प्रकार के होते है । 1) भोजन सहित (लघु आहार युक्त) 2) भोजन रहित (केवल जल आदि ग्रहण करके) ।

भोजन सहित उपवास दो प्रकार के होते हैं । 1) एक कालिक भोजन 2) कई बार सूक्ष्माहार (दूध, फल आदि) ग्रहण करना ।

कुछ लोग निर्जल उपवास भी अभ्यास करते हैं जो शस्त्रोक्त नहीं है । फिर भी यह धार्मिक व आध्यात्मिक उद्देशों कि पूर्ती के हेतु है ।

अत्यधिक लङ्घन से शरीर पर दुष्प्रभाव पड सकती है जैसे सन्धियों में टूटने जैसी पीडा, अंगमर्द, कास, मुखशोष, क्षुधानाश, अरुचि, तृष्ण, श्रोत्र व नयनों में दुर्बलता, घबराहट, अस्थिरता, ऊर्ध्ववात, हृदय में अन्धकार होना, शरीर और पाचकाग्नि का नाश ।

वस्तुतः उपरोक्त समस्त लक्षण भूखमरी की अवस्था में दृश्यमान होते हैं । अतः लङ्घन का काल/मात्र निर्धारित होना चाहिए । सम्भवतः इन्ही सब परीक्षणों से प्राचीन ऋषि मुनियों ने रसज विकारों से बचने के लिए उपवास का अभ्यास करते थे और साधारण मनुष्यों को पुण्य आर्जित करने का मार्ग बनाया । इन सब विषयों से यह मालूम होता है की रोग समूह में रसज विकारों का अत्यन्त प्राधान्यता है ।-

सान्दर्भ ग्रन्थ

1. *चरक संहिता*
2. *सुश्रुत संहिता*
3. *अष्टाङ्गहृदय*
4. *डेविडसन्स टेक्स्ट बुक ओफ मेडिसिन*

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HINDI