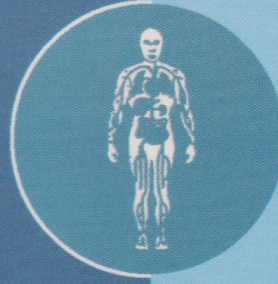


ISSN 0970 - 4086

Āryavaidyan

लाभानां श्रेय आरोग्यम्

*Of all the gifts,
the most precious is health*



Vol. XVIII, No. 3
February - April 2005



A QUARTERLY JOURNAL OF
THE ARYA VAIDYA SALA - KOTTAKKAL

āryavaidyan

A Quarterly Journal of
the Arya Vaidya Sala, Kottakkal.

Vol. XVIII., No. 3

Regn. No. 55127/87

February - April 2005

Aryavaidyan is intended to encourage scientific writing and intellectual interactions among scholars, academicians, practitioners and students of ayurveda and allied subjects like Siddha, Unani, modern medicine, etc.

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āryavaidyan

Quarterly journal of Arya Vaidya Sala

सतताध्ययनं, वादः परतन्त्रावलोकनम् ।
तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः ॥

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learning other disciplines and
serving the preceptor-these factors
endow one with intelligence and memory*

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Annual subscription	Rs. 120/-
Outside India	U. S. dollar 15 (Air surcharge extra)
Single copy	Rs. 35/-
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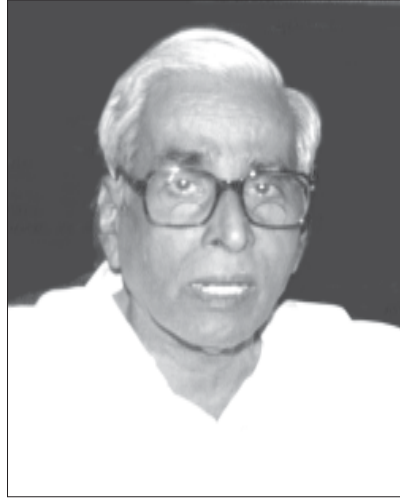
Please address all enquiries and subscriptions to:

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OBITUARY



Āryavaidyān N.V.K. Varier
(1922 - 2005)

Āryavaidyān N.V. Krishnankutty Varier passed away on 16.03.05 at his residence, Āryavaidyā Pharmacy at Shoranur. He is survived by his wife Āryavaidyān P. Madhavikutty and daughter Dr. P. Lakshmi Devi.

Born on 15th July, 1922 at Kondazhy Village in Thrissur District, Kerala, Dr. Varier took Āryavaidyān diploma from Kottakkal in 1946 and M.A. English from Mysore University in 1981. He was awarded Fellowship of National Academy of Indian Medicine in the year 1986; had adorned honorary positions in several committees and associations; attended numerous International conferences in India and abroad; visited Italy, Sanmarino, Surabaya, Copenhagen, Ottawa, Moscow and New York; he was guru under the scheme of Cikitsāguruśiṣyaparamparā of Rāṣṭrīya Āyurvēda Vidyāpīṭh; author of Āyurvēdacaritram (Malayalam), History of Ayurveda and over hundred research papers; recipient of Śāstra Mahōdadhi Award, 2000 by Kerala Āyurvēda Samājam.

He was the Chief Editor of the Publication Department of Arya Vaidya Sala ever since its inception in 1987 and continued in that post till 2001. Thereafter he served as the Honorary Consultant of Āryavaidyan till the end. His is a household name for our readers.

NVK, as he was fondly known to his friends and admirers, made substantial contributions to the promotion of ayurveda in the latter half of the last century. The challenges before the post renaissance physicians were two-fold: 1. They had to demonstrate before the public the efficacy of ayurvedic system as a reliable alternative in the healthcare field. 2. The West looked upon ayurveda with suspicion. It became the responsibility of the discerning intellectuals to prove the authenticity of the system by documented facts. Dr. Varier's generation took up this challenge and by constant efforts by way of presenting papers, holding seminars and discussions broke the veil of secrecy that shrouded the ancient system and showed to the world in its own terms the findings of the ancient sages. He travelled in different countries, attended many seminars and through meaningful interactions with the physicians from different parts of the world convinced them of the greatness of ayurveda. These interactions in turn enriched his assessment of the problems of healthcare scene.

Sri Varier had an open mind which was always alert. He did not hesitate to imbibe anything new that came on his way. His tool for interpreting ayurveda was his sense of history, the knowledge regarding the mode of evolution and awareness of the inter-relation between science and society.

Dr. P.K. Warriar, who was closely associated to NVK from their college days, gives the following assessment:

For us, ayurveda was not a frozen discipline; it was a symbol of national pride and social awakening. We learned from experience that ayurveda cannot be studied in isolation. The study of its evolution is as important as that of clinical or pharmaceutical aspects. It is this spirit that prompted Sri Varier to embark upon a project of writing a scientific history of ayurveda.

The renowned historian Dr. M.G.S. Narayanan, in his erudite introduction to the history of ayurveda, says about its author, NVK Varier:

What distinguishes this work from the works of other Indian scholars on medical history is the effort to pursue a scientific course with a mind freed from all superstitions. His mature scholarship in social history as well as ayurveda seems to have enabled Varier to take this bold stand.

There are not many with the calibre of Sri NVK Varier in the field of ayurveda; that makes the loss all the more lamentable.



Chief Editor

FROM THE PAGES OF VĀGBHATA - LXVII

N.V.K. Varier

Abstract: Different surgical procedures continue. Here, different types of wounds, acute and chronic; the types of bandages; medicines used for bandages and regimen are explained.

मद्यं तीक्ष्णोष्णरूक्षाम्ळमाशु व्यापादयेद् व्रणम् ।
(Madyaṁ tīkṣṇōṣṇarūkṣāṁḷamāśu
vyāpādayēd vraṇam ।)

Wines (alcohol), which are acute hot, harsh and sour, will be fatal to the patient quickly.

वालोशीरैश्च बीज्येत न चैनं परिघट्टयेत् ॥ ४१ ॥
न तुदेन्न च कण्डूयेच्चेष्टमानश्च पालयेत् ।
स्निग्धवृद्धद्विजातीनां कथाः शृण्वन्मनःप्रियाः ॥ ४२ ॥
आशावान् व्याधिमोक्षाय क्षिप्रं व्रणमपोहति ।

(vālōśīraiśca vijyēta na
cainam pariḥṭṭayēt ॥ 41 ॥
Na tudēna ca kaṇḍūyē-
ccēṣṭamānaśca pālayēt ।
snigdhavṛddhadvijātīnām
kathā: śṛṇvanmana:priyā: ॥ 42 ॥
Āśāvān vyādhimōkṣāya
kṣipraṁ vraṇamapōhati ।)

The wound is to be fanned with the tuft hairs of animals or fan made of vetṭivēr (*Vetiveria zizanioides*). While fanning, avoid striking the wound. Do not scratch or poke the wound; guard the wound carefully while doing other activities. One, who spends time hearing

pleasing stories from loving elderly, and brahmin people and cherishes hope for recovery, heals quickly.

तृतीयेऽह्नि पुनः कुर्याद् व्रणकर्म च पूर्ववत् ॥ ४३ ॥
प्रक्षाळनादि, दिवसे द्वितीये नाचरेत्तथा ।
तीव्रव्यथो विग्रथितश्चिरात्संरोहति व्रणः ॥ ४४ ॥

(trṭīyēśhni puna: kuryād
vraṇakarma ca pūrvavat ॥ 43 ॥

Prakṣālanādi, divasē
dvitīyē nācarēttathā ।
tīvraavyathō vigrathita-

ścirātsaṁrōhati vraṇa: ॥ 44 ॥)

On the third day, repeat the procedures as cleansing the wound, etc. Do not do such procedures on the second day as it will create acute pain, cause to loosen the area and forms eruptions, and thus the healing is delayed.

स्निग्धां रूक्षां श्लथां गाढां दुर्न्यस्तां च विकेशिकाम् ।
व्रणे न दद्यात्कल्कं वा स्नेहात्कळेदो विवर्द्धते ॥ ४५ ॥
मांसच्छेदोऽतिरुग्रौक्ष्याद्दरणं शोणितागमः ।

श्लथातिगाढदुर्न्यसैर्ग्रणवत्मावघर्षणम् ॥ ४६ ॥

(Snigdham rūkṣām ślathām gāḍham
durnyastām ca vikēśikām ।

vraṇē na dadyātkalkam vā
 snēhātklēdō vivarddhatē ॥ 45 ॥
 Māmsacchēdōstirugrau-
 kṣyāddaraṇam śōṇitāgama: ।
 ślathātigāḍhadurnyāsair-
 vraṇavartmāvagharsaṇam ॥ 46 ॥

The wicks, which are to be applied in the wound on the paste of drugs, should not be too much unctuous, hard, loose, or tight; do not place them improper way. The much unctuousness increases the moisture. Extreme pain, splitting of the muscle tissues and bleeding are caused by too much dryness. By placing the wick too loosely or tightly or improperly, creates friction of the edges of the wound.

सपूतिमांसं सोत्सङ्गं सगतिं पूयगर्भिणम् ।
 व्रणं विशोधयेच्छीघ्रं स्थिता ह्यन्तर्विकेशिका ॥ ४७ ॥
 (Sapūtimāmsaṁ sōtsaṅgaṁ
 sagatiṁ pūyagarbhiṇam ।
 vraṇaṁ viśōdhayēcchīghraṁ
 sthitā hyantarvikēśikā ॥ 47 ॥)

The medicinal wick remaining inside the wound, will purify the wound quickly even though it is putrified, protruded, and with sinuses and pus inside.

व्यम्लं तु पाटितं शोफं पाचनैः समुपाचरेत् ।
 भोजनैरुपनाहैश्च नातिव्रणविरोधिभिः ॥ ४८ ॥
 (Vyamlaṁ tu pāṭitaṁ śōphaṁ
 pācanai: samupācarēt ।
 bhōjanairupanāhaiśca nāti-
 vraṇavirōdhibhi: ॥ 48 ॥)

If a swelling that is not matured enough is incised by mistake, deal it with medicines, food and poultices that promote the maturing, but are not harmful to the wound.

सद्यः सद्योव्रणान् सीव्येद्विवृतानभिघातजान् ।
 मेदोजांल्लिखितान् ग्रन्थीन् ह्रस्वाः
 पाळीश्च कर्णयोः ॥ ४९ ॥

शिरोक्षिकूटनासौष्ठगण्डकर्णोरुबाहुषु ।
 ग्रीवाललाटमुष्कस्फिङ्गेद्रपायूदरादिषु ॥ ५० ॥
 गम्भीरेषु प्रदेशेषु मांसलेष्वचलेषु च ।

(Sadya: sadyōvraṇān sīvyēd-
 vivṛtānabhighātajān ।
 mēdōjāmlīkhitān granthīn
 hrasvā: pālīśca karṇayō: ॥ 49 ॥
 Śirōkṣikūṭanāsaustha-
 gaṇḍakarṇōrubāhuṣu ।
 grīvālalāṭamuṣkasphiṇ-
 mēḍhrapāyūdarādiṣu ॥ 50 ॥
 Gambhīreṣu pradēśēṣu
 māmsalēṣvacalēṣu ca ।)

Fresh wounds that are caused by trauma and are wide open, are to be sutured immediately; so also the wounds created by scraping fatty tumour, that are short on the pinnae of the ears, that occur on the head, eye-sockets, nose, lips, cheeks, ears, thighs, arms, neck, forehead, testicles, buttocks, penis, anus, stomach, and similarly those wounds which occur at deep fleshy and immovable parts of the body.

न तु वङ्गणकक्षादावल्पमांसे चले व्रणान् ॥ ५१ ॥
 वायुनिर्वाहिणः शल्यगर्भान् क्षारविषाग्निजान् ।
 (na tu vaṅṅaṇakakṣād-
 valpamāmsē calē vraṇān ॥ 51 ॥
 Vāyunirvāhiṇa: śalyagarbhān
 kṣāraviṣāgnijān ।)

Those wounds, which occur at the groins, axilla, etc. and those that are less fleshy and movable are not to be sutured. Similarly, wounds, which emit air or have foreign bodies, or those which are caused by caustic alkalies poison or fire are not to be sutured.

सीव्येच्चलास्थिशुष्कास्रतृणरोमापनीय तु ॥ ५२ ॥
 प्रलम्बि मांसं विच्छिन्नं निवेश्य स्वनिवेशने ।
 सन्ध्यस्थि च स्थिते रक्ते स्नाय्वासूत्रेण वल्कलैः ॥ ५३ ॥
 सीव्येन्न दूरे नासन्ने गृह्णन्नल्पं न वा बहु ।

(sīvyēccalāsthīśuṣkāśra-
 trṇarōmāpanīya tu ॥52 ॥
 Pralambi māmsaṁ vicchinnam
 nivēśya svanivēśanē ।
 sandhyaasthi ca sthitē raktē
 snāyvasūtrēṇa valkalaiः ॥53 ॥
 Sīvyēnna dūrē nāsannē
 gṛhṇannālpam na vā bahu ।)

Before suturing, take care to remove loose pieces of bones, dried blood clots, grass, hair, etc. Split and hanging pieces of flesh and the joints of the bones are to be restored to their proper places. Then, when the bleeding is stopped, sue the wound with tendons threads or the inner fibres of the bark of trees. Suturing is to be done, not very closely, nor very distantly, grasping the edges not too much or too little.

सान्त्वयित्वा ततश्चार्त्तं व्रणे मधुघृतद्रुतैः ॥ ५४ ॥
 अञ्जनक्षौमजमषीफलनीशल्लकीफलैः ।
 सरोध्रमधुकैर्दिग्धे युञ्ज्याद् बन्धादि पूर्ववत् ॥ ५५ ॥
 (sāntvayitvā tataścārttam
 vraṇē madhughṛtadrutaiः ॥54 ॥
 Añjanakṣaumajamaṣī-
 phalinīśallakīphalaiः ।
 sarōdhramadhukairdigdhē
 yuñjyād bandhādi pūrvavat ॥55 ॥)

Then after consoling the patient with encouraging words, by sprinkling cold water, fanning, etc, anoint the wound with a lēpa prepared with añjana (antimony) ashes of scorched flax, phalinī (*Callicarpa*

macrophylla), fruits of śallakī (*Boswellia serrata*), lōdhra (*Symplocos cochinchinensis*), madhuka (*Glycyrrhiza glabra*), ghee and honey. Then do bandage and other procedures as described earlier.

व्रणो निःशोणितौघो यः किञ्चिदेवावलिख्य तम् ।
 सञ्जातरुधिरं सीव्येत्सन्धानं ह्यस्य शोणितम् ॥ ५६ ॥
 (Vraṇō niःśōṇitauṣṭhō yaः
 kiñcidēvāvalikhya tam ।
 sañjātarudhiram sīvyēt-
 sandhānam hyasya śōṇitam ॥56 ॥)

Wounds with non-bleeding edges should be scraped a little to make them bleed and then sewed, because the act of joining is done by blood.

बन्धनानि तु देशादीन् वीक्ष्य युञ्जीत तेषु च ।
 आविकाजिनकौशेयमुष्णं, क्षौमं तु शीतळम् ॥ ५७ ॥
 शीतोष्णं तूलसन्तानकार्पासस्नायुवल्कजम् ।
 ताम्रायस्त्रपुसीसानि व्रणे मेदःकफाधिके ॥ ५८ ॥
 भङ्गे च युञ्ज्यात्फलकं चर्मवल्ककुशादि च ।

(Bandhanāni tu dēśādīn
 vīkṣya yuñjīta tēṣu ca ।
 āvikājinakauśēyamuṣṇam,
 kṣaumaṁ tu śītaḷam ॥57 ॥)
 Śītoṣṇam tūlasantāna-
 kārpāsasnāyuvalkajam ।
 tāmrāyastrapusīsāni
 vraṇē mēdaःkaphādhikē ॥58 ॥
 Bhaṅgē ca yuñjyātphalakam
 carmavalkakuśādi ca ।)

Bandages are to be selected according to the nature of the site of the wound. Among them, those made with the wool and the skin of the sheep and silk are hot. Those with flax are cold; those made of threads of silk cotton, cotton, tendon of animals and fibres of barks

of trees, are both cold and hot. Usage of thin sheets of copper, iron, zinc or lead is recommended in the wounds with excess fat and kapha. In fractures, use wooden sheets, leather, barks of trees, or splints of bamboo or kuśā grass (*Saccharum spontaneum*).

स्वनामानुगताकारा बन्धास्तु दश पञ्च च ॥ ५९ ॥
कोशस्वस्तिकमुत्तलीचीनदामानुवेल्लितम् ।
खट्वाविबन्धस्थगिकावितानोत्सङ्गगोष्फणाः ॥ ६० ॥
यमकं मण्डलाख्यं च पञ्चाङ्गी चेति योजयेत् ।
(विदध्यात्तेषु तेष्वेव कोशमङ्गुलिपर्वसु ।
स्वस्तिकं कर्णकक्षादिस्तनेषूक्तं च सन्धिषु ॥ १ ॥
मुत्तलीं मेढ्रग्रीवादौ युञ्ज्याच्चीनमपाङ्गयोः ।
सम्बाधेऽङ्गे तथा दाम, शाखास्वेवानुवेल्लितम् ॥ २ ॥
खट्वां गण्डे हनौ शङ्खे, विबन्धं पृष्ठकोदरे ।
अङ्गुष्ठाङ्गुलिमेढ्राग्रे स्थगिकामन्त्रवृद्धिषु ॥ ३ ॥
वितानं पृथुलाङ्गादौ तथा शिरसि चेरयेत् ।
विळम्बिनि तथोत्सङ्गं, नासौष्ठचिबुकादिषु ॥ ४ ॥
गोष्फणं सन्धिषु तथा, यमकं यमिके व्रणे ।
वृत्तेऽङ्गे मण्डलाख्यं च, पञ्चाङ्गीं चोर्ध्वजत्रुषु ॥ ५ ॥
यो यत्र सुनिविष्टः स्यात्तं तेषां तत्र बुद्धिमान् ॥ ६१ ॥

(svanāmānugatākārā
bandhāstu daśa pañca ca ॥ 59 ॥
Kōśasvastikamuttōlī-
cīnadāmānuvellitam ।
khaṭvāvibandhasthagikā-
vitānōtsaṅgagōṣphaṇā: ॥ 60 ॥
Yamakaṁ maṇḍalākhyam ca
pañcāṅgī cēti yōjayēt ।
(vidadhyāttēṣu tēṣvēva
kōśamaṅguliparvasu ।
svastikaṁ karnakakṣādi-
stanēṣūktam ca sandhiṣu ॥ 1 ॥
Muttōlīm mēḍhragrīvādu
yuñjyāccinamapaṅgayō: ।

sambādhēṅgē tathā dāma,
śākhāsvēvānuvellitam ॥ 2 ॥
Khaṭvām gaṇḍē hanau śāṅkhē,
vibandham pṛṣṭhakōdarē ।
aṅguṣṭhāṅgulimēḍhrāgrē
sthagikāmantravṛddhiṣu ॥ 3 ॥
Vitānam pṛthulāṅgādu
tathā śirasi cērayēt ।
viḷambini tathōtsaṅgam,
nāsauṣṭhacibukādiṣu ॥ 4 ॥
Gōṣphaṇam sandhiṣu tathā,
yamakaṁ yamikē vranē ।
vṛttēṅgē maṇḍalākhyam ca,
pañcāṅgīm cōrdhvajatruṣu ॥ 5 ॥
yō yatra suniviṣṭa: syāttam
tēṣām tatra buddhimān ॥ 61 ॥

There are fifteen types of bandages; the names given to them correspond to their shapes. They are kōśa, svastika, muttōlī, cīna, dāma, anuvēllita, khaṭvā, vibandha, sthagikā, vitāna, utsaṅga, gōṣphaṇa, yamaka, maṇḍala and pañcāṅgī. Amongst them, kōśa is used for applying at the joints of the fingers; svastika for the joints of ears, axillae and breasts; muttōlī for penis, neck, etc; cīna for apāṅga (outer canthus of the eye); dāma for the junctions of the body parts (as groins, etc); anuvēllita for extremities, khaṭvā for cheeks, jaws and temples; vibandha for back side and abdomen; sthagikā for the thumb, fingers, tip of the penis and hernia; vitāna for flat and thick organs and the head; utsaṅga is for hanging organs as hands; gōṣphaṇa for nose, lips, chins and joints; yamaka for two adjacent wounds; maṇḍala for round organs; and pañcāṅgī for the body parts above the clavicles. The wise physician has to apply the suitable bandage to the body part concerned.

बध्नीयाद्गाढमूरुस्फिकक्षावङ्गणमूर्धसु ।
शाखावदनकर्णोरःपृष्ठपार्श्वगळोदरे ॥ ६२ ॥
समं मेहनमुष्के च, नेत्रे सन्धिषु च ऋथम् ।
बध्नीयाच्छिथिलस्थाने वातश्लेष्मोद्भवे समम् ॥ ६३ ॥
गाढमेव समस्थाने, भृशं गाढं तदाशये ।
शीते वसन्तेऽपि च तौ मोक्षणीयौ त्रहात्त्र्यहात् ॥ ६४ ॥
पित्तक्तोत्थयोर्बन्धो गाढस्थाने समो मतः ।
समस्थाने ऋथो, नैव शिथिलस्याशये तथा ॥ ६५ ॥
सायंप्रातस्तयोर्मोक्षो ग्रीष्मे शरदि चेष्यते ।

(Badhniyādgāḍhamūrusphi-
kkakṣāvāṅkṣaṇamūrdhasu ।
śākhāvanakarnōra:
pr̥ṣṭhapārsvagalōdarē ॥ 62 ॥
Samam mēhanamuṣkē ca,
nētrē sandhiṣu ca ślatham ।
badhniyācchithilasthānē
vātaślēṣmōdbhavē samam ॥ 63 ॥
Gāḍhamēva samasthānē,
bhṛśam gāḍham tadāśayē ।
śītē vasantēspi ca tau
mōkṣaṇīyau tryahāttryhāt ॥ 64 ॥
Pittarakṭōtthayōrbandhō
gāḍhasthānē samō mata: ।
samasthānē ślathō, naiva
śithilasyāśayē tathā ॥ 65 ॥
Sāyamprātastayōrmōkṣō
grīṣmē śaradi cēṣyatē ।)

Bandages should be tied tightly over the thighs, buttocks, axillae, groins and head. It should not be too tight nor too loose, but moderate over the extremities, face, ears, chest, back, sides, neck, abdomen, penis and scrotum. Over the eyes and joints, it should be loose; over the site where loose bandage is suggested and if the wound is due to vāta and kapha, it should be moderate (sama). Where moderate bandage is suggested, there it should be tight; in the

case of vāta and kapha and where tight bandage is advised, there it should be tighter. In winter and spring, the bandage is to be changed once in three days. In cases of wounds due to pitta and rakta, moderate bandage is to be done; where tight one is suggested, and it should be loose in the place of moderate; and in the place of loose bandage suggested no bandage at all. In summer and autumn, the bandage is to be changed in the morning and evening.

अबद्धो दंशमशकशीतवातादिपीडितः ॥ ६६ ॥
दुष्टीभवेच्चिरं चात्र न तिष्ठेत्स्नेहभेषजम् ।
कृच्छ्रेण शुद्धिं रूढिं वा यति रूढो विवर्णताम् ॥ ६७ ॥
(abaddhō daṁśamaśaka-
śītavātādipīḍita: ॥ 66 ॥
Duṣṭībhavēcciram cātra na
tiṣṭhētsnēhabhēṣajam ।
kr̥cchrēṇa śuddhim rūḍhim
vā yati rūḍhō vivarṇatām ॥ 67 ॥)

If the wound is not bandaged properly, it may get contaminated, tormented by the bites of flies, cold, wind, etc; so also the unctuous medicines applied there would not sustain enough, and thus the process of purification and healing is delayed. Even after healing, the discolouration remains.

बद्धस्तु चूर्णितो भग्नो विश्लिष्टः पाटितोऽपि वा ।
छिन्नस्नायुसिरोऽप्याशु सुखं संरोहति व्रणः ॥ ६८ ॥
उत्थानशयनाद्यासु सर्वेहासु न पीड्यते ।
उद्वृत्तौष्ठः समुत्सन्नो विषमः कठिनोऽतिरुक् ॥ ६९ ॥
समो मृदुररुक् शीघ्रं व्रणः शुध्यति रोहति ।
(Baddhastu cūrṇitō bhagnō
viśliṣṭa: pāṭitōspi vā ।
chinnasnāyusirōspyāśu
sukham samrōhati vraṇa: ॥ 68 ॥
Utthānaśayanādyāsu
sarvēhāsu na pīḍyatē ।

udvṛttauṣṭha: samutsannō
 viṣama: kaṭhinōṣṭiruk ॥ 69 ॥
 Samō mṛduraruk śīghraṁ
 vṛaṇa: śudhyati rōhati ।)

By proper bandaging, the wounds, even though they are with crushed and fractured bones, dislocated joints, cut and severed tendons and veins, can be healed easily; no much pain is felt during actions as getting up, or lying down, etc; and wounds which are with raised edges, protruding uneven, hard and very painful, become even soft clean and painless and heal quickly.

स्थिराणामल्पमांसानां रौक्ष्यादनुपरोहताम् ॥ ७० ॥
 प्रच्छाद्यमौषधं पत्रैर्यथादोषं यथर्तु च ।
 अजीर्णतरुणाच्छिद्रैः समन्तात्सुनिवेशितैः ॥ ७१ ॥
 धौतैरकर्कशैः क्षीरिभूर्जारुनकदम्बजैः ।

(sthiraṇāmalpamānsānāṁ
 raukṣyādanuparōhatām ॥ 70 ॥
 Pracchādyamauśadhaṁ
 patrairyathādōṣaṁ yathartu ca ।
 ajīrṇataruṇācchidrai:
 samantātsunivēśitai: ॥ 71 ॥
 Dhautairakarkaśai: kṣīri-
 bhūrjārjunakadambajai: ।)

In long persisting wounds that hold very little muscle tissue and do not heal due to dryness, the medicine is to be covered with leaves, which are agreeable to the dōṣās and seasons. The leaves should not be old or too tender or rough; they should be without holes, adjustable to set around the wound, washed well and belonging to kṣīrīvṛkṣās, (*Ficus racemosa*, *Ficus microcarpa*, *Ficus religiosa* and *Ficus benghalensis*), bhūrja (*Betula utilis*), arjuna (*Terminalia arjuna*) or kadamba (*Neolamarckia cadamba*).

कुष्ठिनामग्निदधानां पिटिकामधुमेहिनाम् ॥ ७२ ॥
 कर्णिकाश्चोन्दुरुविषे क्षारदधा विषान्विताः ।
 बन्धनीया न मांस्पाके गुदपाके च दारुणे ॥ ७३ ॥
 शीर्यमाणाः सरुग्दाहाः शोफावस्थाविसर्पिणः ।

(kuṣṭhināmagnidagdhānām
 piṭikāmadhumēhinām ॥ 72 ॥
 Karṇikāścōnduruviṣe
 kṣāradagdhā viṣānvitā: ।
 Bandhanīyā na māṁspākē
 gudapākē ca dāruṇē ॥ 73 ॥
 Śīryamāṇā: sarugdāhā:
 śōphāvasthāvisarpiṇa: ।)

Bandages are not be done in wounds of lepers; wounds that caused by burning, abscesses of diabetic patients, round protuberances (karṇika) due to rat poison, caused by caustic alkalies or poison, that which have putrefication of flesh and severe ulceration of the rectum, etc. are not to be bandaged. Degenerating wounds with withering tissues, wounds with pain and burning sensation, with swelling and spreading nature, etc. are also to be exempted from bandaging.

अरक्षया व्रणे यस्मिन् मक्षिका निक्षिपेत्कृमीन् ॥ ७४ ॥
 ते भक्षयन्तः कुर्वन्ति रुजाशोफास्रसंभवान् ।
 सुरसादिं प्रयुञ्जीत तत्र धावनपूरणे ॥ ७५ ॥
 सप्तपर्णकरञ्जार्कनिम्बराजादनत्वचः ।
 गोमूत्रकल्कितो लेपः सेकः क्षाराम्बुना हितः ॥ ७६ ॥
 प्रच्छाद्य मांसपेश्या वा व्रणं तानाशु निहीरत् ।

(arakṣayā vṛaṇē yasmin
 makṣikā niṣipētkṛmīn ॥ 74 ॥
 Tē bhakṣayanta: kurvanti
 rujāśōphāsrasaṁsravān ।
 surasādiṁ prayuñjīta
 tatra dhāvanapūraṇē ॥ 75 ॥
 Saptaparṇakarañjārka-
 nimbarājādanatvaca: ।)

gōmūtrakalkitō lēpa:

sēka: kṣārāmbunā hita: ॥ 76 ॥

Pracchādyā māṁsapēśyā

vā vraṇaṁ tānāśu nirharēt ।)

Due to lack of cleanliness and proper bandaging, flies deposit worms in the wounds, and thus cause inflammation, pain and bleeding. Here, the herbs of Surasādigaṇa are to be used for washing and filling the wound. For lēpa, the barks of saptaparṇa (*Alstonia scholaris*), karañja (*Pongamia pinnata*), arka (*Calotropis gigantea*), nimba (*Azadirachta indica*) and rājadana (*Manilkara hexandra*) are to be used, pasted with cow's urine. Irrigation with alkaline water is also helpful; or cover the wound with muscle tissue to attract the worms to it and then quickly remove when they enter into it.

न चैनं त्वरमाणोऽन्तः सदोषमुपरोहयेत् ॥ ७७ ॥

सोऽल्पेनाप्यपचारेण भूयो विकुरुते यतः ।

(na cainam tvaramaṇo'snta:

sadōṣamuparōhayēt ॥ 77 ॥

Sō'slpēnāpyapacārēṇa

bhūyō vikurutē yata: ।)

Do not try to heal the wound hastily when it still contains vitiated factors. It may get provoked and flare up even with a slight improper dealing.

रूढेऽप्यजीर्णव्यायामव्यवायादीन् विवर्जयेत् ॥ ७८ ॥

हर्षं क्रोधं भयं चापि यावदास्थैर्यसम्भवात् ।

आदरेणानुवर्त्योऽयं मासान् षट् सप्त वा विधिः ॥ ७९ ॥

(rūḍhē'spyajīrṇavyāyāma-

vyavāyādīn vīvarjayēt ॥ 78 ॥

Harṣam krōdham bhayam cāpi

yāvadāsthairyasambhavāt ।

ādarēṇānuvartyō'syam

māsān ṣaṭ sapta vā vidhi: ॥ 79 ॥)

Even after the healing, indigestion, physical exercises, mating, etc, and excitement due to over joy, anger and fear are to be avoided until stability is regained. This regimen is to be observed for another six or seven months also.

उत्पद्यमानासु च तासु तासु

वार्तासु दोषादिबलानुसारी ।

तैस्तैरुपायैः प्रयतश्चिकित्से-

दालोचयन् विस्तरमुत्तरोक्तम् ॥ ८० ॥

(utpadyamānasu ca tāsu tāsu

vārtāsu dōṣādibalānusārī ।

taistairupāyai: prayataśchikitsē-

dālōcayan vistaramuttarōktam ॥ 80 ॥)

In frequently occurring conditions, the physician has to handle them by assessing the strength of the dōṣa, etc., reflecting deeply on the instructions presented in the uttarasthāna (chapter 25, 26 and 27) of this text.

इति श्रीवैद्यपतिसिंहगुप्तसूनुश्रीमद्वाग्भटविरचितायाम-
ष्टाङ्गहृदयसंहितायां सूत्रस्थाने शस्त्रकर्मविधिर्नामैकोन-
त्रिंशोऽध्यायः ॥ २९ ॥

(iti śrīvaidyapatīsīṁhaguptasūnuśrīmad-
vāgbhaṭaviracitāyāmaṣṭāṅghṛdayasaṁ-
hitāyām sūtrasthānē śāstrakarmavidhir-
nāmaikōnatrimśō'sdhyāya: ॥ 29 ॥)

Thus ends the 29th chapter of Aṣṭāṅghṛdaya-
sāmhita titled Śāstrakarmavidhi, composed by
Vāgbhaṭa, the son of Vaidyapati Siṁhagupta.

PATIENT CARE – THE INDIAN SCENARIO*

M. S.Valiathan**

Distinct Vaidya Sriram Sharmaji, Hon. Justice Sri K.S. Paripoornan, distinguished guests, ladies and gentlemen,

In this technical session, I have been given a specific subject *Patient Care – the Indian scenario*. Before I begin, it is my duty to pay my homage to the visionary founder Vaidyaratnam P.S.Varier and his successor Dr. P.K. Warriar who have not only created a tremendous model because one of the greatest challenges, which we have in this country, is how to combine tradition with modernity. This is not an easy thing to do in any country. In India we have not been very successful in this because, even though we claim to have a civilization dating back to 4000 or 5000 years, we can claim to have only a few institutions that have maintained excellence for over 500 years, unlike western countries. So the secret of maintaining that excellence is by combining tradition and modernity; that is the greatest challenge all institutions face, and I think Arya Vaidya Sala is a model. So we owe a debt of gratitude to Vaidyaratnam P.S.Varier and his brilliant successor Dr. P.K. Warriar.

The subject given to me is *Patient Care - the Indian scenario*. All of us have been patients at one time or the other. So, the subject is of

very intimate concern to all of us. My own point of reference is the time 1950s - 50 years ago when I joined the Trivandrum Medical College as a medical student. Where we were and where we are! In those days, the life expectancy was 40 years in India. It is difficult to imagine that today it is 70 or more in Kerala. In those days, lot of patients used to die of infectious diseases. In the Trivandrum General Hospital, where we used to go as students, we had two general wards called 'fever wards'. And we did not get the required facilities to do the investigations in these patients who came with fever. Patients used to be on the verandah or floor. We had too many patients; nobody was turned away and for most of them we had a rule of thumb. Fever lasting more than five days was regarded as typhoid fever and they were treated. There was no Chloromycetine. Chloromycetine available was strictly rationed. Only the Professor of Medicine could be permitted to prescribe it. There was no other treatment; the simply excellent nursing care that was all we had. I distinctly remember the mortality rate was not less than 30% for typhoid fever. Today we don't even admit typhoid fever patients; with a few tablets like Ciprofloxacin, patients were sent away. We have seen smallpox. I don't know how many of you sitting

*Paper presented on the occasion of Golden Jubilee Celebrations of AH&RC, Arya Vaidya Sala, Kottakkal.

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here have seen small pox. I have seen plague and I have seen leprosy. Today we don't see small pox and we don't see plague; medical students don't see lobar pneumonia, and leprosy is on the way out. So, I think, in this country, we have made tremendous progress, which many of us don't recognize; but it is a fact. But, on the other hand, are we happy? No, we are not happy. If you go to the United States, the most materially advanced country in the world where all the facilities are available, every imaginable type of specialist care is received, are they happy with the health care system? No they are not. In Britain, which introduced National Health Service after the Second World War, a model for India and many other countries that has been operating all these decades, if you ask them - are they happy with the healthcare system? No they are not. The National Health Service is moving from one crisis to the other. How to make the healthcare satisfactory from the patient's point of view? This is the real challenge; and in India there are hundreds of problems. I have tried to reduce them to some common basis:

i. Problem of access

The first is the problem of access. This is true not only in the case of modern medicine but also in ayurveda and all the other systems of medicine including homeopathy. The first problem is access. When the patient is sick where does he go? In our practice, in India, we have a hierarchical system - the Primary Health Centre (PHC), then Taluk hospital, District hospital and then tertiary care system; wherein patients are supposed to be referred from one to the other. But, all of us know that this doesn't happen. In the matter of Primary Health Centers, Kerala is better than any other State. In many other States, doctors are not available

in PHCs and so also the Centres are located somewhere in wrong place; there are no medications available, staff morale is very low and very often staff are in unauthorized absence, nobody may be around. And even if somebody is there, they will be more interested in giving some advice on family planning or so many other things rather than treating a sick man who is coming with headache! So the access at that level is very poor. And if you go to Taluk or District level, the conditions are much worse. I remember our previous Chief Minister Sri. Achuthamenon, when he was very ill, had a conversation two days before his death that I will never forget. He was very weak, he could speak with difficulty but, I remember, his asking me:

“You know, we are doing well in this hospital (the Chitra institute). But what is happening in our Taluk and District hospitals? I understand that Kerala government is employing more than 40,000 people in the health service and they have more than 1200 vehicles, and I don't know how many hundred of crores we are spending? But these hospitals are dying! Can we not solve them?”

This was one of the questions he asked me. Again, this is the problem; patients manage to go there; but they have no access to good health care. And if you come to tertiary hospitals, I don't have to tell this audience how bad it is. If a common man has to get a CT or MRI scan done, or an ultrasound examination, open-heart surgery, it is simply not there. And as you know, Chitra Institute when started doing the open-heart surgery, poor people were treated free of cost. And very soon, in a matter of two years, the greatest distress I had in that hospital was the long waiting list. There was nothing I could do about it. We were doing our best; if we did

800 operations a year, we had around 8000 on the waiting list! And this is true not only for us, you go to Madras General Hospital, KVM Hospital Bombay, the situation is the same. Access, there is no access; and the higher you go, less the access is. This is one of the most fundamental problems, fundamental cause for dissatisfaction.

ii. **Quality**

The second problem is quality. We have, as you know, large number of private hospitals that have mushroomed all over Kerala, all over India; it has become a business. So, in Kerala, every two or three miles you can find a hospital. To some extent that addresses the question of access. But what about the quality? People have no longer any confidence in the health care system. So they keep on doing doctor-shopping. Even though I have stopped doing surgery several years ago, people still come to me, for somebody has asked them to do a particular cardiac operation. Their doubt is should it be done? Is it necessary? They lack confidence now. And other thing is there are no standards; private hospitals when it comes, there are no physical standards. They may exist on paper; but they are not enforced. An old house can be converted into a nursing home where there are no physical standards and no performance standards too. For e.g. scission; there is a wide spread impression in Kerala that large numbers of caesarian scission are done unnecessarily and that large numbers of cardiac operations are done unnecessarily. This is what the people feel. Are there any standards? Have we laid down something? What is available internationally? And what we should aim at? So we have no standards. If you take the laboratories, you will find that in every street all over Kerala, there are labs examining blood,

urine, etc., they are advertised everywhere. But not a single lab in Kerala is accredited by the National Board of Accreditation anywhere. Couple of years ago, as the Chairman of the Kerala State Council, I asked various people about the NABL certification. I was surprised to note that many people have never heard about NABL. They had no idea what is NABL. This is national accreditation! So, here we are giving test reports on somebody's saying that blood sugar is so and so, blood urea is so and so. We don't even know whether the value is reliable. You can well imagine what a horrendous thing this is that you treat somebody who brand the man as diabetic based on the values which may not be reliable. So we have no way! Again there is a question of quality. Labs are not accredited; hospitals are not accredited and they have no standards prescribed.

iii. **Multiple systems**

Another problem is that we have different systems of medicine - we have the ayurveda, the modern medicine and the homeopathy and all these talk on holistic medicine. But where should the patient go? We have held professional meetings; sometimes we praise and sometimes we condemn each other. But that doesn't solve the patient's problems. A man who gets a particular problem where should he go? Should he go to ayurveda? Should he go to modern medicine? There is no proper advice. Nobody is telling him. So he is left to find for himself. We have not done that kind of integration in the practical level; we have not done that, we have failed. Today there is dialogue at least between the systems; fifty years ago, when I was a student, there was absolutely no dialogue. I had a professor of bacteriology; very eminent person; he was

known as āyurvēdavairi (foe of ayurveda). So the hostility was very great at that time. Today that hostility is no longer there; there is dialogue. But, the problem of the patient is that should he go for ayurveda for this particular condition? Should he go for modern medicine or homeopathy or should he do nothing? There is no advice, no recommendation, no advisory, no consensus, and no effort either to develop that kind of consensus.

iv. **Borrowed knowledge**

The fourth problem which is very serious. You must be hearing about the World Trade Organization (WTO). India is a signatory of the WTO. Modern medicine came to India 200 years ago with the British. And it has made extraordinary progress, thousands of hospitals, training systems everything! In fact, the Health Ministry's allocation shows it is the dominant health care system. But if you look at it closely, in these 200 years, is there any scientific contribution from an Indian which made a difference to the practice of medicine all over the world? I don't mean that good papers were not published. That is a different thing, I mean something like anesthesia, something like antibiotics, something like CT scanning, and so on. These things have made a complete difference to the practice of medicine everywhere all over the world. Whether it is anesthesia, antibiotics, open-heart surgery, body scanning - these are all fundamental contributions that changed the way we practice medicine. There has been no contribution of an Indian in these for the last 200 years. But we are doing everything here including heart transplantation! How do we do it? By borrowing; we have been borrowing knowledge; we have been borrowing practices, and we

have been borrowing technology all these 200 years! Something is done elsewhere, they popularize it, they standardize it; then we train in it and come back and do it, whether it is cardiac or open-heart surgery, all these. That is on even today.

Today with WTO there is a change; because knowledge was freely coming, which we could borrow without bothering to repay; it is no longer possible to do that. Knowledge has become a property; it is just like a building, a house or a furniture piece that you cannot get free, you have got to pay for it. It is a property. Knowledge now has become a property; there is intellectual property right. There is a TRIPs regime - Trade Related Intellectual Property. So, if we keep on borrowing intellectual property from other countries - drugs, technology, instruments, anything - without the ability to repay - repay in terms of knowledge or repay in terms of cash - we cannot keep on doing this. A man who keeps on borrowing money without bothering to repay we don't know what happens to him. So very soon, may be in the next few decades, we will be called to account this TRIPs regime; we have to generate intellectual property. You know, from first January the protective clauses have gone; so the drug prices are shooting up. These are all manifestations of the problem that I am talking about.

So, these are the four major issues which cast a very heavy shadow on patient and his care.

II

I don't want just to mention the illness without suggesting the course of treatment. It is no use making a diagnosis and going away without suggesting a remedy. We can't go into the details of this.

Insurance

The question of access and quality both are somewhat intertwined. If you go to a Taluk hospital and ask the superintendent there (I have done this):

“Why is it that you have nothing available? No bandages are available; you have no splints and you have no x-ray films. Why is it like this? You cannot even change the bed sheet?”

He will tell you:

“Look, all these things are supplied from Thiruvananthapuram. Here these things are delivered only from a depot and whatever is given to me I finish by the first three months; I have nothing here. I don't have the money and so I ask the patient to go and buy it”.

So what is happening? It is not that the doctor is inefficient. We are the victims of a system. The patient has to buy it from his own expense. Recently a World Bank survey, done especially on Kerala, reveals that due to such expenses about 30% of the families are virtually on the street; it is much higher in Andhra Pradesh – there it is 60%! So, patients are reduced to utter penury by illness; because they have to meet the expenses to buy the things for treatment by their own. The government is supposed to provide it; they are providing but it doesn't happen on the ground. If a hospital has to run, they need money; they have got to pay the salaries, they have got to buy drugs, consumables, detergents everything. They have got to pay for all. How do they get this money? The present system is not working; and it is the point, first of all we should recognize.

The Govt. of India, in the last budget, has made a halting start in this direction i.e insurance for below poverty line. That is a good beginning, but that's not enough. I think, the below poverty

line would come about 300 billion or 400 billion and their insurance should be bought by the Government. The others, who are employed by various employers; there the employers should buy the insurance as they are already doing in many instances; and other self-employed, they should buy their own insurance. By insurance I mean general insurance. In fact 80% of the care will be covered by a general insurance. That is what people need; that is the kind of protection they need. So, first of all, in a restructured system that should bring satisfaction to patients, the first thing will be that the standard must be established. What should be the composition of physical facilities, performance, etc. at the Taluk level, at the tertiary level, that must be established. And, it is not impossible; this is possible. For e.g. the rate of caesarian scission in a developed country is 10%. In our country, it is true, because here patients don't have a proper anti natal care, they may come late and so on. So, we may be able to attain that 10%, may be it is 20 %, but it cannot be 60 %. So, it is necessary to establish some standards, even arbitrary; and then try to attain that. So is functional and performance standards; these also must be paid and hence must be prescribed. Once that is done, insurance is there; so the patient comes to these Taluk or tertiary hospital, he gets his care and the insurance pays the hospital. But the insurance will pay only if they are accredited by fulfilling these standards. So, there must be an independent accreditation body. Accreditation in India, we have statutory terms like Medical Council, AICTE, etc. I am afraid that the High court of Delhi said a couple of years ago that the Medical Council is a den of corruption. It is a disgraceful admission and this is true for all statutory councils. And the more councils we create they become tyrannical

- every one of them; there is more of license, quota, permit, and invariably there is corruption! We have, on the other hand, accreditation going on without any corruption! That is done voluntarily like hotels; you see three-star, four-star, five-star and all that. There is no litigation about it. They have a voluntary body and certain written standards; if these things are there, will be called three-star, five-star and so on. So, there is no litigation on this grading and it works perfectly. In fact it is working so perfectly that a foreign rating agency wanted to buy it. So, it is possible to set up autonomous bodies which will do the accreditation of these hospitals. They will accredit if you make these standards that are prescribed! Yes, you are accredited; and it is in the interest of the hospital to get the accreditation. If they don't have it, they don't get money from the insurance. So, in one stroke patient going to the hospital don't have to worry about out of pocket expenses; the insurance will pay the hospital, but the hospital has to meet the accreditation standards. So patient can go to an accredited hospital with an assurance that the hospital meets the standards; their labs are accredited and their performance is being monitored. So, he can go with some degree of confidence. He doesn't have to keep on doing doctor-shopping from one place to another.

So, that kind of a system involves setting up of standards, accreditation and payment by an insurance system. Until that system comes, there is no way we can solve these problems. Simply by raising the allocation every year 10% over the previous year nothing is going to be solved.

Integrated care

I liked very much Smṛtiparvam, (the autobiography of Dr. P.K. Warriar) which was released today. I was very much interested in

reading a chapter in which he talks about a patient with what we call pyrexia of unknown origin. Patient with very high fever is a case that he has quoted in his autobiography. This patient came to Arya Vaidya Sala who had been treated for several weeks and months, emaciated with ulcers in the mouth, practically in a moribund state. And nobody could find the cause of the fever. Even though the patient had been investigated extensively and was advised bone marrow biopsy to rule out chances of leukemia and so on. The patient came to Arya Vaidya Sala at that desperate stage. The first thing observed, in this chapter he has written, is that the patient was not able to eat anything. 'So, before you worry about the cause of the fever, why not improve the nutrition of the fever?' It was a typical ayurvedic approach not to worry about the cause or investigation; the first step in the treatment was to improve the patient's appetite. Patient started eating, became cheerful and gained some weight. And when all this was going on, patient's general resistance was building up; suddenly a node appeared in the neck. And, then a biopsy was done. It turned out to be a tuberculosis node; and this is quite likely because the patient's resistance was too low. When the immune resistance has been wiped out by a variety of factors, the body will not react, the lymph nodes will not.

So, here as the general condition was improving, the immune resistance was being built. Suddenly it came as a Lymph node and that treatment of Tuberculosis was done by modern system because it is more effective. Within a certain period of time three or six months you can cure that. Now, that is a very good combination but the point I am trying to make clear is that when we talk about integrated

care we have to build up series of protocols like this. It is not possible to do it for everything, nor is there a need to do it. But a large number of conditions are possible to build joint protocols that should be accepted all over India. For e.g. in the National Institute of Health in the United States, if you take any cardiac condition that I am familiar with, there was always a difference of opinion. Whether someone with coronary artery disease should have balloon angioplasty or by pass surgery? This kind of difficult question is not easy to find 'yes' or 'no' in olden days. It was the surgeon's decision, the physicians' decision or the individual's decision. That it is no longer accepted. So, what does the National Institute of Health do? They have what is called the NIIH consensus conference. They have a meeting every now and then, to discuss a burning problem of today, whether it is leukemia treatment or coronary artery disease or hypertension, they have a meeting of experts over several days; when all these are thrashed out then they would say the patient is aged, he has this kind of family history, this kind of angiographic appearance, this was the most advisable treatment and so on. So, that is a national consensus, and it is on the websites; even the patient can read it. So if I am a surgeon and I say something entirely different from what is there in the consensus, educated patient will ask me how is it? Why you are telling me like this? Because that is not the national consensus. So, our effort should be to make available such services; this cannot be done in an overnight. It is necessary to have at least certain number of common conditions, common protocols, so that wherever you go, to Mumbai, Jaipur or Trivandrum, the approach is the same. So, that kind of a consensus is to be developed for an

integrated practice. Start with 5, 10, and slowly build up. After all, Arya Vaidya Sala reached this in 100 years. So, what we are talking about is something that the time range is integrating the two entirely diverse systems. But we should make a beginning.

Intellectual property

Intellectual property is a very big problem. I am afraid we are doing very little. In the case of medical instruments, as you know, we cannot practice modern medicine without instruments. In treatment, diagnosis and prevention, everywhere we need instruments; today, in India, we are importing 95 % of these instruments. In an estimate released by the British National Health Service, I could not get any figures from India; they have estimated that India's requirements for medical instruments, is 5300 crores a year. This covers everything - plastic surgery, cardio vascular, the whole lot; now this kind of requirements does not include devices like hot bags and so on. Are we going to go on importing at this rate? Can we afford it? If at all we import, it becomes available to fewer and fewer persons because the cost is so high. So, you may have all the advanced instruments available for 5% of the Indian population, and 95% will not have access to it. A survey published by the US Department of Commerce states that they are essentially interested in the market for American instruments in India and that they put the Indian market as 70 million. I think this was in 1998. So, for them, 70 million was a big market. But in the rest 900 billion people they are not interested at all; but we are interested in them. So, how do you make all these things - instruments, technology, services - available to the people; if we keep on importing, we have nothing to give. Then, what is going to happen?

I came here a few years ago. After the turmeric patent, there was a great awareness in India that western countries would patent all medicinal plants. So, CSIR fought and won that case. Shortly after that there was a discussion of what we should do about herbal products, drugs form of herbal products and so on. It was clear to me that there should be a collaboration between the CSIR, which is the largest science organization we have, and a traditional place like Kottakkal, which is open to modernity. This is not enough that you are traditional but if you are not open to modernity you cannot solve the problem of intellectual property. So I came here and Dr. Warriar agreed. I bought Dr. Mashelkar here and an agreement was signed. Now that is one step that we have taken for developing drugs from plants that is creating intellectual property. If you have a molecule, which can be effective in treating some diseases, you can patent it and that can earn millions of dollars for India and we may be able to transfer it to other countries. That is giving back something. But that is not the only thing; it is very difficult to get drugs from herbal products. It takes several years and you may have number of failures but there are a whole lot of other things. Ayurvedic research has become more or less drug oriented from plants, which is a very unfortunate state of affairs. There are a whole lot of other things; e.g., we talk about rasāyanās; we talk about pañcakarma. When patients come here for hundreds of years and they say that they are feeling better you can see they are getting better. Are you studying the mechanisms of this well being? What has happened to their system? their biochemistry? their immune system? Now nobody is studying this in a scientific manner.

And if we don't do this, what is going to happen is that others are not going to keep quiet, they will study this. This is nothing secret; they find that a particular preparation with some changes and modifications, and it makes important immunological or biochemical changes in an individual, makes the knowledge patentable today. So you cannot complain because we have not done anything. It is no use saying it has been there for several years but some body has cleverly changed it. They have found the mechanism which works, and if they want to patent it, there is nothing that you can do about, you can go to the court but its very unlikely you will win. So therefore, we are obliged to our own ancestors, Caraka, while classifying medicinal plants, describes about fifty different applications for fever, diarrhoea, etc. He says:

mandānām vyavahārāya,
buddhānām buddhi varddhayēd.

This classification has been given for the ordinary doctors; but for the wise people this is for extending the domain of knowledge. How we are going to extend the domain of knowledge? It is only by doing research. That is the only way you can create intellectual property; you cannot do it by speeches, writing books, it is only by investigation, by enquiry. That is the only way intellectual property can be created. It is a debt that we owe to our forefathers. And if we do that, then we will become a self-confident country, a strong country, technologically, and we can be proud of our ancestors and ourselves.

I have just presented to you the care of patients as it exists in India today, some of the problems, and some hopes of how these problems could be solved.

UNANI AND AYURVEDA – THE NEED FOR MEANINGFUL INTERACTIONS*

P.K. Warriar**

At the outset, let me express, my deep sense of gratitude to the Intelligentsia of this great institution for bestowing this honour on me. In this finest hour I feel elated on three grounds. Firstly, this honour comes from a great centre of learning and the conferment is made by the Hon'ble Minister for Human Resource Development in this august assembly and I am sharing it with the distinguished Asghar Ali Engineer; secondly, this is an honour to ayurveda, the ancient system of healing, of which, Arya Vaidya Sala, Kottakkal, the institution I represent, is the pioneer; third and the most important, this symbolises the need for more meaningful interaction between these two great systems - Ayurveda and Unani.

Jamia Hamdard, seat of higher learning in Unani Medicine, Islamic studies and other areas of knowledge is the realisation of the dream of a great visionary Hakeem Abdul Hamid who occupies a high place in the history of education in our country. I am really inspired to read the seal adopted by Jamia Hamdard from the Holy Quran, which means “ the Prophet instructs them in *Book and Wisdom*”. I deem it a great

privilege to receive an honour from an institution, which proclaims that “Learning is the glory of Mankind” and that “man is worth his knowledge, nothing more”.

Unani system of medicine

Historians have traced the origin of Unani system to the Hellenic past. Though it is a continuation of Greek sciences, it was revitalised and enriched by extension to other areas. The Islamic scholars have rescued Greek science from the decadence it had fallen into under the Roman Empire. They created a live and growing science by drawing on the experiences of non-Hellenic countries, Persia, India, and China, and were able to extend the foundation of Greek traditions in mathematics and medical sciences. They were able to profess the techniques of algebra and trigonometry and to lay the foundation of optics. The crucial extension of Islamic Science came in the field of alchemy, where in the Islamic scholars transformed the ancient theories, added new formulations and thereby created a new discipline.

*Speech delivered on the occasion of receiving the degree of D.Sc. (Honoris Causa) from Jamia Hamdard Deemed University, New Delhi on 14.1.2005.

** *Managing Trustee & Chief Physician, Arya Vaidya Sala, Kottakkal*

Professor J. D. Bernal in his celebrated work 'Science in History' emphasises the point that the secular and scientific ideas, not the religious norms, promoted Islamic sciences in the period of enlightenment. The great Islamic doctors like Al-Razi and Avicenna were endowed with wide knowledge ranging from astronomy to botany and chemistry. This age marked a great leap in the field of chemistry and medicines. He has also noted that Islamic science could achieve this progress because of its responsive character. The rulers also encouraged them. The Caliphs of Baghdad were famous as the promoters of knowledge. In order to have better interaction with other disciplines, they arranged for the translation of scientific works available all over the world. The texts thus translated included ayurvedic works like Carakasamhita. There are many similarities regarding the origin and evolution of medical sciences in India and the Arab countries. Both have their roots in the past; both survived the onslaught of time due to their vitality, receptive attitude, and adaptability without violating the basic concepts. Roots in the past cannot be an alibi for negligence. They are scientific systems relevant to meet the present needs of the society.

Ayurveda

Ayurveda is a scientific discipline that emerged from the past, but has undergone changes in theory and practice to meet the challenge of time. Although veda is suffixed to its name, it is not at all a theological discipline; secular in nature intended to impart instructions on the ideal regimen of life maintaining the health of body and mind alike.

The diseases are the results of bad habits. They disturb the harmony within and outside and bring in diseases causing disequilibrium to the existing state. Treatment in ayurveda is intended to restore this balance and recuperating the damaged system by scientific techniques of holistic nature like purification, pacification, rejuvenation and similar methods. Objective study and rationalistic techniques are preferred, since the mind and body are considered inseparable and the cause of disease depends on wrong movements. Primary consideration is given to the role of mind. Sin is taken as a synonym of disease and prajñāparādha or violating the sense of wisdom is taken as a major cause of all diseases.

All these explanations may go in agreement with the objective studies on the physical and mental causes of ill-health and remedies prescribed in the present day.

The colonial saga

Both Ayurveda and Unani are the victims of colonial rule in India. At the time of British conquest, Ayurveda, Unani and Siddha systems met the medical needs of the people. There existed a fruitful interaction among these systems, especially between Ayurveda and Unani. This helped both the systems to enrich their pharmacopoeia and diagnostic skills.

Hakim Yoosufi, a physician in the court of Baber and Humayun tried to develop an integrated medical system through a synthesis of Arabian, Ayurvedic and Persian thoughts. Several others also tried to bring the two systems together. Both these systems have adopted drugs from each other. Muhammad Ali

in his work on 'Ayurvedic drugs in Unani Materia Medica' has enlisted 210 plant drugs added by Unani physicians to their Materia Medica. Ayurveda also incorporated several elements from Unani system.

It was the colonial strategy that distanced these systems. It is time that we think aloud to continue the process and search for more areas of meaningful co-operation. I consider this award conferred to a representative of ayurveda as the beginning of such a process to bring about harmony among the different medical systems.

Conclusion

The word Hamdard means "sympathy for all and sharing of pain". Ayurveda considers anukrōśa as its basic principle. Anukrōśa means sympathy for the suffering. As our objectives are the same there is good scope for us to work together for the common cause. The Vedic seers proclaimed:

आनो भद्राः क्रतवो यन्तु विश्वतः

'Let noble thoughts come from all directions'.

Let this vision lead us in all our endeavors.

ALL INDIA AYURVEDIC ESSAY COMPETITION - 2005

FOR

VAIDYARATNAM P.S. VARIER PRIZES

Kottakkal Arya Vaidya Sala invites essays in English, Sanskrit or Malayalam for the award of **Vaidyaratnam P.S. Varier Prizes**, to promote Ayurveda. Cash award of Rs. 25,000/- and Rs. 15,000/- will be given to the entries adjudged 1st and 2nd respectively. Topic for this year's competition is **HEPATOPATHY**. The last date for receipt of the entries is 31st October, 2005. Rules and regulations for the competition can be had from:

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PHARMACOGNOSTICAL STUDIES OF *BIDENS PILOSA* AUCT., NON LINN.

N. Mahadevan, C.L. Gopu, T. Subburaju and B. Suresh*

Abstract: *Bidens pilosa* auct., non Linn. is found to be effective in various diseases such as malaria, diabetes, urinary disorders, kidney stones, inflammation, etc. This paper deals with the pharmacognostical studies carried out on the aerial parts of *Bidens pilosa* for identification and differentiation of the plant from other related species of *Bidens*. Leaf constants such as vein-islet number, veinlet termination number, stomatal index, palisade ratio, etc. are also dealt with.

Introduction

Bidens pilosa auct., non Linn., belongs to the family Asteraceae, is an annual or perennial herb used in various countries for diseases like malaria¹, diabetes^{2,3}, nephritis, fever⁴, kidney stones⁵ and as anthelmintic⁶. The plant is reported to contain aesculetin, lupeol, daucosterol, beta amyryn, palmitic acid⁷, caffeoyl derivatives⁸, phytyl heptanoate⁹, chalcone glycosides¹⁰, phenyl heptatriyne and essential oil¹¹. Also, the plant is reported to have antimalarial¹², antiviral¹³, antimicrobial and antihyperglycemic activities⁷.

Collection and identification

The plant is an annual or perennial herb found throughout India. Its aerial parts were collected from Ooty, Nilgiris, Tamilnadu and identified from Medicinal Plants Collection Unit, Ooty. The material was cleaned, allowed to dry in

shade, and powdered. It was then filtered by sieve 60, and the fine powder so obtained was used for determining analytical parameters.

Macroscopical characters

Leaf

Colour - upper surface dark-green and lower surface light-green; shape - lanceolate to ovate; venation - pinnately reticulate; margin - serrate; apex - acuminate; base - asymmetrical; odour none; taste bitter; size 6 - 8.5 cm long and 2.5 - 3.5 cm wide; extra features - lower surface contains more number of trichomes which are longer than the trichomes of upper surface.

Stem

Colour green; surface smooth; fracture fibrous; odour none; taste bitter; shape circular with wavy outline; young stem pubescent.

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Histological studies

T.S. of leaf

The T.S. of the leaf showed dorsiventral condition. The cell of upper epidermis is single layered, tangentially elongated and compactly arranged. The epidermal cell present in the midrib region is oval shaped and covered by a thick cuticle. Lower epidermis is similar to upper epidermis. The epidermal region showed the presence of multi-cellular, uniseriate covering trichomes and the surface preparation showed anomocytic stomata. Covering of trichomes are up to 10 celled long and are non-lignified. The palisade parenchyma is single layered with elongated cells. The palisade tissue is not continuous over the midrib region. Few layers of chlorenchyma are present below the upper epidermis of the midrib region. The xylem is present towards the centre and the phloem towards the periphery. Seven to nine layers of collenchyma are present above the lower epidermis in the midrib. Rest of the midrib region is filled with loosely arranged parenchymatous cells (Figure 1).

T.S. of stem

The T.S. of the stem showed a wavy circular outline with the epidermis, cortex, sclerenchyma, vascular bundle and pith. Epidermis is single layer, oval shaped cells with wavy outline i.e. ridges. Cortex consists of few layered parenchymatous cells round in shape, along with chlorenchyma. One or two layers of parenchyma are present below chlorenchyma. Under each ridge 3 - 5 layers of sclerenchyma cells are present. Below each ridge vascular bundle is present which is covered by 3 - 5 layers of sclerenchyma. Xylem is present towards the pith and phloem towards the

epidermis. Xylem is lignified; pith cells that are present near the vascular bundle and sclerenchyma, are small whereas the cells that are present in the middle are big with large intercellular space (Figure 2).

Powder microscopy

The characters observed in the powder microscopy were: Fibres - both in group and isolated; Trichomes - uniseriate, multicellular and covering type, unlignified; Calcium oxalate crystals of prismatic type are seen. Wood elements and vessels are seen; starch grains seen absent.

Trichomes

The length and width of trichomes were measured using stage micrometer and eyepiece micrometer¹⁴. The average length of trichomes was found to be 130 - 302 - 375 .⁰⁰m and average width 18 - 25 - 32 .⁰⁰m.

Leaf constants

The leaf constants like vein-islet number (13-19), veinlet termination number (25-31), stomatal number (150-200), stomatal index (28-33) and palisade ratio (13-15) were determined by quantitative microscopy.

Analytical parameters

Ash values

Ash values are helpful in determining the quality and purity of the crude drugs in the powder form. The ash values were determined according to Indian Pharmacopoeia¹⁶ such as total ash (8.9%), acid insoluble ash (0.85%), water-soluble ash (2.69%) and sulphated ash (8.1%).

Extractive values

Extractive values of crude drugs are useful for

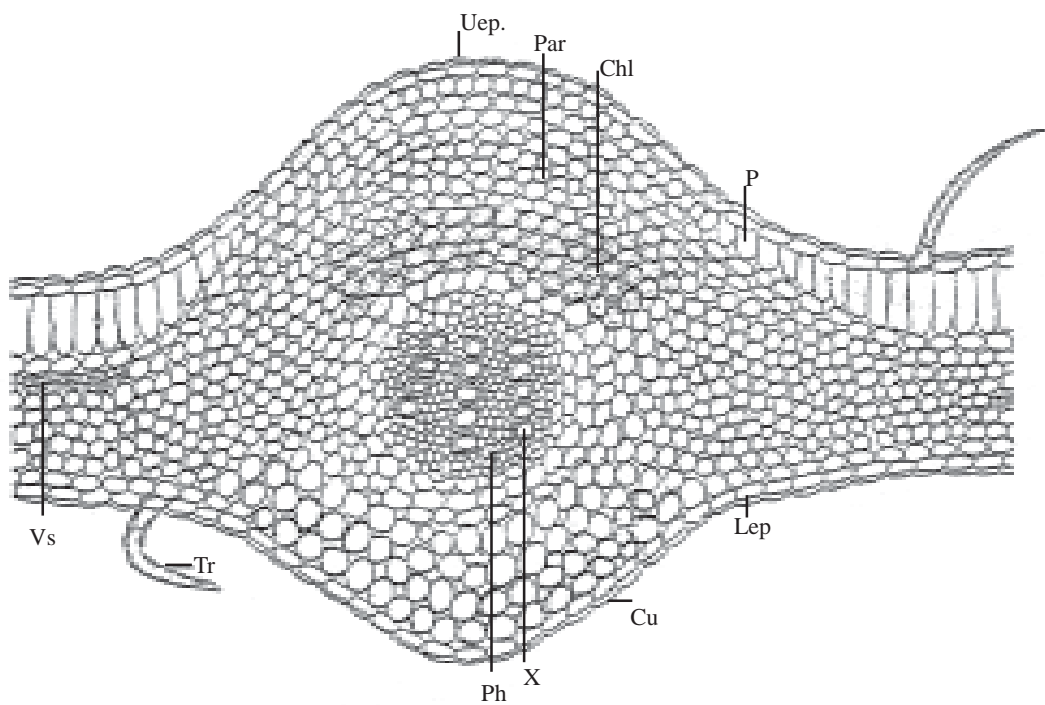


Fig. I. T.S. of leaf of *Bidens pilosa* auct., non Linn. (10x40)

Uep. Upper epidermis **Par.** Parenchyma **Chl.** Chlorenchyma **P.** Palisade
Lep. Lower epidermis **Tr.** Trichome **Cu.** Cuticle **X.** Xylem **Ph.** Phloem **Vs.** Vascular strand

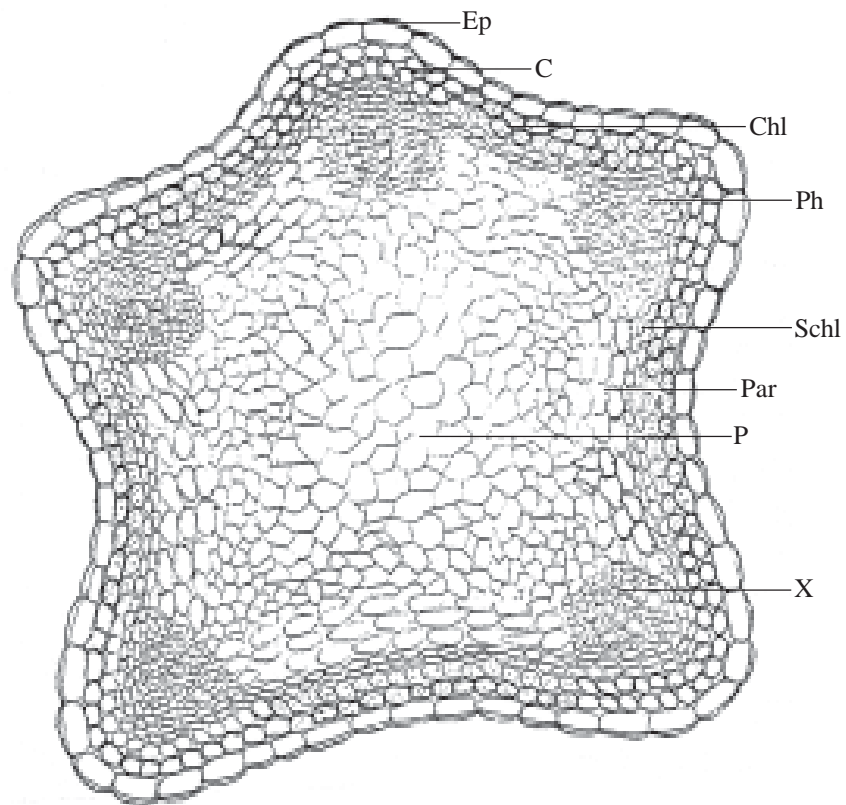


Fig. II. T.S. of stem of *Bidens pilosa* auct., non Linn. (10x40)

Ep. Upper epidermis **C.** Cortex **Chl.** Chlorenchyma **Ph.** Phloem **Schl.** Schlerenchyma
Par. Parenchyma **P.** Pith **X.** Xylem

their evaluation especially when the constituents of a drug cannot be readily estimated by any other means. Further, these values indicate the nature of the constituents present in a crude drug. Here, 95% ethanol and water-soluble extractive values were determined¹⁶ and found to be 2.62% and 22.68% respectively.

Results and discussions

Bidens pilosa is found to be effective in variety of diseases such as malaria, diabetes, urinary disorders, kidney stones and inflammation. Pharmacognostical studies of aerial parts of this plant was carried out in order to identify the correct species and to differentiate the closely related other species of *Bidens*. The parameters observed may be useful for the future identification of the plant.

Acknowledgement

The authors are thankful to Jagadguru Sri Deshikendra Mahaswamigalavaru of Suttur Mutt for providing the facilities for the study.

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**STATEMENT ABOUT OWNERSHIP AND OTHER PARTICULARS
ABOUT NEWSPAPERS**

(Aryavaidyan - Form II vide Rule 3)

1. Place of Publication : Kottakkal
2. Periodicity of its Publication : Quarterly: 4 times a year
3. Printer's name : P.K. Warriar
- Nationality : Indian
- Address : Managing Trustee,
Arya Vaidya Sala, Kottakkal-676 503,
Malappuram Dist., Kerala State.
(Printed at Radhakrishna Press, Kottakkal)
4. Publisher's name : P.K. Warriar
- Nationality : Indian
- Address : Managing Trustee,
Arya Vaidya Sala, Kottakkal-676 503,
Malappuram Dist., Kerala State.
5. Editor's name : Dr. K.G. Paulose
- Nationality : Indian
- Address : Publication Division,
Arya Vaidya Sala, Kottakkal-676 503,
Malappuram Dist., Kerala State.
6. Name and address of individuals who own the Newspaper and Partners or Shareholders, holding more than 1% of the total Capital. : Arya Vaidya Sala,
Kottakkal.
(A Charitable Trust).

I, P.K. Warriar hereby declare that the particulars given above are true to the best of my knowledge and belief.

Kottakkal
15-2-2005

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ROLE OF *BERBERIS ARISTATA* IN THE TREATMENT OF INFECTIVE HEPATITIS WITH SPECIAL REFERENCE TO ITS ANTIOXIDANT PROPERTIES

N.P. Rai, B.K. Mishra and Vijay Seth*

Abstract: Considering the chronic nature and complications of Hepatitis and the scarceness of its satisfactory alleviation, it is necessary to look for drugs from indigenous system of medicine. Accordingly, *dāruharidra* (*Berberis aristata*) has been taken up to 10 patients of Hepatitis. The drug provided good clinical relief as well as biochemical improvement and showed antioxidant properties.

Introduction

Infective hepatitis popularly known as jaundice is a major health hazard through out the world affecting several hundred millions of people every year, which is responsible for considerable morbidity and mortality both from acute infection and its chronic sequele. Alcohol and drug induced liver injuries are also other common causes of jaundice. The infective hepatitis is one of the most common acute liver disorders, which is often followed by liver cirrhosis as well as hepatic encephalopathy due to ignorance and incomplete treatment.

Generally, a hepatitis patient presents the signs and symptoms of fever, loss of appetite, icterus yellowish discolouration of urine, malaise, etc. As far as the treatment of this disease is concerned, there is no a rational therapy documented in modern medicine. However,

ayurvedic classics emphasize comprehensive treatment modalities to compact with this disease.

Berberis aristata is one of the main ingredients of various ayurvedic formulations prescribed for the treatment of skin diseases, arthritis, jaundice (*kāmala*) of different origin. It is having *tiktarasa* (bitter), *laghu* (light) and *rūkṣa* (rough) *guṇās* (qualities) and *kaṭu* (acrid) *vipāka* (taste after postdigestion) and *uṣṇa* (hot) *vīryā* (potency).

Materials and methods

Ten patients of different age groups (10-70 year) from the OPD as well as IPD of *Kāyacikitsa* ward of S.S. Hospital of BHU who diagnosed infective hepatitis *viz-a-viz* *kōṣṭhaśākhāśrita kāmala*, having symptoms of *hāridramūtra* (yellowish urine), *aruci* (loss of appetite), *jvara* (fever), etc. were selected for

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the study. The trial drug was employed only in the patients whose liver function tests found to be abnormal.

The trial drug was given orally in the form of lukewarm decoction (kvātha) in the dose of 20-40 ml twice a day for 20 days, and follow up was done every ten days. After every ten days liver function tests were done in each and every patients. Totally two follow ups were done.

The objectives of the study were 1) to compare the improvement of clinical signs and symptoms and 2) to observe the biochemical investigations and their improvement.

Assessment criteria

The patients, according to their improvement, were grouped into three viz. 1) cured, 2) improved and 3) unchanged.

The patients who responded completely to the

treatment were kept under 'cured' group. In this group, the diagnostic criteria was the achievement of normal level of LFT. In the 'improved' group, the patients showed mild degree of persistent clinical syndrome of jaundice and incomplete biochemical improvement of LFT. There was no clinical improvement found in the 'unchanged' group.

Apart from the above, the MDA examination of all patients was done for the assessment of antioxidant properties of the drug.

Free radical states and MDA

1. An increase of the MDA concentration has been observed in the diseases where free radical reactions are known to be taking place.
2. The level of MDA correlates with the degree of organ damage.
3. It is proposed that the tissue hypoxia and

TABLE 1
Incidents of ayurvedic symptomatology in 10 patients of viral hepatitis
viz. kāmala and effect of dāruharidra decoction

Lakshna	Incidents (in %)	Before treatment			Before treatment			Nil (No)	Impr. (%)
		Mild	Moderate	Severe	Mild	Moderate	Severe		
Hāridranētra	100	2	7	1	1	1	-	8	80
Raktapītamūtra	100	2	6	2	1	-	-	9	90
Raktapītapurīṣa	80	4	3	1	1	-	-	7	87.5
Hāridratvak	60	4	1	1	1	-	-	5	83
Hāridranakha	60	4	2	0	-	-	-	6	100
Hāridramukha	70	4	2	1	-	-	-	7	100
Bhēkavarṇa	10	1	-	-	-	-	-	1	100
Hatēnidraya	20	2	-	-	-	-	-	2	100
Dāha	100	2	7	1	2	-	-	8	80
Avipāka	100	1	1	8	2	-	-	8	80
Daurbhalya	100	1	8	1	2	-	0	8	80
Śōdana	50	3	2	-	-	-	-	5	100
Aruci	80	1	2	7	1	1	-	6	75
Karṣaṇa	60	2	3	1	1	-	-	5	83

the decrease of serum antioxidant activity are the general factors leading to the MDA accumulation in the serum with viral hepatitis specially with hepatitis-B.

Observations and results

After administration of trial drug for three weeks, the symptomatic improvement observed was encouraging. 100% recovery was observed in the symptoms of hāridranakha, hāridra-mukha, bhēkavarṇa and hatēndriya. Improvement between 80-99% was seen in symptoms including hāridranētra, raktapītamūtra, raktapītapuriṣa, hāridratvak, etc. and 75% improvement was seen in aruci (Table 1).

After 20 days of treatment, 100% changes observed in the clinical features such as in vomiting, malaise, headache, diarrhoea and

weight loss. Improvement in between 80-99% was observed in clinical features like yellow sclera, yellow urine, anorexia, nausea, fatigue and fever. Improvement in between 60-80% was observed in arthralgia, hepatomegaly and constipation (Table 2).

Discussion

The decoction of dāruharidra is an ideal herbal preparation found to be hepatoprotective and also effective in liver disorders. In the present study, there was significant reduction of symptoms after three weeks of treatment in patients having infective hepatitis.

The effect of dāruharidra on total serum bilirubin level observed was highly significant – $t_1=4.83$ $p<0.001$ & $t_2=3.47$, $p<0.001$. The changes observed on the level of SGPT was

TABLE 2
Incidents of clinical features according to modern medicine in 10 patients of viral hepatitis viz. kāmala and effect of dāruharidra decoction

Lakshna	Incidents	Before treatment			Before treatment			Nil (No)	Impr. (%)
		Mild	Moderate	Severe	Mild	Moderate	Severe		
Yellow sclera	100	2	7	1	1	1	-	8	80
Yellow urine	100	6	2	1	1	-	-	9	90
Anorexia	100	1	1	8	1	-	-	9	90
Nausea	70	1	4	2	1	-	-	6	85
Vomiting	40	3	1	-	-	-	-	4	100
Fatigue	100	-	2	8	2	-	-	8	80
Malaise	80	1	6	1	-	-	-	8	100
Arthralgia	30	2	1	-	1	-	-	2	66
Headache	30	2	1	-	-	-	-	3	100
Fever	50	1	3	1	1	-	-	4	80
Diarrhoea	20	1	1	-	-	-	-	2	100
Weight loss	20	2	-	-	-	-	-	2	100
Hepatomegaly	30	2	1	-	1	-	-	2	66
Splenomegaly	-	-	-	-	-	-	-	-	-
Abdominal pain	60	1	3	2	1	-	-	5	83
Constipation	80	1	2	5	1	1	-	6	75

t1=2.73 p<0.05 and t2=2.005 p<0.02; there was significant changes observed in total serum protein level - t1=3.56 p<0.01 & t2=5.87 p<0.001 (Table 3)

MDA is a byproduct of lipid oxidation. Estimation of MDA level before treatment and after treatment showed significant reduction in MDA level which indicate anti-oxidant properties of the decoction of dāruharidra (Table 4)

Conclusion

In all the patients of infective hepatitis, the clinical trial on the decoction of dāruharidra showed asymptomatic relief. This encouraging result implies that dāruharidra may be considered as an effective drug in the treatment of infective hepatitis having antioxidant properties.

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TABLE 4
Effect of dāruharidra on Serum MDA level in viral hepatitis (n=100)

Mean Diff. BT - AT	BT	AT	BT-AT	Paired “t”
Mean	32.75	17.45	15.5	4.72
+	+	+	+	+
SD	25.12	17.61	10.2	p<.001

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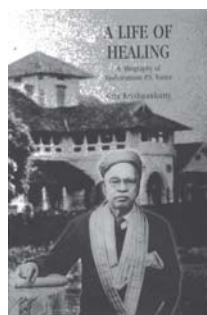
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TABLE 3
Mean effect in the laboratory finding before and after treatment on infective hepatitis

Mean Diff. between BT & AT	S. Bilirubin			Alk. Phosphatise			SGOT			SGPT			T. Sen Protein		
	BT	AT ₁	AT ₂	BT	AT ₁	AT ₂	BT	AT ₁	AT ₂	BT	AT ₁	AT ₂	BT	AT ₁	AT ₂
Mean	10.23	7.64	6.17	247.19	208.61	165.07	141.22	66.5	40.15	149.91	60.8	42.34	6.61	7.17	7.45
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SD	737	658	5.55	144.79	151.86	89.2	116.0	51.56	23.42	116.46	37.4	22	0.64	0.84	0.75

BT = Before treatment; AT = After treatment; T₁ = First Followup; T₂ = Second Followup

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Price: 395/-

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KŪPĪPAKVA PREPARATION – A METHOD OF PROCESSING OF RASAUṢADHĪS

Rajiva Kumar Rai and C. B. Jha*

Abstract: In the main stream of management of diseases, rasauṣadhīs have a telling position amongst the medicaments; they are generally in the form of bhasma, parpaṭi, pōṭṭali, kharliya and sindūra. Māraṇa, bandhana, mardana and kūpīpakva, etc. are few methods accepted to prepare rasauṣadhīs. Among these, kūpīpakva is a special process where mṛdu, madhya and tīvra manner of heat is applied to the material in a glass bottle through vālukāyantra. This paper highlights the history, equipments and method of preparation of kūpīpakva rasauṣadhīs.

Introduction

The preceptors of Indian rasaśāstra were initially indulged very much in the achievement of a disease-free and decay-free body (dēhavēdha) and conversion of a lower metal to a higher-metal i.e. a metal having higher economic value (lōhavēdha) simultaneously, but later their attempts in the field of dēhavēdha became dominant. Since the necessity of the removal of ailments was the primary concern, ācāryās showed their keen interest on the byproducts of lōhavēdha and dēhavēdha processes. They started to use these by products of vēdhakarmās for therapeutic purposes, with a view to promote and maintain positive health, to cure disease and a prolonged life and also to preserve the decadence of the body. This was because of their belief that without making the body strong and life prolonged, the

attainment of bhukti and mukti (salvation) could not be achieved¹.

Ācāryās found mercury and few other metals/minerals very useful. They observed that some toxic and harmful effects are likely to be produced in the human body if such metals/minerals are used as such. Hence to minimize or to remove their toxic effects they developed specific techniques like śōdhana, māraṇa, gandhakajāraṇa, etc. in such a way that when these metals/minerals in the form of formulations administered internally could produce all the effects of dēhavēdha without exhibiting any harmful effect in the body. Gandhaka (sulphur) is considered as an essential element for various purposes of mercury such as mūrccana, jāraṇa, etc.

It is believed that the toxic effect of pārada (mercury) needs to be reduced so as to obtain

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its desirable qualities. Probably, this is why mercury is advised to be administered internally with sulphur in most of the cases. It is also claimed in different texts that mercury does not become therapeutically useful unless incinerated with sulphur (balijāraṇa) in different ratios².

Materials and method

Kūpīpakva method is developed mainly for gandhakajāraṇa in which sulphur is added with mercury in different proportions and burns it with the help of fire in a glass bottle (kūpī). According to Ayurveda Prakash, mūrccana and jāraṇa may be used as synonyms but which is true only in the context of gandhakajāraṇa³.

In kūpīpakva method, mercury with or without sulphur is converted in the suitable compound even without being reduced to ashes. Through this process, mercury gets potentially upgraded and enhances its curative power; in other words, the potency and efficacy of mercury increases in proportion to the amount of sulphur burnt in the jāraṇa process⁴. According to the use of sulphur, the process is divided into two groups i.e. sagandha (preparation with sulphur) and nirgandha (preparation without sulphur).

Sagandha type of kūpīpakva rasauśadhīs are more common and popular in practice as they are easy in preparation and safe to use. They do not produce any hazardous symptoms in the body when used internally. The formulations of nirgandha type, where mercury is converted in the mūrccita state by adding other drugs, are not so common and should be used with care as they may produce some harmful effects. On the basis of presence of fumes during the process, sagandha types of kūpīpakva rasauśadhīs are again sub-divided into three: 1. āntardhūma, 2. bahirdhūma and 3. nirdhūma.

Kūpī

Even after the development of the technique of kāñckūpī (glass bottle) preparation, the earthen crucible, copper bowl and ḍamaruyantra were very much in use for the preparation of medicines like kūpīpakva. Rasataraṅgiṇī refers to the glass-coated earthen vessel for the preparation of rasapuṣpa⁵, but in due course, the use of glass bottle became more frequent due to its availability, easy handling and its inertness towards different components of rasauśadhīs.

Coating of clay and cloth

Bottle made up of gold, silver, iron or earthen material can be used for the preparation of kūpīpakva rasauśadhīs⁶. Rasaratnasamuccaya describes the method of coating of kūpī with clay and cloth in detail⁷. According to which, the bottle should be placed upside down in a rod stand. Keep a thin layer of clay at the bottom of kūpī and then a single piece of cotton strip, smeared with clay, should be placed downward from its bottom (the strip should be lengthy enough to cover both sides up to bottle's mouth). Then another cotton strip smeared with clay should be placed in cross direction to previous strip from the bottom to the mouth of the bottle. Press these coatings by hand to make it smooth and so also to make sure that no free space or air bubble is present in between the bottle and strips; then it should be dried in sun. Likewise, the texts of rasasāstrās describe total seven layers of coating of clay and cloth on kāñckūpī to make it strong and heat resistant.

Ayurveda Prakash describes saindhava and ayaskṛti for coating khadiya clay⁸, whereas in Rasēndracintāmaṇi, khaṭīca, mud and saindhava are described for coating on glass bottle⁹.

Vālukāyantra

Though vālukāyantra is described in detail from the period of ancient classics of rasaśāstra i.e. from Rasārṇava¹⁰ and reference to kañckūpī with its coating is available in Rasēndra-cūḍāmaṇī¹¹, both of these, i.e. vālukāyantra along with kañckūpī, were not used for the preparation of kūpīpakvarasauśadhīs till the period of Rasēndracūḍāmaṇī. Rasaprakāśa-sudhākara¹² is the first text that describes the use of both vālukāyantra and kañckūpī for the preparation of udaibhāskararasa, also known as rasasindūr, and later on, i.e. from 13th century to 20th century, various kūpīpakva formulations and method of their preparation were described in the classics along with other uses of kūpīpakva.

Vālukāyantra, also known as sikatāyantra, is the apparatus to provide heat to kūpī. Generally, vālukāyantra made-up of iron (bucket shaped), is used for kūpīpakva formulations, however, Ayurveda Prakash describes it made out of clay and coated with clay and cloth for kūpīpakva methods¹³. The size of vālukāyantra should be selected in comparison to kūpī, i.e. almost of equal height, to achieve the better results and to avoid the loss of fuel.

Vālukāyantra is filled with sand and it is called lavaṇayantra when filled with lavaṇa (salt). The purpose of filling sand or lavaṇa in vālukāyantra is to provide a constant temperature and also to provide support to the kūpī. Ayurveda Prakash describes vālukāyantra having a small hole covered with mica sheet at its bottom for the kūpīpakva processes, perhaps to increase the temperature at a faster rate¹⁴.

Muffle Furnace

As a heating device for kūpīpakva, muffle furnaces are very much convenient in various

aspects. Any type of temperature pattern for any short duration could easily be maintained through it. Muffle furnace checks the fluctuation of temperature. It is eco-friendly also, neither it requires wood as fuel nor it produces a lot of fumes and dirt.

Procedure

Filling of raw material

Though there is description of different amounts of ingredients to be filled in kūpī without describing the capacity of bottle in different texts of rasaśāstrās, it is not very clear in which amount the raw material should be filled in. However, practically 1/3rd (400g) filling of kūpī is found best for better results and also to avoid any sort of miss happening during the procedure.

Temperature pattern

After placing kūpī in the center of vālukāyantra/furnace according to the need of formulations, gradual temperature pattern of mṛḍu (250° C) madhyama (250° C – 450° C) and tīvra (450° C – 650° C) should be given for different periods.

In the classics of rasaśāstra, different periods i.e. from many hours to days are described for different temperature ranges of kūpīpakva methods. Necessity of different temperature pattern and their duration is dependent upon ingredients and their percentage in the formulation; for example, in ṣaḍgūṇajāraṇa (incineration of mercury with 6 times sulphur), we have to provide all the three ranges of temperature for longer duration whereas for the preparation of rasakarpūra, rasapuṣpa and svarṇavaṅga, temperature ranges of mṛḍu and madhyama for shorter duration are sufficient.

Precautions

Temperature of vālukāyantra should be increased gradually. During the process of heating the mouth of bottle should always be cleansed with a hot iron rod to avoid chocking of mouth of bottle which may cause ballooning/ blasting of the bottle. Fluctuation of temperature in vālukāyantra should also be avoided. Inhalation of fumes during the process should also be avoided to restrict the harmful effect in the body.

Pākaparikṣa

Appearance of flames in the wooden sticks placed on the surface of vālukāyantra and other different pākalaṣṣaṇa should be observed very carefully during the process of different yōgās like nirdhūma for rasakarpūra, rasapuṣpa, svarṇavaṅga, etc. On appearance of pākalaṣṣaṇa, the mouth of the bottle should be plugged by a piece of brick/clay and sealed with mixture of jaggery and lime if required. Sealing of the mouth of bottle with copper foil is also described in Rasaratnasamuccaya¹⁵. After sealing, the sand around the neck of the bottle should be removed to facilitate the deposition of final product. In the preparation of some kūpīpakva rasauṣadhīs, maintenance of tivrāgnīs for further many hours after sealing, is indicated for better results.

Breaking of kūpī

Covering/coating of bottle should be scraped off by a knife, and according to the position of final product, i.e. one finger below the lower border in case of ūrdhvastha formulation, one finger above from the upper border in case of tālastha formulation, a thick thread soaked in kerosene should be tied and burnt. After complete burning of thread, the heated portion of bottle should be covered with a wet cloth.

This immediately breaks the bottle spherically in a very sharp manner and the final product should be separated by hammering with a piece of wood.

Besides the preparation of rasauṣadhīs, this method is used for the preparation of tāmrabhasma, rajatabhasma, etc¹⁶

On the basis of works and experiences we are of the opinion that even the incineration (bhasmīkaraṇam) of metals like gold, silver, copper, lead, tin, etc. should also be done by kūpīpakva method as it is very easy and beneficial.

Discussion

For the preparation of kūpīpakva rasauṣadhīs, apart from mercury along with minerals and metals, different herbs such as vatsanābha are also used as ingredient. The formulation in which sealing of the mouth of bottle is indicated in the beginning of heating is prescribed. When bhasmās of metals/minerals are added as an ingredient then in most of the cases it is desired to get the final product tālastha.

To enhance the therapeutic quality of the drug, many specific methods are described; rasasindūr itself is used as an ingredient for the preparation of some formulations. For the preparation of Mṛtasañjīvanīrasa the liquids of different herbs are added in the kūpī during the process of heating¹⁷. For the preparation of Sarvalōkāśrayarasa, different ingredients are filled in kūpī in the form of pellet¹⁸. For ṣaḍguṇajāraṇa described in Ayurveda prakash, equal amount (samaguṇa) of sulphur should be mixed in mercury in different steps¹⁹; for example, after complete one jāraṇa, next amount of sulphur should be added; or rasasindūr prepared with samaguṇa, sulphur should again converted in to free mercury by

sublimation (pāṭana) and then it should be processed further in the same manner repeatedly till the completion of ṣaḍguṇajāraṇa.

Conclusion

Kūpīpakva rasauśadhīs are magnificent in the main stream of ayurvedic medicaments that are frequently used for dreadful diseases. The descriptions about kūpīpakva method and many formulations prepared with different constituents and techniques are scattered in various texts.

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EFFECT OF *URGINEA INDICA* IN THE MANAGEMENT OF CONGESTIVE HEART FAILURE

M.H. Hakim, M. Faiyaz and S. Aleem*

Abstract: Chronic congestive heart failure is the potential end point of all forms of serious heart diseases, which are accompanied by the symptoms and signs of pulmonary, hepatic and/or peripheral congestion. The drug Indian squill (*Urginea indica* Kunth) possesses cardio-tonic, stimulant, diuretic and expectorant properties. This is an attempt to evaluate its clinical efficacy in the diagnosed cases of chronic congestive heart failure.

Introduction

Congestive heart failure (CHF) is a major public health problem in most of the countries. It has become a significant burden on patients, healthcare providers and on the society¹. Reports indicate that annually there are about 1.25 million cases of hospital admissions and 50,000 deaths due to CHF in the United States only. The incidence of CHF is very high in our country also. Since heart failure is more common in the elderly people and the prognosis is very poor, approximately 50% of patients with severe heart failure die within 2 years of diagnosis. As we know that it is not a disease but a clinical syndrome that represents an end stage in patients with a number of conditions that overload or damage the heart, CHF is frequently reversible even when the underlying cardiovascular disease that causes it may not be treatable, and if properly managed, patient

may have decades of active and comfortable life after first appearance of symptoms².

Heart failure is defined as a patho-physiological state resulting from impaired cardiac function that makes the heart unable to maintain an output sufficient for the metabolic requirements of the tissues and organs of the body or to do so only from an elevated filling pressure³.

If we refer to the ancient Unani literatures, it can be seen that the concept of heart failure is not a new issue. According to Ibne Hubal, Jeelani, Hkm. Sharif and Kirrmani Nafees, heart failure is a disease⁴⁻⁸; whereas Avicenna, Rhazes, Jurjani and Hkm. M Azam Khan attribute it to palpitation, unconsciousness and even sudden death⁹⁻¹³. They also try to explain its etiopathology and say that Zoafe Qalb (Cardiac Asthenia) is due to the imbalance in the temperament or humour of the heart leading

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to deficiency of the basic needs of organs (i.e. oxygenation and nutrition). It was Avicenna who carried out an in-depth study and proposed that either imbalance in the temperament or humour leads to the deficient supply of the *Rooh Haiawani* (A compound form of oxygen and gaseous part of humour) to the heart which leads to its malfunctioning or even heart failure¹¹. It was he who suggested the use of diuretics along with cardio tonic drugs in *Zoaf-e-Qalb* (Cardiac Asthenia) when the underlying cause is congestion (*Imtela*)¹⁴.

Aim of study

Although, now-a-days, immense advances have been taking place with regard to its management, digitalis remains an important part of its therapeutic regimen in modern medicine. So, we have decided to search a drug which can be safely used by Unani physicians also, and found Indian Squill (*Urginea indica*), an indigenous drug having cardiogenic, stimulant, diuretic and expectorant properties to compact with the diagnosed cases of CHF^{2, 15-20}.

Materials and method

The study was carried out in the OPD and IPD of Ajmal Khan Tibbiya College Hospital, Aligarh Muslim University. from Feb.'02 to Oct '03. Patients suffering from chronic congestive heart failure due to valvular heart disease, ischaemic heart disease with hypertension and cardio-myopathy were selected for this study. Patient with chronic obstructive pulmonary diseases, asthma, chronic renal failure, diabetes mellitus, hyperthyroidism, peptic ulcer, hepatic and neurological disease were excluded from the study. Similarly, pregnant women, drug addicts were also excluded.

The diagnosis was established by clinical history, physical examinations (Framingham Criteria), X-ray chest, ECG and base-line measurement of ejection, and fraction by two-dimensional (2D) targeted M-mode Echocardiographic measurement of Left Ventricular dimensions.

The test drug obtained from Dawakhana Tibbiya College, A.M.U., Aligarh was given in the form of syrup, 10 ml twice a day (each 5 ml contained 1g drug) for 6 weeks; also the patients were advised to follow strict regimen such as restriction of salt, limited physical activities, avoidance of alcohol, etc. Weekly follow up was done up to 6 weeks.

Clinical assessment was carried out weekly up to 6 weeks whereas measurement of left ventricular function was performed before and after the termination of study. As the left ventricular function truly reflects the right ventricular function (Fiegenbaums & European Society of Cardiology)^{1, 21} it is presumed that improvement in right ventricular function goes hand in hand with left ventricular.

There are several cardiac indices for the accurate assessment of ventricular performance among which E.F. is considered as one of the exact and fairly sensitive index. Hence we opted this method. It was computed by the formula:

$$EF\% = \frac{(LVIDd)^3 - (LVIDs)^3}{(LVIDd)^3} \times 100$$

The results of left ventricular dimensions were statically evaluated using paired "t" test and the significance of result was considered by "p" value.

Observation and results

The study included 30 patients of either sex, aged between 20-65 years, diagnosed for chronic congestive heart failure secondary to valvular heart disease, ischaemic heart disease with hypertension and cardiomyopathy. To present a data in lucid and concise way, +ve and -ve sign were used. The -ve sign shows complete improvement where as +sign shows persistent symptoms and signs (Tables 1-5)

Discussion

The result showed an overall improvement in the major signs, symptoms and ventricular performance.

The drug Indian Squill belongs to herbal origin and its bulb contains a mixture of cardiac glycosides, which constitutes the active principles of the drug. Most important of which are crystalline scillaren A and amorphous scillaren B; and their action as a cardiac-tonic resembles that of digitalis¹⁵⁻²⁰. Apart from these, it also has powerful expectorant and strong diuretic properties. Physiologically the drug slows heartbeat and increases the flow of urine¹¹⁻²⁶.

TABLE 2

Distribution of temperament in patients of CHF (n=30)

Temparament	Number	Percentage
Phlegmatic (Balghami)	16	53.33
Bilious (Safravi)	6	20.00
Sanguineous (Damvi)	5	16.67
Melancholic (Saudavi)	3	10.00
Total	30	100.00

Since the drug possesses strong gastric irritant, emetic and cathartic effect¹⁵⁻²⁶, it has to be detoxified (Mudabbar) to make it therapeutically acceptable and eliminate its side effects²²⁻²⁶. This concept is not present in allopathic system of medicine for which, on most of the occasions, another drug is to be given, which also has its own side effect! Because of the above-mentioned basic concept of unani pharmacy we have tempered the drug without adding any other drug while making it in syrup form, which contains only sucrose, which also has nutritive value.

The first line treatment of CHF is, the diuretics,

TABLE 1

Age and Sex distribution of patients of CHF (n=30)

Sl. No	Age group	Number	Percentage	Male	Female
1	20-29	1	3	0	1
2	30-39	5	17	1	4
3	40-49	7	23	5	2
4	50-59	9	30	8	1
5	60-69	8	27	7	1
Total		30	100%	21 (70%)	9 (30%)

TABLE 3
Effect of *Urginea indica*, Kunth. on major symptoms & signs of CHF (n=30)

Sl. No	Symptoms and signs	Base line	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	No. of cases improved	Percentage of improvement
1	Dyspnoea									
	a. On exertion	30	30	30	30	29	22	22	8	27
	b. On rest	25	25	23	11	3	1	1	24	96
	c. PND	10	10	8	7	5	2	2	8	80
2	Palpitation	25	25	23	14	6	3	1	24	96
3.	Haemoptysls	4	4	1	0	0	0	0	4	100
4.	PET	28	28	28	26	21	10	7	21	75
5.	Oedema	30	30	25	21	16	11	10	20	66.66
6.	Increase JVP	25	25	25	21	18	16	13	12	48
7.	Hepatomegaly	25	24	24	24	22	18	15	10	40
8.	Basal crepts	30	30	29	22	17	10	7	23	76.66
9.	Ascites	16	16	16	15	14	12	11	5	31

PND = Paroxysmal Nocturnal Dyspnoea, JVP = Juglar Venous Pressure, PET = Poor Effort Tolerance

TABLE 4
Table showing effect of drug on mean RR, PR & BP

Resp., Pulse, BP	Base line	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	Mean reduction
Mean Resp.ratefmin. (MRR)	24.43	23.83	22.86	22.1	21.23	20.3	20	4.43
Mean pulse ratefmin (MPR)	112	108	106	99	99	96	92	20
Mean systolic B.P.	132.66	131.33	130.4	128.93	127.66	127.13	125.8	6.86
Mean Diastolic B.P.	71.66	71.4	71.13	71.13	70.86	70.66	70.13	1.53

positive inotropic drugs and restriction of salt in diet^{29,30}. As this drug possesses both type of activities, they have shown varying degree of improvement in the signs and symptoms of congestion i.e. dyspnoea, oedema, increased JVP, basal crepts, hepatomegaly. The second and probably more important effect found in it was that the +ve inotropic action of cardiac glycosides (Scillaren A & B). Due to combination of these actions there was 18%

improvement in the ejection fraction of left ventricle by increasing the systolic activity of ventricles.

Conclusion

In brief, it can be said that *Urginea indica* can be used in mild to moderate types of CHF. There was no significant side effect or impairment observed in the hepatic or renal function; therefore, it can safely be prescribed

TABLE 5
Effect of drug on mean Left Ventricular Dimension & Resultant Ejection Fraction n=30

Group	No. & %	Base Line (0 Day)			After Treatment (Wk. 6)			% of improv. in LVEF %
		LVIDd (cm)	LVIDs (cm)	EF (%)	LVIDd (cm)	LVIDs (cm)	EF (%)	
(A) MSMR (10) + MS (2)	12 (42%)	6.72 + .578	5.58 + .426	42.11 + 6.485	6.2 + .581	4.82 + .497	52.96 + 6.124	26.77 (10.85)
(B) ASAR (5) + AR (3)	8 (26.66%)	6.06 + .427	4.94 + .354	45.91 + 3.262	5.56 + .370	4.24 + .292	55.72 + 2.899	21.37 (9.81)
(C) IHD & HTN	8 (26.66%)	5.66 + .272	4.63 + .212	45.65 + 2.796	5.08 + .271	3.19 + .203	54.5 + 1.718	19.38% (8.85)
(D) CMP	2 (6.66%)	5.55	4.4	50.17	4.9	3.8	53.27	6.18 (2.10)
Over all	30 (100%)	6.18 + .646	5.07 + .558	44.66 + 5.177	5.64 + .665 ¹	4.35 + .542 ²	54.126 + 4.292 ³	18.18 (9.46)

1 - p <0.001; 2 - p <0.0001; 3 - p <0.0001; mean + SD

in such cases. It is suggested that the pharmacodynamic and pharmacokinetic activities of *Urginea indica* should be studied further to evaluate its exact mode of action on heart, other body tissues and biological fluids.

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STUDIES ON ANTIMICROBIAL AND PEDICULOSIDE ACTIVITY OF LEAF ESSENTIAL OIL FROM *MURRAYA KOENIGII* SPRENG.

G.K. Dash*, D.M. Kar** and Ch. P. Patro***

Abstract: The antimicrobial and pediculicide activity of the essential oil from the leaves of *Murraya koenigii* Spreng. (Fam. Rutaceae) were studied. The antimicrobial activity was performed by Agar cup plate method. The results of antimicrobial activity revealed that the oil exhibited antibacterial activity against *Bacillus subtilis*, *Staphylococcus aureus* and *Escherichia coli*. The oil was also found to be active against the fungi *Candida albicans* and *Microsporum gypseum*. The pediculicide activity was evaluated on adult Indian head lice *Pediculus humanus capitis* collected from human volunteers. The essential oil caused death of the head lice at all tested concentrations in a dependant manner. It is observed that the essential oil is more potent than the reference control malathion towards pediculicide activity.

Introduction

Murraya koenigii Spreng. (Fam. Rutaceae) is a handsome, aromatic more or less deciduous shrub or small tree, up to 6 meters in height, found almost throughout India and the Andaman Islands up to an altitude of 1500 meters¹. The leaves are extensively employed in curries and chutneys and therefore the plant is popularly known as curry leaf tree. In ayurveda, the plant is highly esteemed for its leaves, which promotes appetite and digestion and destroy pathogenic organisms and hence form an important ingredient in Indian cuisine². The leaves are bitter, acrid, cooling, alexeteric, anthelmintic, febrifuge, analgesic, and cures piles, inflammation, itching; useful in leuco-

derma and blood disorders³. Some important Ayurvedic formulations containing the drug include Kāḷāśākādi kaṣāyam, Pāmāntaka tailam, Jātyādi tailam, Jātyādi ghṛtam, etc².

Materials and methods

Plant material

The fresh leaves were collected from matured trees from Salipur of Cuttack district early winter and authenticated by the botanists of Ravenshaw College, Cuttack by comparing with the voucher specimen present in the herbarium. After authentication, fresh plant material was collected in bulk, washed under running tap water to remove adhering dust, dried under shade and used for isolation of the oil.

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Isolation of essential oil

The essential oil was isolated from shade-dried leaves in a clavengers apparatus by hydrodistillation⁴ process. The yield of the oil was found to be 1.4% v/w. The resulting oil was diluted with anhydrous sodium sulphate. The oil was diluted with coconut oil (*Cocos nucifera*) in different concentrations (2.5%, 5% or 10% w/v) and used for the pediculoside activity study. For the antimicrobial study, the oil was mixed in DMSO in different concentrations (2.5%, 5% or 10% w/v).

Drugs and chemicals

Drugs and chemicals used were of standard quality of research grade. Malathion (0.25% w/v in coconut oil) was used as reference standard for the pediculoside screening. Ampicillin trihydrate (1000 mcg/ml) and amphotericin B (1000 mcg/ml) served as reference standards for the antimicrobial activity.

Antimicrobial activity

The antimicrobial activity of the crude ethanolic extract was performed by Agar cup plate method⁵. The essential oil was dissolved in DMSO at a concentration of 2.5%, 5% or 10% w/v respectively. Ampicillin trihydrate (1000

mcg/ml) in DMSO was used as reference standard for the antibacterial study. Amphotericin B (1000 mcg/ml) in DMSO served as reference control for the antifungal study. Solvent control (only DMSO) was also maintained throughout the experiment. The selected microorganisms included *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Microsporum gypseum* and *Candida albicans* respectively. The results are tabulated in Table 1.

Pediculoside activity⁷

The pediculoside activity was evaluated on adult Indian head lice *Pediculus humanus capitis* collected from human volunteers. Five groups of approximately equal size Indian head lice consisting the lice in each group were released into bunch of human head air duly moistened with different concentrations of the test samples. Each group was treated with one of the following: Vehicle (coconut oil), Malathion (0.25% w/v) or essential oil (2.5%, 5% or 10% w/v). Observations were made for the time taken for the death of individual louse. Death was concluded when the lice lose their motility when observed under a compound microscope. The results are shown in Table 2.

TABLE 1
Antimicrobial activity of leaf essential oil of *Murraya koenigii*

Sl. No	Test substance	Concentration	Zone of inhibition (mm)				
			<i>B. subtilis</i>	<i>S. aureus</i>	<i>E. coli</i>	<i>C. albicans</i>	<i>M. gypseum</i>
1	Essential oil	2.5% v/v	13	13	11	17	12
2	Essential oil	5% v/v	16	18	18	22	18
3	Essential oil	10% v/v	24	21	25	28	26
4	Ampicillin trihydrate	1000 mcg/ml	32	28	29	-	-
5	Amphotericin B	1000 mcg/ml	-	-	-	29	32

Statistical analysis

The results were analysed statistically using Student's 't' test⁶ wherever applicable. The level of significance for all determinations was $p < 0.01$.

Results and discussion

The results of antimicrobial activity (Table 1) revealed that the essential oil of *Murraya koenigii* exhibited antibacterial activity against *Bacillus subtilis*, *Staphylococcus aureus* and *Escherichia coli*. The oil was also found to be active against the fungi *Candida albicans* and *Microsporum gypseum*. The pediculicide activity (Table 2) was evaluated on adult Indian head lice *Pediculus humanus capitis* collected from human volunteers. The essential oil caused death of the head lice at all tested concentrations in a concentration dependant manner. It is observed that the essential oil is more potent than the reference control malathion towards pediculicide activity. The pediculicide activity of the essential oil was found to be significant when compared to the control group.

TABLE 2
Pediculicide activity of leaf essential oil

Group	Treatment	Concentration	Time taken for death (min)
I	Vehicle	-	-
II	Malathion	0.25% w/v	9.54 + 0.34
III	Essential oil	2.5% v/v	7.26 + 0.42 *
IV	Essential oil	5% v/v	5.23 + 0.79 **
V	Essential oil	10% v/v	3.15 + 0.38 **

Mean + SEM, n=6, * $p < 0.01$, ** $p < 0.001$

Conclusion

In ayurveda, the plant, *Murraya koenigii*, is highly esteemed for its leaves which promote appetite and digestion and destroy pathogenic organisms and hence form an important ingredient in Indian cuisine. It might be one of the reasons for which the plant is used as one of the ingredients in many ayurvedic formulations. In the present study, we may conclude that the essential oil of the leaves is also endowed with potential antimicrobial and pediculicide property. It would be interesting to isolate the possible constituents those are responsible for the pediculicide activity.

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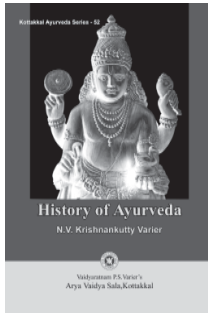
NEW BOOKS

Prof. M.G.S. Narayanan*

I welcome with delight this work of Sri Krishnankutty Varier on the history of ayurveda. He has patiently collected all the data contained in works on the history of ayurveda published in English so far and condensed them in his sweet graceful style. What distinguishes this work from the works of the other Indian scholars on medical history is the effort to pursue a scientific course with a mind freed from all superstitions. His mature scholarship in social history as well as ayurveda seems to have enabled Sri. Varier to take this bold stand. In my opinion, the major achievement of Sri Varier is that he has been able to assimilate the scientific findings and insights of cultural historians like Prof. D.

D. Kausambi, and interpret the facts of medical science in its relation to social evolutions. This is a healthy new step in the preparation of history of ayurveda. May be this can claim to be the first work on the subject compiled with a scientific outlook on social history. It is the analysis against the background of society that makes the history of any branch of knowledge

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meaningful. In the absence of such an outlook we often see the historical works degenerating into mere catalogues of treatises belonging to different periods and different aspects compiled without any organic unity. Luckily Sri Varier has outlived that tragedy. In a quick round, I shall try to clarify this point.

Look at the way Sri Varier handles the statement of Suśruta that Lord Brahma brought out ayurveda as auxiliary to Atharvavēda. Accordingly, to Varier this is a figurative expression revealing the fact that this branch of knowledge took shape in the dawn of human life. Similarly, after comparing the references found in the vēdās and later saṁhitās, he points out that what appeared in the beginning as crude, unscientific and wishful thinking gradually developed as a science. He also infers that the heritage of Indus Valley Civilization with its medicines, like kanmada (asphalt), yoga seals, toys and health-oriented township layouts contributed much to the development of medical practice in India. We have

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to appreciate the suggestion that the Atharvavēda, which is described as demonic, may be the source of these non-āryan but typically Indian trends. The author's finding that 'ayurveda in course of its development had interacted with many systems of different countries' based on the statements of authorities like Kāṅkāyana - the bāhīkabhiṣak in saṁhitās - deserves attention. He finds confirmation for this in a statement by Caraka. His insight is reflected in the observation that saṁhitās, though known by the names of individuals, are produced by incorporating the experiences of many individuals, and groups, elaborating, compressing, refining, adding and completing them. All these may be distasteful to purists, but they throw light on the true scientific propensities of ancient India.

The chapter on 'Gods and Sages' proclaims the diversity and wealth of ayurveda in the puranic age. Sri Varier has described vividly the different views expressed by physicians in colloquiums regarding conception, disease, heredity, the development of the foetus and other matters. These show that a favourable climate for free observation, experimentation and discussion essential for the development of science existed in India at that time. Here, we also notice the weakness of the hypothesis of the concept of ātmā and karma dominated from the earliest period in India. Old Maitrēya argues that medicines are not the causes for recovery, they are more of an aid; their role being that of a friend who lends a helping hand to the fallen to get up. Sri Varier has carefully brought out this fact which is as relevant today as before.

The plan to set apart space for a comprehensive examination of ayurveda for horses, elephants and plants is quite appropriate in recounting the history of a science that blossomed in the light of the sense of unity of life reflecting in the upaniṣads, the Buddhist-jātaka-literature and the Aśōka's edicts.

The debate on the divergent views regarding the period of the compilation of the saṁhitās is important. Suśrutasaṁhita, Carakasāṁhita and Kāśyapasāṁhita have been allotted separate chapters for a proper discussion, which they rightly deserve. Fixing the chronology is a difficult task. The names of gōtrās, countries and pseudonyms create serious confusions. This is further complicated by the habit of using the names of ancient sages in later texts for legitimation and the practice of incorporating new passages in ancient texts. Sri Varier has fully realized that history is not merely the glorification of heritage or the tricky formulation of chronology. He also knows that the study of history will not move forward without the recognition of our heritage in relation to the chronological order. What he has tried is to collect and present with infinite care all available materials enabling to solve the puzzles and to confess inability where his doubts are not cleared; the wise will appreciate the free and frank approach.

In this investigation on the history of ayurveda, Sri Varier is bold enough to cross the barriers in defiance of the old taboo. In the chapter on 'Similarities of ancient medical systems', there is an interesting discussion on parallels and common traits. The chapter opens with the simple statement about 'the need for parity between lenders and borrowers'. He does take into account both questions of basic unity of culture and casual contacts among cultures. It is commendable that instead of emphasizing exaggerated claims on priority and precedence, the stress is on bringing to light the principle of interdependence, essential for the growth of science. He has fulfilled an equally important obligation

in the chapter on 'Greek Medicine'. Here also he has tried to describe objectively the comparable situations and contact possibilities without wasting time on conflicting claims of borrowing. But I hope that Sri Varier will, in the light of the opinion of Prof. Filliozat and others, be willing to re-examine his view that the similarities between the Indian tridōṣa theory and the Greek theory of humours are superficial.

He is to be complemented for setting apart separate chapters for gynaecology, paediatrics, demonology and chemistry. People might think that it is not very difficult to write about later works and the modern period. But, there the problems are created not by the scarcity of materials but by their abundance. I am glad to admit that Sri Varier has succeeded in this venture too, in summarizing the contents of his extensive knowledge and in relating them to the background of social trends.

Let me conclude this with a note congratulating Sri Krishnankutty Varier and the authorities of the Kottakkal Arya Vaidya Sala for preparing and publishing this handy reference book on the history of ayurveda. Hopefully this will enable students and practitioners of Ayurveda to know their subject and their predecessors better and - who knows? - one of the advanced students might even feel inspired to conduct further researches and bring out a fuller volume.

EXCERPTS FROM CIKITSĀMAÑJARI – XLVIII

P. Unnikrishnan*

Abstract: This chapter deals with diseases caused by deranged or abnormal vāta. This derangement is broadly classified into decreased activity, increased activity and blockade in the passage of the dōṣa. The three conditions are treated differently. Almost all functions of the central and peripheral nervous system and autonomous nervous system can be included in the title. Rheumatism, as considered by the general public is only a part of it.

TREATMENT OF VĀTAVYĀDHI

The humor vāta is essential for the normal functioning of the body. Ayurveda considers food as the prime factor in the maintenance of health. The right food is different from person to person and in different age groups. Thus it is difficult to define the right food for all. It is interesting to note that there are clear-cut definitions for the food to be taken and the food to be avoided. The wrong food, on the other hand causes diseases. Food, drinks, activities and regimens that can pollute vāta are described in the texts.

A kaṣāya prepared from the following or ghee medicated with them relieves blockade in the passage of vāta and relieves flatulence, painful muscle cramps and hiccough.

Bhadrāvēr	<i>Aerva lanata</i>
Ōrila	<i>Desmodium gangeticum</i>
Mūvila	<i>Pseudarthria viscida</i>

Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Atibala	<i>Sida rhombifolia</i>
Kariṁpu	<i>Saccharum officinarum</i>
Īrpanakūmpu	<i>Caryota urens</i> (tender bud leaves)
Aratta	<i>Alpinia galanga</i>
Tiktāvēr	<i>Andrographis paniculata</i>
Muntiriṅṅa	<i>Vitis vinifera</i>
Muḷayila	<i>Bambusa arundinacea</i>
Madhukam	<i>Glycyrrhiza glabra</i>
Kūvaḷam	<i>Aegle marmelos</i>
Tēvatāram	<i>Cedrus deodara</i>

A kaṣāya prepared from the following relieves all types of rheumatic complaints, especially pakṣavāta (hemiplegia), apatānaka (hysterical syndrome), hanustambha (lockjaw), arditā (facial palsy), etc.

Rāsna	<i>Alpinia galanga</i>
Śigru	<i>Moringa oleifera</i>
Punarnava	<i>Boerhaavia diffusa</i>
Agaru	<i>Aquilaria agallocha</i>

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Śaṭhi	<i>Kaempferia galanga</i>
Nirguṇḍi	<i>Vitex negundo</i>
Cavya	<i>Piper brachystachyum</i>
Agraja	<i>Terminalia chebula</i>
(Śrēṣṭa)	<i>Terminalia bellirica</i>
	<i>Emblica officinalis</i>
Citrā	<i>Ricinus communis</i>
Bhārṅgi	<i>Clerodendrum serratum</i>
Rasōna	<i>Allium sativum</i>
Sāraṇi	<i>Merremia tridentata</i> ssp. <i>tridentata</i>
Niśā	<i>Curcuma longa</i>
Śairīya	<i>Nilgiranthus ciliatus</i>
Viśva	<i>Zingiber officinale</i>
Agni	<i>Plumbago indica</i>
Daśamūla	<i>Aegle marmelos</i>
	<i>Gmelina arborea</i>
	<i>Premna corymbosa</i>
	<i>Stereospermum colais</i>
	<i>Oroxylum indicum</i>
	<i>Solanum indicum</i>
	<i>Solanum xanthocarpum</i>
	<i>Desmodium gangeticum</i>
	<i>Pseudarthria viscida</i>
	<i>Tribulus terrestris</i>
Dāru	<i>Cedrus deodara</i>

Add milk and buttermilk to a kaṣāya prepared from ṭṛṇapañcamūla and daśamūla, keep overnight and churn to get butter. Add breast milk and fine powders of kuruntōṭṭi (*Sida rhombifolia* ssp. *retusa*), amukkuram (*Withania somnifera*) and sahasravēdhi (*Ferula asafoetida*) to this butter, and apply on the head in paste form.

DHĀNYĀMĻA

Preparation of this medicated and fermented liquid is given below. It can be used in the classical eighty types of diseases internally or

externally, where vāta is deranged, depending upon the condition of the disease and patient.

Select a home that is clean and suitable to prepare the medicine, select the day and time, i.e., star and muhūrta (48 minute period) that is auspicious. Place a pot and add the following to it:

Taṇḍula	<i>Oryza sativa</i>	10 prastha*
Pṛthuka	flakes of rice	"
Kulastha	<i>Macrotyloma uniflorum</i>	"
Lājā	No cake	40 prastha
Kaṅgubīja	<i>Setaria italica</i> (seed)	1 āḍhaka*
Kōdrava	<i>Paspalum scrobiculatum</i>	4 āḍhaka
Nāgara	<i>Zingiber officinale</i>	2 prastha
Dantaśaṭha	<i>Citrus lemon</i>	1 kaṁsa*/ 100 Nos
Dīpyaka	<i>Trachyspermum ammi</i>	8 kuḍuba*
Hot water		200 prastha

Cover the mouth of the vessel and subject the contents to flame for seven days. On the eighth day, take the required quantity of the processed dhānyāmḷa from the pot and add an equal quantity of hot water to it. The fermented, sour dhānyāmḷa should be poured to a drōṇi (wood receptacle resembling a boat large enough to contain the patient, used for pizhiccil, etc.) and the patient who has applied oil all over the body should be subjected to immersion bath in it. Six thousand seconds – one hour and forty minutes - is the maximum period permitted for this treatment. The oil should then be wiped off with a dry cloth, and the patient permitted to apply oil on the body and head. He is directed to take bath in bearable warm water.

* 1 prastha = 768 g, 1 āḍhaka = 0.073, 1 kaṁsa = 0.073 kg, 1 kuḍuba = 192 g

The patient should take a limited quantity of food mixed with ghee or medicated ghee. This whole process should continue for 21 days. The patient should then be subjected to retention enema (anuvāsana) with oils. The cited immersion bath relieves diseases given below.

- Manyāstambha (Stiffness in sternomastoid region)
- Hanustambha (Lock jaw)
- Ardita (Facial palsy)
- Vivṛtāsyaata (Lock jaw with open mouth)
- Grīvāstambha (rigidity of neck)
- Pārśvaśūla (pain on the sides)
- Ūrustambha (Stiffness in thighs)
- Bāhuśoṣa (Wasting of the upper limbs)
- Chronic apabāhu (brachial palsy)
- Diseases of gut caused by deranged vāta

Derangement of vāta is caused either by the depletion of vital elements (dhātūs) or by the blockade to the passages of vāyu, caused by kapha. Eighty types of diseases starting from brittle nails, ākṣēpaka, apatānaka, pakṣāghāta, avabāhuka, bāhyāyāma, āntarāyāma, vṛaṇayāma, hanusraṁsa, sirāgraha, jihvāstambha, ardita, khañja, paṅgu, krōṣṭukaśirṣa, suptavāta, viśvāci, daṇḍaka, vātakaṇṭaka, ūrustambha, pādadaḥa, pādahaṛṣa, khalvī, gṛdhrasī and kaḷāyakhañja are the common disorders in this group.

Principles of treatment in Rheumatic disorders

The general principles in the treatment of vātavyādhi (Rheumatic disorders) are detailed below. Depletion of the dhātūs or vital elements is the common cause for the sole vitiation of vāta. Here, ghee, marrow, animal fat and /or sesame oil are used for consumption, external application, and intra anal administration in the

form of enema (vasti). Sudation with oily materials, stay in a home or hut that is not windy and administration of laxatives, consumption of food and drugs that are sweet, sour and salty and general satiate measures (bhṛmhaṇa) are advised. Repeated unction and sudation is required to soften the gut (kōṣṭha). Diseases due to vitiated vāta cease to exist when body is softened as a result of these measures. Sudation and unction are capable of relieving excitation and hyper-irritability (harṣa), pricking pain (tōḍa), pain (ruk) tonus and clonus (āyāma), edema (śōpha), rigidity (stambha) and stiffness (graha), etc. caused by deranged activity of vāta. Body is also softened. Even a brittle and hard piece of dry wood becomes soft and liable when it is subjected to unction and sudation and its original quality is restored to a great extent. If this is in the case of a worn out and inanimate material, what will be the result of these processes in the living human body?

The following drugs mixed with first washing of rice (kāṭi), and urine of animals included in mūtravarga (such as cow, goat, sheep, buffalo, elephant, camel, donkey, etc) should be placed in a pot and heated. The fume that arises from the mouth of the vessel is used for sudation. Instantaneous relief is achieved in cases where the patient is writhing in agonizing pain caused by vitiated vāta.

Ēraṇḍa	<i>Ricinus communis</i>
Arka	<i>Calotropis gigantea</i>
Karañja	<i>Pongamia pinnata</i>
Mōraṭa	<i>Chonemorpha fragrans</i>
Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Takkāri	<i>Premna corymbosa</i>
Sōma	<i>Sarcostemma acidum</i>
Snuhī	<i>Euphorbia ligularia</i>

Nirguṇḍi	<i>Vitex negundo</i>
Tala	<i>Borassus flabellifer</i>
Pōṭa	<i>Typha elephantina</i>
Śigru	<i>Moringa oleifera</i>
Varaṇa	<i>Cretaeva magna</i>
Asphōta	<i>Hemidesmus indicus</i>
Aśvagandha	<i>Withania somnifera</i>

All drugs given above, or a selected few can be used for sudation depending upon the stage of the disease, availability of material and condition of the patient. The liquid component can be the first washing of rice (kāti) or plain water or both.

All the drugs given below, or suitable drugs selected from them may be ground to a paste or fried in oils and add all salts (pañcalavaṇa) and tied in a cloth bundle termed kizhi. This is dipped in suitably warm ghee, marrow, animal fat or sesame oil and used for sudation. The temperature of the liquid for sudation should be maintained bearably warm. Plain or medicated oil can be applied on the head and a mixture of ghee and oil can be applied on the body before starting sudation.

Punnāga	<i>Calophyllum inophyllum</i>
Ēraṇḍabīja	<i>Ricinus communis</i>
Bakuḷa	<i>Mimusops elangi</i>
Dhanadadṛk	<i>Caesalpinia bonduc</i>
Nālikēra	<i>Cocos nucifera</i>
Kulastha	<i>Macrotyloma uniflorum</i>
Kārpāsa	<i>Gossypium herbaceum</i>
Śigru	<i>Moringa oleifera</i>
Ḍōḷaphala	<i>Indigofera tinctoria</i>
(Vaṭṭapūntāliyarī)	
Muni	<i>Sesbania grandiflora</i>
Śaṇaka	<i>Crotalaria retusa</i>
Sarṣapa	<i>Brassica juncea</i>
Aṅkōlabīja	<i>Alangium salvifolium</i>
Rāsna	<i>Alpinia galanga</i>

Kuṣṭha	<i>Saussurea lappa</i>
Karañja	<i>Pongamia pinnata</i>
Tila	<i>Sesamum indicum</i>
Lasuna	<i>Allium sativum</i>
Vaca	<i>Acorus calamus</i>
Hiṅgu	<i>Ferula asafoetida</i>
Sindhūtha	Rock salt

To relieve the patient from pain and edema, a paste prepared from the following with water as liquid component is applied on his body.

Vaca	<i>Acorus calamus</i>
Aśvagandha	<i>Withania somnifera</i>
Varaṇa	<i>Cretaeva magna</i>
Snuhī	<i>Euphorbia ligularia</i>
Sarṣapa	<i>Brassica juncea</i>
Śigrubījam	<i>Moringa oleifera</i>
Suradruma	<i>Cedrus deodara</i>
Arka	<i>Calotropis gigantea</i>
Lasuna	<i>Allium sativum</i>
Nirguṇḍi	<i>Vitex negundo</i>
Saindhava	Rock salt
Tila	<i>Sesamum indicum</i>
Khalva	<i>Macrotyloma uniflorum</i>
Māṣa	<i>Vigna mungo</i>
Śatāhva	<i>Anethum graveolens</i>

Alternatively, another paste prepared from the following in milk or expressed extract of coconut pulp, is also used.

Elḷu	<i>Sesamum indicum</i>
Mutira	<i>Macrotyloma uniflorum</i>
Māṣa	<i>Vigna mungo</i>
Uluva	<i>Trigonella foenum-graecum</i>
Talanīli	<i>Merremia tridentata</i> ssp. <i>tridentata</i>

Irrigation of the body (dhāra) with oils shall be done as detailed in dhārakalpa (methods, indications and contraindications in the process of irrigation). Equal quantities of oil and ghee, mixed well can also used for irrigation. The

quantity of oil for sudation with the irrigation should never be exceeded 2000 mātrās. If the irrigation time exceeds, it will create fever and thirst. (The duration of irrigation can be one hour and twelve minutes. Some opine that forty-eight minutes are sufficient. The exact end point for irrigation is said to be the onset of sweating.) When there is onset of fever in earlier mentioned eighty diseases caused by vitiated vāta, irrigation with the mixture of oil and ghee can be administered. Administration of enema with medicated oils or kaṣāyas (anuvāsana and nirūha) can be done for normalization of vitiated vāta. The patient is subjected to the use of mild and oily purgatives. Ghee medicated with tilvaka (*Excoecaria agallocha*) or sātala (*Bacopa monnieri*) or castor oil mixed with milk is usually used for the elimination of vitiated dōṣās by catharsis.

Treatment based on the site of vitiation

When the stomach is vitiated by vāta, the patient is subjected to emesis, followed by light food and immediately, ṣaḍdharaṇa powder or vacādi powder mixed with warm water is taken internally. This procedure strengthens the digestive power that reflects as increased appetite. At this state, a repetition of unction and sudation can be done.

In vitiation of vāta in organs below the umbilicus, intra anal medication in the form of enema is done. Consumption of medicated ghee just before and immediately after food, termed avapīḍaka snēhapāna can also be done. Vitiation of the gut (kōṣṭha) is treated with the administration of medicated alkaline powders and consumption of drugs that stimulate and promote digestion.

When heart is debilitated due to deranged vāta,

drink milk medicated with sthira - ōrila (*Desmodium gangeticum*) and mūvila (*Pseudarthria viscida*). Afflictions of the head are treated with śirōvasti, a process where medicated lukewarm oil is retained in a leather cap placed on the head for an hour. Medicated oily nasal drops (snigdhanasya) and inhalation of medicated fumes (dhūma), filling of medicated oils or ghee in the external auditory canal (karṇapūraṇa) and eyes (tarpaṇa) are advised in diseases caused by vitiated vāta in the head, which is the seat of important sense organs. Afflictions of the skin are treated by sudation, external application of medicated oils and consumption of pleasant (hr̥dya) food. Application of thick cold medicated pastes, purgation and bloodletting are also indicated in certain skin diseases. Diseases of the muscle tissue and fat are treated with purgation, medicated enema using oils and suppressive (śamana) therapy. Internal administration and external application of oils relieve diseases affecting marrow and bones. Nourishing and nurturing food, drugs that increase stamina and foster the quantity and potency of semen are indicated in disorders arising from weak reproductive tissue.

Simultaneous vitiation of kapha, pitta and blood (rakta) is treated with great care to see that there is no drug interaction or incompatibility. Here, bloodletting is the first measure. A paste prepared from kitchen soot, rock salt and sesame oil is applied locally.

Numbness and constricting pain that affects the limbs is treated with the application of medicated paste that is covered and tied with cloth on the affected region. Diseases of ligaments, joints and blood vessels are treated

with repeated sudation and unction. Wasting is treated with the external application of oil medicated with māṣa (*Vigna mungo*) and rock salt.

Milk medicated with pañcamūla (roots of *Aegle marmelos*, *Gmelina arborea*, *Stereospermum colais*, *Oroxylum indicum* and *Premna corymbosa*) phalāmḷa (*Tamarindus indica*), meat soups and anointed cereal soups are the best food for patients who suffer from rheumatic disorders.

Buttermilk boiled with fine paste of hapuṣa (*Sphaeranthus indicus*), hiṅgu, rock salt and pepper relieves rheumatism and promotes digestion.

Vātāmāyaghna gaṇa (Group of Drugs that cure rheumatic diseases)

Ēraṇḍa	<i>Ricinus communis</i>
Amaradāru	<i>Cedrus deodara</i>
Gōkṣura	<i>Tribulus terrestris</i>
Varī	<i>Asparagus racemosus</i>
Pāñīya (jala)	<i>Plectranthus vettiveroides</i>
Sairīyaka	<i>Nilgīrianthus ciliatus</i>
Sāraṇi	<i>Merremia tridentata</i> ssp. <i>tridentata</i>
Amśumati	<i>Desmodium gangeticum</i>
Balatraya	<i>Sida rhombifolia</i> ssp. <i>retusa</i> <i>Sida rhombifolia</i> , <i>Sida cordata</i>
Guha	<i>Pseudarthria viscida</i>
Vṛścīva	<i>Boerhaavia verticillata</i>
Saubhāñjana	<i>Moringa oleifera</i>
Pūtīkadvitaya	<i>Holoptelea integrifolia</i> <i>Pongamia pinnata</i>
Amṛtā	<i>Tinospora cordifolia</i>
Arka	<i>Calotropis gigantea</i>
Jaṭīla	<i>Nardostachys jatamansi</i>
Rāsna	<i>Alpinia galanga</i>

Aśvagandha	<i>Withania somnifera</i>
Āmaya	<i>Saussurea lappa</i>
Varaṇa	<i>Cretaeva magna</i>

Vidāryādigaṇa

The following group of drugs termed vidāryādi is capable of pacifying vitiated vāta and pitta, increases weight, relieves wasting disorders and pressing pain, cures flatulence by correcting digestion, relieves dry cough and breathing difficulties and is good for the heart.

Vidāri	<i>Pueraria tuberosa</i>
Pañcāṅgula	<i>Ricinus communis</i>
Vṛścīkāḷī	<i>Heliotropium indicum</i>
Vṛścīva	<i>Boerhaavia verticillata</i>
Dēvāhvaya	<i>Cedrus deodara</i>
Sūpyaparṇi	<i>Vigna radiata</i> <i>Vigna radiata</i> var. <i>sublobata</i>

Kaṇḍūkari	<i>Mucuna pruriens</i>
Jīvanapañcamūla	<i>Asparagus racemosus</i> <i>Coccinia grandis</i> <i>Holostemma ada-koedien</i> <i>Malaxis acuminata</i> <i>Malaxis muscifera</i>
Hrasvapañcamūla	<i>Desmodium gangeticum</i> <i>Pseudarthria viscida</i> <i>Solanum indicum</i> <i>Solanum xanthocarpum</i> <i>Tribulus terrestris</i>
Gōpasuta	<i>Hemidesmus indicus</i>
Tripādi	<i>Adiantum lunulatum</i>

A kaṣāya prepared from daśamūla relieves vitiated dōṣas, especially vāta and kapha, and cures fever, cough, asthma, hiccup and headache. It is carminative and cures vomiting and wasting disorders.

A kaṣāya prepared from daśamūla and tṛṇapañcamūla normalizes deranged pitta. Milk

medicated with kaṣāya prepared from daśamūla cures rheumatic pain on the chest and sides, dorsal region, breast and low backache.

Vidāryādi kaṣāya and Daśamūlam kaṣāya have curative effect on rheumatic disorders. Vidāryādi kaṣāya is of cold potency, nutritive and cures vāta. It can relieve pitta also. Daśamūlam kaṣāya is hot in potency, cures vāta and kapha and does not cause weight gain. It doesn't relieve pitta.

Thus vidāryādi is said to be more potent in rheumatic disorders. However, this statement should be evaluated considering the nature of the patient, season, magnitude of vitiation of dōṣas and other basic principles laid down in the text. In short, the mechanism of action of Vidāryādi kaṣāya and Daśamūlam kaṣāya differ even though both are indicated in rheumatism. Administration and application of medicated oil Kṣīrabala is very effective in rheumatism.

Rheumatism with persistent tremor, edema, wasting, fever, insensitivity of skin and flexed joints hardly respond to treatment. Convulsions (ākṣēpaka) are difficult to cure, but in initial stages, the patient should be subjected to irrigation using medicated oils and repeated sudation with oily materials. The whole process can be repeated, if necessary. Oil medicated with drugs that pacify vāta is used for unction, external application and vasti, where the drug is introduced into the rectum in the form of enema.

Irrigation of the body with a mixture of ghee and sesame oil suitably warmed is effective in rheumatism. Sudation by applying cooked nāvāra (*Oryza sativa*) rice paste on the body is also done. Apply medicated oil on the body of

the patient. A cloth bundle that contains tightly packed Jack tree leaves fried in oil, is made warm by dipping it again to hot medicated oil, and is applied on the body of the patient to achieve sudation. Kṣīrabala medicated oil, prepared with the addition of one third ghee as lipid component, shall be consumed. Fumes arising from boiling medicated milk shall be inhaled. Consumption of Kṣīrabala with Jīvanapañcamūla kaṣāya is advised. Apply Kṣīrabalātaila externally. Drink Vidāryādi-kaṣāya or kaṣāya prepared from jīvanapañcamūla. A variation of this kaṣāya with the addition of bala is also effective.

A patient who suffers from apātānaka, whose eyes are not sunken, who doesn't suffer from intense pain, whose penis is not erect, who doesn't sweat, who doesn't suffer from opisthotonus (bahirāyāma) and who doesn't beat the bed with arms or legs should be treated without any delay. He should be subjected to unction (in the form of external application of oil) and sudation. Thereafter, hot, pungent and strong nasal medication in the form of nasya is to be done to open up his sensory channels. The patient is subjected to snēhapāna (snēhapāna is a process where gradually ascending doses of plain or medicated ghee is given to the patient in the mornings for seven consecutive days. The maximum dosage is so adjusted that on the seventh day, the patient digests the ghee only after twenty-four hours). The ghee used for snēhapāna is medicated with the kaṣāya of vidāryādi group of drugs, curd milk and meat soup as liquid component. Consumption of this ghee in limited dose arrests the spread of vitiated vāta. Sudation shall be done after applying medicated oils that are capable of relieving vāta.

One prastha of ghee shall be prepared with pathya (*Terminalia chebula*), śatāhva (*Anethum graveolens*) and two palās (96g) of sauvarccala (Sodium sulphate mixed with Sodium chloride) as solid component. Six prastha of milk shall be added as liquid component. Consumption of this medicine relieves apatantraka. Fine powder of the following shall be used as medicated snuff (pradhamana nasya) in apatantraka.

Kṛṣṇa	<i>Piper longum</i>
Kṛmighna	<i>Embelia ribes</i>
Ūṣaṇa	<i>Piper nigrum</i>
Śigrubīja	<i>Moringa oleifera</i>

In convulsions (ākṣēpaka) and in apatānaka, smelling of yavāni (*Trachyspermum ammi*), lasuna, ugra (*Acorus calamus*) and hiṅgu is done for the restoration of orientation and normalization of vāta. Karpūra (camphor) mixed with fine powder of jīraka (*Cuminum cyminum*) can also be consumed.

Oil medicated with the following shall be used as nasal drops (nasya) for apatānaka.

Varṣābhū	<i>Boerhaavia verticillata</i>
Sindhū	Rock salt
Ūṣaṇa	<i>Piper nigrum</i>
Nīli	<i>Indigofera tinctoria</i>
Nirguṇḍi	<i>Vitex negundo</i>

Fine powder of the following, mixed with warm water shall be drunk for the relief of apatantraka.

Bhārṅgi	<i>Clerodendrum serratum</i>
Kaṇā	<i>Piper longum</i>
Viśva	<i>Zingiber officinale</i>
Vṛṣa	<i>Justicia beddomei</i>
Akṣa	<i>Terminalia bellirica</i>
Mustā	<i>Cyperus rotundus</i>

A nasya by the following drugs ground well in breast milk is effective to recover the patient's consciousness. This process also relieves slurring of speech. The patient should apply medicated oil on the body. Treatments for hṛdrōga shall also be done.

Mṛdvīka	<i>Vitis vinifera</i>
Madhuka	<i>Glycyrrhiza glabra</i>
Śuṅṭhi	<i>Zingiber officinale</i>
Kaṇā	<i>Piper longum</i>
Saindhava	Rock salt
Mustā	<i>Cyperus rotundus</i>

Āyāma

The treatments of opisthotonus (bahiryāyāma) and imprethotonus (antarāyāma) are the same as that of facial palsy (ardita). The patient shall be kept immersed in oil, kept in a wooden boat. In dhanuṣkampa (convulsive disorder) with profuse sweating, who suffers from pallor of the face and teeth, lax joints, and unconsciousness will not survive for more than ten days. The few patients who may survive this period may remain idiot; lame, hemiplegic, paraplegic or he lives the rest of his life with defective sensory and motor functions due to cerebral palsy.

The following is a method of sudation where the chopped leaves of the following are boiled with water or other medicated liquids in a pot and the fumes from its mouth is directed to the body of the patient to facilitate sweating.

Snuhī	<i>Euphorbia ligularia</i>
Arka	<i>Calotropis gigantea</i>
Ciñcā	<i>Tamarindus indica</i>
Tuḷasi	<i>Ocimum sanctum</i>
Balā	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Ḍuṇḍuka	<i>Oroxylum indicum</i>
Vilva	<i>Aegle marmelos</i>

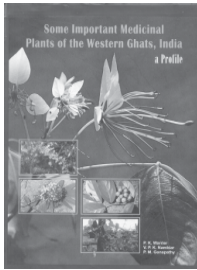
Prasāriṇi	<i>Merremia tridentata</i> ssp. <i>tridentata</i>
Śigru	<i>Moringa oleifera</i>
Karañja	<i>Pongamia pinnata</i>
Bhārṅgī	<i>Clerodendrum serratum</i>
Nirguṇḍī	<i>Vitex negundo</i>
Takkāri	<i>Premna corymbosa</i>
Punarnava	<i>Boerhaavia diffusa</i>
Ēraṇḍa	<i>Ricinus communis</i>
Kōraṇḍaka	<i>Nilgiranthus ciliatus</i>
Papphaṇa	<i>Morinda pubescens</i>
Kubērākṣi	<i>Caesalpinia bonduc</i>
Turaṅgagandha	<i>Withania somnifera</i>
Varaṇa	<i>Cretaeva magna</i>

Sōmarāji	<i>Psoralea corylifolia</i>
Mṛdukuñcika	<i>Physalis minima</i>

Cow's urine, dhānyāmla and water are the liquids.

Sudation cited is effective in convulsive syndromes (ākṣēpaka), hemiplegia (pakṣavāta), paralysis of the arm (viśvāci) sciatica (gṛdhrasi) and especially in paralysis of muscles or dislocation of the lower jaw (hanusraṁsa). The drugs which are mentioned as vātāmayaghna gaṇa (ēraṇḍādigaṇa) can also be used as fumigation for sudation. Dislocation of jaw (hanusraṁsa) is corrected after the application of oil and sudation.

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आयुर्वेद के मुख्य तत्व*

वैद्यरत्नम् पी. एस. वारियर

जनसाधारण का विश्वास है कि आयुर्वेद नित्य है । यह विश्वास किसी ग्रन्थकार की खास रचना के आधार पर नहीं है । यह आयुर्वेद ऐसा जीवसिद्धान्तों का एक समुच्चय है, जो इस प्रपंच की उत्पत्ति के साथ ही उत्पन्न हो तथा जिन का किसी देशविशेष या कालविशेष में परिवर्तन या विलयन न होते हो । लोगों का यह भी विश्वास है कि सारे सिद्धांत जगत्स्रष्टा ब्रह्माजी के द्वारा आविष्कृत उन सब को एकत्रित करके एक बड़े पोथे के रूप में संग्रहीत या संपादित था । यह आदिम ग्रन्थ ही आयुर्वेद कहलाता है । लेकिन पीछे जो महान ऋषि आये उन्होंने ने देखा कि इस आयुरशास्त्र के महाविस्तार को एक पुरुषायु में अध्ययन करना और सार समझना कठिन है । तब उन्होंने ने इस महान शास्त्र विस्तार को आठ अंगों में बाँट लिया और प्रत्येक अंग में प्रत्येक व्यक्ति खूब ध्यान रखने लगे । कालक्रम से इस में एकएक अंग पूरा अध्ययन करने तथा सारांश समझने में कठिनाई उपस्थित हुई । एक कुशल वैद्य होने तथा शास्त्र पंडित होने के लिए सारे शास्त्र का पूर्ण ज्ञान आवश्यक था । इसलिए पीछे जो ग्रन्थ रचयिता आये वे सारे आंगों को संक्षेप करने तथा एक या दो भागों में संकलित करने लगे । इसलिए आदिम आयुर्वेद ग्रंथ हटाये गये । कालक्रम से उस का पूर्ण नाश ही हुआ । उस के बदले संक्षिप्त तथा संग्रहीत ग्रंथ काम में लाने लगे । संग्रहकर्ताओं का उद्देश्य थोड़े ही शब्दों में अधिक अर्थों को भरना था । जब तक

संक्षिप्त शब्दों में संग्रहीत शास्त्रों का अर्थविस्तार समझने के लिए निस्वार्थ शास्त्रद्रष्टा ऋषिमुनी लोग रहे तब इस नय से आयुर्वेद को या लोगों को कोई हानि न हुई थी । लेकिन वे सिद्ध इस भूमुख से तिरोहित हुए और स्वार्थी लोगों का बोलचाला देशभर में तब फलपरिणाम बिलकुल विरुद्ध हुआ । फिर विदेशियोंका आक्रमण हुआ और उस के फलस्वरूप भारत भर में जो उथल पुथल हुई इन कारणों से भारत के कई ऋषि गन्थरत्नों का जिन में आयुर्वेद ग्रंथ भी शामिल हैं, लोप हुआ ; विनाश ही हुआ । आगे चलकर जब देश भर में शान्ति स्थापित हुई तब लोग अपने अपने कामकाज देखने लगे । अब की क्या दशा हुई । पढ़ने के लिए विश्वसनीय ग्रन्थ थे न अध्यापन के लिए कुशल वैद्य भी । इस विकट परिस्थिति में जो पुराने सुयोग्य वैद्यजीवित रहे, इन में कई तो उस पुरानी ऋषी परंपरा के शिष्यगण थे तो ही एक साथ बैठ कर अपनी स्मृति के आधार पर तथा दंगे के समय के बाद बचे खुचे ग्रन्थों के आधार पर कुछ ग्रन्थ बनाये । इस से, आजकल जो ग्रन्थ मिलते हैं उन में कुछ गलतियाँ अवश्य हुई हो । ग्रन्थ की नकल करने वाले लोगों की ओर से भी कुछ स्वखालित्य होना संभव है । लेखनकर्ताओं की ओर से स्वखालित्य अवश्य हुआ है । जो भी हो, आज जो ग्रन्थ उपलब्ध है मूल वैद्य शास्त्र के कई शब्दों और वाक्यों से भी अर्थभ्रम हुआ, और भ्रम के कारण गलती से प्रयोग भी किया जाने लगा था । इस के कारण

*सन् १९२२ जून १५, जूलै १६ को 'धन्वन्तरी' मासिक पत्रों में प्रकाशित लेख से उद्धृत ।
अनुवादक: टी. नारायणन नम्पीशन

प्रायोगिक ज्ञान विशेष कर शारीरिक ज्ञान, पाना इन ग्रन्थों के आधार पर कठिन हो गया । लेकिन अधिकांश गलतियाँ आसानी से पहचानी जा सकती हैं । उन का परिहार भी कर सकते हैं । इस के साथ प्रचीन सिद्धान्तों को समझना, सूक्ष्म रूप से समझना आसान है और आखिरी बार निश्चित निर्णय भी कर सकते हैं । लेकिन इस के लिए पाश्चात्य और पौरस्त्य दोनों चिकित्साशास्त्रों के कुशल विशेषज्ञ व्यक्तियों को स्थिर उत्साह एवं सहानुभूति के साथ इस कार्य में लगना चाहिए । क्योंकि, चरक, सुश्रुत, वृद्धवाग्भट, वाग्भट आदि ग्रन्थों के कुछ भाग आज भी हमें मिलने को है । मेरा विश्वास है कि, आगे होने वाले अनुसंधानों में ये सहायक रहेंगे । अब मैं आयुर्वेद के मुख्य तत्वों पर प्रकाश डालना चाहता हूँ ।

त्रिधातु

मनुष्य का शरीर, आकाश (air), वायु (vital force), तेज (some minerals, acids, alkalies, etc), जल (water), पृथ्वी (organic substance and earthy matter not included in others) इन पांच महाभूतों से बना है । मानव शरीर का कोई भी भाग, कितना ही छोटा भाग हो, इन महाभूतों का मिला है उन का अविनाभाव निश्चित है । आयुर्वेद में तो इन पांच मौलिक मिश्रण को वायु (वात), मायु (पित्त), वलास (कफ) ऐसे तीन भाग करके बांटा है ।

इन में पहला आकाश और वायु का मिश्रण है । दूसरा तेज और तीसरा पृथ्वी और जल का मिश्रण है । शरीरांश के इन तीन मुख्य विभाग को त्रिधातु कहते हैं । (त्रिधातु शर्मवहतं शुभस्पती - ऋक्संहित) ये शरीर के सारे अंशों को बनाते हैं, धारण करते हैं, इस के अलावा जीवित दशा में शरीर के सारे जैवधर्मों को चलाते हैं । इन में किसी को शरीर में केवल सही रूप में कहीं भी देख नहीं सकते । इसलिए इन के नाम से उस नाम पदार्थ का आधिक्य जहाँ है उस प्रत्येक भाग का बोध होना चाहिए । इस प्रकार वलास का अर्थ, शरीर के निर्माण और धारण के सहायक वस्तुओं का समुदाय

है । मायु आहार का पचन करके देह का अंश होने वाली वस्तुओं का संघात है । वायु देह को शक्ति देने वाले और प्रसार करने वाले शरीर का अंश है । इस के अलावा वह प्रेरण शक्ति भी जो जीवन के लिए आवश्यक कर्मों को चलाने के लिए देह के विविध भागों के लिए आक्सिजन (oxygen) आदि वातकों को पहुँचाने वाला भाग भी वायु में शामिल है । नीचे दिये पंक्तियों से वायु, मायु, वलास इन का स्वभाव अच्छी तरह समझ सकेंगे ।

“ वायुस्तन्त्रयन्त्रधरः प्राणोदानसमानव्यानापानात्मा, प्रवर्तक-
श्चेष्टानामुच्चावचानानियन्ता, प्रणेता च मनसः, सर्वेन्द्रियाणा-
मुद्योजकः, सर्वेन्द्रियार्थानामभिवोढा, सर्वशरीरधातुव्यूहकरः,
सन्धानकरः शरीरस्य, प्रवर्तको वाचः, प्रकृतिः स्पर्शशब्दयोः,
श्रोत्रस्पर्शनयोर्मूलं, हर्षोत्साहयोर्गोनिः, समीरणोऽग्नेः, दोष-
संशोषणः, क्षेप्ता बहिर्मलानां, स्थूलाणुस्रोतसां भेत्ता, कर्ता
गर्भाकृतीनां, आयुषोऽनुवृत्ति प्रत्ययभूतो भवत्यकुपितः”
(च. सू. - अध्याय १२-५)

“ तमुच्छ्वासनिश्वासात्साहप्रस्पन्दनेन्द्रियपाटववेगप्रवर्तनादि-
भिर्वायुरनुगृह्णाति । पक्त्यूष्माभिलाषक्षुत्पिपासाप्रभा-
प्रसाददर्शनमेधा शौर्यमार्दवादिभिः पित्तं । स्थैर्यस्नेहसन्धि-
बन्धवृषता क्षमाधीधृतिबलालौल्यादिभिः श्लेष्मा । ”
(अ. सं. सू. - अध्याय १९)

ऊपर दी गयी धातुओं की व्याख्याओं से यह समझ सकते हैं कि प्रथम वलास (protoplasm) का एक सजीव शलक (cell) तीनों धातुओं को प्राकृतरूप में मिलाने से हुआ है । क्योंकि उस को इन धातुओं के कहे सारे धर्म मौजूद हैं । इन शलक कहे जाने वाले धातुओं के परमाणु ही इन के विभाजन और गुणन से सहज रूप में शरीर का निर्माण करते हैं ।

“शरीरावयवास्तु परमाणुभेदेनापिसंख्येया भवन्ति, अतिबहु-
त्वादतिसौक्ष्म्यादतीन्द्रियत्वात् च तेषां संयोगविभागे परमाणूनां
कारणं वायुः कर्मस्वभावश्च ” (च. शा.)

“तच्च चेतनावस्थितं वायुर्विभजति, तेज एनं पचति, आपः
क्ळेदयन्ति, पृथिवी संहन्ति, आकाशं विवर्द्धयति” (सु. शा.)

ऐसी हालत में यह मानना ही होगा कि इस प्रकार विभाजन,

गुणन और संहनन से कलल (fertilized ovum) से उत्पन्न बलिष्ठधर्मा (blastodermic) नामत कला उपरोक्त धातुओं से मिश्रित है । उन के विविध विभागों में भी उन में से किसी एक धेतु का आधिक्य प्रस्पष्ट रहेगा । संयोगवश, पाश्चात्य वैद्यों के तथा भ्रूणशास्त्र सिद्धांत तथा उपरोक्त तत्त्व मेल खाते हैं । वहाँ बलिष्ठ (ectodermic), आन्तर बलिष्ठ (endodermic) और मध्य बलिष्ठ (mesodermic) ये तीनों कलायें क्रमशः आयुर्वेद के वायु, मायु, वलास इन कलाओं का आधिक्य जहाँ है उन्ही देहांश का निर्माण करती हैं । इस लेखक के लिखे बृहच्छरीर से उद्धृत नीचे दी हुई पंक्तियों के पढ़ने पर यह स्पष्ट रूप से समझ सकता है ।

बलिष्ठधर्मा¹ या प्रोक्ता सर्वधातुमयी कला² ।
सा त्रिधा भिद्यते भूयो बाह्यान्तर्मध्यगात् बलात् ॥
तासां बाह्या बलिष्ठा तु³ वायवी परिकीर्तिता ।
आन्तरा⁴ मायवी प्रोक्ताः वालासी मध्यमा⁵ मता ॥
तन्त्रणार्थश्च यो धातु⁶र्धीन्द्रियाणि बहिस्त्वचः ।
गुदस्यान्तस्त्वचोरंशश्चाद्या या जायते स्फुटम् ॥
आहारपद्धतिः⁷ प्रायो निश्वासोच्छ्वासपद्धतिः⁸ ।
पद्धतिश्च विसर्गार्थो⁹ द्वितीयायाः प्रजायतेः ॥
नाळ्यः पेश्यो गर्भकाणि¹⁰ श्लेषका¹¹द्युपधातवः ।
चलनार्था धारणाश्चान्त्यायाः स्युस्समस्तशः ॥

इसी त्रिधातुओं में जो अपने अपने स्थान पर उचित माप में आपस से मिले हैं शरीर को निरोधक शक्ति (रोगादि बाधाओं से बचने की शक्ति) स्थायी रहती है । जब इन को उचित पूर्ति होती है तब व्यक्ति को पूर्ण स्वस्थ कहते हैं । उस स्थिति में कोई विषमता होने पर उस की अवस्था के अनुसार रोगी या मृतक हो सकता है ।

“समयोगवाहिनो यदाहस्मिन् शरीरे धातवो वैषम्यमापद्यन्ते, तदायं क्लेशं विनाशं वा प्राप्नोति । वैषम्यगमनं पुनर्धातूनां

वृद्धिहासगमनमकार्त्सन्येन” (च. शरीरविचयाध्याय)

त्रिदोष

उपरोक्त धातुओं के कुछ विशेष भाग आहार, विहार, अहोरात्र, अवस्था, काल, देश आदि के भेद से क्षय या वृद्धि को प्राप्त होते हैं । दूष्य अथवा टिष्यू (tissue) कहे जाने वाले शरीर के बाकी भाग भी रोगबाधाओं में स्थूल या क्षीण होते ही है । धातुओं के इस प्रकार के विशेष भागों को जो जल्दी विकार को प्राप्त होते हैं, निदान स्थान में त्रिदोष कहलाते हैं ।

अतः सामान्य रीति से शरीर के छोटे बड़े सुषिरों में अन्तर्गत ईरण और अवकाश के लिए सामान्यतया वातदोष कहते हैं । दीपन और पोषण के उपयुक्त आमाशयद्रव, अग्न्याशयद्रव, रक्त आदि कई द्रव या इन द्रवों में अन्तर्लीन पदार्थ, ये सब पित्त नामक दोष के अन्तर्गत होते हैं । फिर मुँह का लाला द्रव, रस, रक्तजलं, मेद, श्लेष्मकला कफ आदि द्रव और सान्द्र सारे देहांश जब अपने स्थान पर अकुपित रहता है, तब श्लेष्मदोष कहे जाते हैं । इन दोषों में एक या दो, अथवा तीनों के क्षय या वृद्धि ही रोग के मुख्य कारण होते हैं । क्योंकि ये क्षय और वृद्धि उपरोक्त धातुओं के कार्य जैवकृत्यों में बिगडते हैं ।

“दोषा एव हि सर्वेषां रोगाणामेककारणम्” (वग्भट)

नीचे दी हुई पंक्तियों से समझ सकते हैं कि उपरोक्त दोषों का स्थान, इन के वृद्धिक्षय का स्वभाव, लक्षण आदि सारे कार्य शास्त्रों में स्पष्ट कहा गया है ।

“तेषां त्रयाणामपि दोषाणां शरीरे स्थानविभागमु-
व्याख्यास्यामः तद्यथा - वस्तिः पुरीषाधानं कटिःसक्थिनी
पादावस्थीनि पक्काशयश्च वातस्थानानि, तत्रापि पक्काशयो
विशेषेण वातस्थानम्; स्वेदो रसो लसीका रुधिरमामाशयश्च
पित्तस्थानानि, तत्राप्यामाशयो विशेषेण पित्तस्थानम्;

1. बलिष्ठधर्मा = blastoderm, 2. कला = membrane, 3. बाह्यबलिष्ठा = epiblast, 4. आन्तरबलिष्ठा = hypoblast, 5. मध्यबलिष्ठा = mesoblast, 6. तन्त्रणार्थ धातुः = nervous tissue, 7. आहारार्थ पद्धति = alimentary system, 8. निश्वासोच्छ्वास पद्धति = respiratory system, 9. विसर्ग पद्धतिः = excretory system, 10. गर्भकाणि = corpuscles, 11. श्लेषकधातुः = connective tissue

उरशिरोग्रीवा पर्वाण्यामाशयो मेदश्च श्लेष्मस्थानानि ।
तत्राप्युरो विशेषेण श्लेष्मस्थानम् ।

राक्ष्यं शैत्यं लाघवं वैशद्यं गतिरमूर्त्तत्वमनवस्थितत्वञ्चेति
वायोरात्मरूपाणि ;

औष्ण्यं तैक्ष्ण्यं द्रवत्वमनतिस्नेहो वर्णश्च शुक्लारुणवर्जो गन्धश्च
विस्रो रसो च कटुकाम्ळौ सरत्वञ्च पित्तस्यात्मरूपाणि,
स्नेहशैत्यशौक्यगौरवमाधुर्यस्थैर्यपैच्छिल्यमात्स्नयानि
श्लेष्मण आत्मरूपाणि । ” (च. महारोगाध्याय)

.....वृद्धस्तु कुरुतेऽनिलः

कार्यकाष्णयोष्णकामित्वकम्पानाहशकृद्ग्रहान् ।

बलनिद्रेन्द्रियभ्रंशप्रलापभ्रमदीनताः

पीतविण्मूत्रनेत्रत्वक्क्षुत्तृदाहाल्पनिद्रताः

पित्तं ; श्लेष्माग्निसदनप्रसेकालस्यगौरवम्

शैत्यं शैत्यं श्लथान्णत्वश्वासकासातिनिद्रताः

लिङ्गं क्षीणेऽनिलेऽगस्य सादोऽल्पं भाषिते हितं

संज्ञा मोहस्थथा श्लेष्मवृद्धयुक्तामयसंभवः

पित्ते मन्दोनलशशीतं प्रभाहानिः कफे भ्रमः

श्लेष्माशयानां शून्यत्वं हृद्द्रवःश्लथसन्धिता ।

(दोषादि विज्ञानीयम् । वाग्भट)

त्रिमल

उपरोक्त दोष या उन के कोई भाग अधिक वृद्धि से या दूसरे
कारणों से जब उन के स्थान से पिचलित होते हैं, तब वे
मल कहे जाते हैं ।

“ प्रकुपित्ताश्च वातपित्तश्लेष्मणो ये चान्येपि केचित् शरीरे
तिष्ठन्तो भावाः । शरीरस्योपधातायोऽऽपपद्यन्ते सर्वास्तान्मलान्
संप्रचक्ष्महे । ” (च. शरीरविचयाध्याय)

ये मल जब मार्गभ्रष्ट हो कर विचरण करते हैं अथवा उन के
मार्ग में कोई बाधा उपस्थित हो तब रोग उत्पन्न होते हैं ।

“ कुपितानां हि दाषाणां शरीरे परिधावतां

यत्र संगः खवैगुण्यात् व्याधिस्तत्रोपजायते ।”

(सु. व्याध्यासमुद्देशीयाध्यायः)

“ चयो वृद्धिः स्वधान्येव, कोपस्तुन्मार्गामिता

लिङ्गानां दर्शनं स्वेषामस्वास्थ्यं रोगसंभवः । ”

(वाग्भट - दोषभेदीयाध्यायः)

उन मलों अथवा विकृत दोषों के लक्षण और कार्या का
ब्यौरा तत्तद् रोगों के प्रधानता के अनुसार किसी भी रोग में
दिखाई देते हैं, शास्त्र ग्रंथों में यों कहे जाते हैं ।

“ संसव्यासव्यधस्वापसादरुक्तोदभेदनम् ।

सङ्गाङ्गभङ्गसङ्कोच वर्तहर्षणतर्षणम् ॥

कम्पपारुष्यसौषिर्यं शोषस्पान्दन वेष्टनम् ।

स्तंभ कषायरसता वर्णः श्यावोरुणोऽपि वा ॥

कर्माणि वायोः, पित्तस्य दाहरागोष्मपाकिताः ।

स्वेदः कळेदः स्रुतिः कोथस्सदनं मूर्च्छनं मदः ॥

कटुकाम्ळौ रसौ वर्णः पाण्डुरारुण वर्जितः ।

श्लेष्मणः स्नेहकाठिन्यकण्डूशीतत्व गौरवम् ॥

बन्धोपलेपस्तैमित्यशोफापकत्यतिनिद्रताः ।

वर्णः श्वेतो रसौ स्वादुलवणौ चिरकारिता ॥

इत्यशेषामयव्यापि यदुक्तं दोषलक्षणम् ।

दर्शनाद्यैरवहितस्तत्सम्यगुपलक्षयेत् ॥ ”

(वाग्भट - दोषभेदीयाध्यायः)

ऊपरी उद्धृत भाग से यह स्पष्ट देख और समझ सकते हैं कि
धातु और दोषों की ही तरह वात, पित्त, कफ नाम के तीन
मल भी हैं । यदि ये अधिक बढ़े (कुपित) तो बाहर
निकाल लेता (संशोधन), अधिक बढ़ा नहीं तो आन्दर ही
दवा रखना (संशमन) चाहिए । इस प्रकार देखने पर वातमल
का अर्थ, अधिक दूषित कोश होता है । पित्तमल का अर्थ
पित्ताशय के द्रव तथा अशुद्ध रक्तवाहिनाडियों को बाधित
करई अनावश्यक वस्तुएँ तथा श्लेष्म नाम से मुँह तथा तालु
में लगे कफ तथा मूत्र में दिखाई पडने वाले अलबुमिन
(albumin) आदि विकृत पदार्थ ही समझ लेना चाहिए ।

इस से यह समझ लेना चाहिए कि वात, पित्त, कफ इन
तीनों के धातु, दोष, मल नाम से तीन भिन्न रूप हैं जो
स्वरूप और कर्म में भिन्न भिन्न हैं । आज पाश्चात्य एवं
पौरस्त्य वैद्यों के बीच में आयुर्वेद के बारे में जो गलत
धारण फैली है, मेरी राय में, कारण यह है कि उपरोक्त
तत्त्वों को यथायुक्ति न समझने अथवा मिथ्य धारण लेने से

होता है। इन तत्वों को ठीक समझने में बृहच्छारीर से नीचे उद्धृत भाग सहायक होगा।

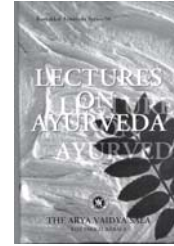
“ पञ्चमहाभूतप्रतिनिधयोपि वातपित्तकफाः देहधारणद्वातुसंज्ञया, रसादि दूषणाद्वेषसंज्ञया, स्रोतसाम्मलिनीकरणान्मलसंज्ञया चाभिहिताः प्राचीनाचार्यैः । वस्तुतस्तु नामत्रयमेतत् प्रकारभेद-त्रयसूचकमेव । तथाहि देहस्वास्थ्यनुकूलधर्मवतां रोगप्रतिरोध-शक्तिमताश्च यथोचितपरिमाणस्थितानां समग्रशरीरांशत्वेन परिणतानां वातादीनामेव धातुत्वं । ते हि स्थूलरूपा धातारो वक्ष्यमाणा उत्साहादिभिः शरीरानुग्रहं कर्तुं शक्नुवन्ति । सम-स्थितावारोग्योत्पादकत्वेपि बाहुल्येन रोगरंभानुकूल धर्मवतां वृद्धिहासगमनशीलानां ततश्च धात्वात्मकवातादिकर्मवैषम्य-

कराणां तदेकदेशरूपकतिपयशरीरांशनामेव दोषत्वं । एवं मरणानुकूलधर्मवतामतिकोपमापन्नानां शोधनमात्रसाध्यानां असाध्यानां वा दोषाणामेव मलत्वश्चाङ्गीकृतमिति विज्ञेयम् । ”
(भूतविभागाध्याय)

इस प्रकार आयुर्वेद के शारीरस्थान में जहाँ जहाँ वातपित्तकफों का उल्लेख हुआ हो, वे अधिकांश धातुओं के विषय में तथा निदान में इन का उल्लेख दोष के संबन्ध में और चिकित्सित का उल्लेख मलों के विषय में होता है। लेकिन आज जो ग्रन्थ उपलब्ध होते हैं उन में इन शब्दों का प्रयोग भिन्न भिन्न स्थानों में भिन्न अर्थ में दिखाई पड़ता है।

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