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लाभानां श्रेय आरोग्यम्

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



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## FROM THE PAGES OF VĀGBHATA - LXX

P. Madhavikutty\*

**Abstract:** In this chapter, the proper method of mating, the procedures and rituals for begetting a progeny with desired qualities, the development of zygote, contra indications and complications during confinement and their remedies, post partum procedures, etc. are explained in detail.

सन्तो ह्याहुरपत्यार्थे दम्पत्योः सङ्गतिं रहः ।  
दुरपत्यं कुलाङ्गारो गोत्रे जातं महत्यपि ॥ २९ ॥

(Santō hyāhurapatyārthē  
dampatyō: saṅgatiṁ raha: ।  
durapatyaṁ kulāṅgārō  
gōtrē jātaṁ mahatyapi ॥ 29 ॥)

According to the honourable preceptors, the mating of couple in privacy is mainly not intended for mere sensual pleasure but begetting a virtuous offspring. A wicked progeny is just like a live-coal, which will ruin the family although it is born in a reputed clan.

इच्छेतां यादृशं पुत्रं तद्रूपचरितांश्च तौ ।  
चिन्तयेतां जनपदांस्तदाचारपरिच्छदौ ॥ ३० ॥

(Icchētām yādṛśaṁ putraṁ  
tadrūpacaritaṁśca tau ।  
cintayētām janapadāṁstadā-  
cāraparicchadau ॥ 30 ॥)

The couple should think about the qualities

(figure, complexion, manners, etc.) that their offspring should possess; they should imagine the localities where people live with such qualities, and should adapt themselves to the customs and costumes of those people.

कर्मान्ते च पुमान् सर्पिःक्षीरशाल्योदनाशितः ।  
प्राग्दक्षिणेन पादेन शय्यां मौहूर्तिकाज्ञया ॥ ३१ ॥  
आरोहेत् स्त्री तु वामेन तस्य दक्षिणपार्श्वतः ।  
तैलमाषोत्तराहारा तत्र मन्त्रं प्रयोजयेत् ॥ ३२ ॥

(Karmāntē ca pumān  
sarpi:kṣīraśālyōdanāśita: ।  
prāgdakṣiṇēna pādēna  
śayyāṁ mauhūrtikājñayā ॥ 31 ॥  
Ārōhēt strī tu vāmēna  
tasya dakṣiṇapārśvata: ।  
tailamāṣōttarāhārā  
tatra mantraṁ prayōjayēt ॥ 32 ॥)

On completion of the rituals, both are to have their food. Rice mixed with ghee and milk is preferred for the husband, and rice seasoned

with sesame oil and black gram for the wife. Then with the blessing of their priest, they should go to bed; the husband should get on the bed with his right leg first, and the wife with her left. She should be seated on the right side of her husband; then the following hymn is to be recited.

ॐ आहिरसि आयुरसि सर्वतः प्रतिष्ठासि धाता त्वां  
दधातु विधाता त्वां दधातु ब्रह्मवर्चसा भवेति ।  
ब्रह्मा बृहस्पतिर्विष्णुः सोमः सूर्यस्तथाऽश्विनौ ।  
भगोऽथ मित्रावरुणौ वीरं ददतु मे सुतम् ॥ ३३ ॥

(OM āhirasi āyurasi sarvata:  
pratiṣṭhāsi dhātā tvām  
dadhātu vidhātā tvām dadhātu  
brahmavarcasā bhavēti ।  
Brahmā bṛhaspatirviṣṇu:  
sōma: sūryastathāśvinau ।  
bhagōStha mitrāvaruṇau  
vīraṁ dadatu mē sutam ॥ 33 ॥)

*May the omnipotent bless the zygote  
You are the Sun  
You are the spirit  
You are the omnipotent  
May Lord Brahma protect you  
And may bless you with the divine vigour*

“Oh Lord Brahmā, Viṣṇu, Sōma, Sūrya,  
Aśvins, Bhaga, Mitra and Varuṇa, may we be  
blessed with a chivalrous child.”

सान्त्वयित्वा ततोऽन्योन्यं संविशेतां मुदान्वितौ ।  
उत्ताना तन्मना योषित्तिष्ठेदङ्गैः सुसंस्थितैः ॥ ३४ ॥  
तथा हि बीजं गृह्णाति दोषैः स्वस्थानमास्थितैः ।

(Sāntvayitvā tatōSnyōnyam  
saṁviśētāṁ mudānvitau ।  
uttānā tanmanā yōṣitti-  
ṣṭhēdaṅgai: susamsthitai: ॥ 34 ॥

Tathā hi bījam grhṇāti dōṣai:  
svasthānamāsthitai: । )

Then, after soothing and pleasing each other with affectionate words and actions, they should indulge in mating. The women should lie on her back with due attention keeping all body parts properly. In such position, the dōṣas being in their normal state, she can receive the male seed properly.

लिङ्गं तु सद्योगर्भाया योन्या बीजस्य संग्रहः ॥ ३५ ॥  
तृप्तिर्गुरुत्वं स्फुरणं शुक्रास्नाननुबन्धनम् ।  
हृदयस्पन्दनं तन्द्रा तृङ्गानिर्लोमहर्षणम् ॥ ३६ ॥

(liṅgam tu sadyōgarbhāyā  
yōnyā bijasya saṅgraha: ॥ 35 ॥  
Tr̥ptirgurutvaṁ sphuraṇam  
śukrāsrananubandhanam ।  
hr̥dayaspandanam tandrā  
tr̥ṅgānirlōmaharṣaṇam ॥ 36 ॥)

The immediate symptoms of conception are grasping of the bīja (seed) in the uterus, sensation of contentment, feeling of heaviness and throbbing, cessation of flowing of semen and blood from the vagina, heart beating, lassitude, thirst, fatigue and horripilation.

अव्यक्तः प्रथमे मासि ससाहात्कललीभवेत् ।  
गर्भः पुंसवनान्यत्र पूर्वे व्यक्तेः प्रयोजयेत् ॥ ३७ ॥  
बली पुरुषकारो हि दैवमप्यतिवर्तते ।

(Avyakta: prathamē māsi  
saptāhātkalalibhavēt ।  
garbha: puṁsavanānyatra  
pūrvē vyaktē: prayōjayēt ॥ 37 ॥  
Balī puruṣakārō hi  
daivamapyativartatē ।)

In the first month, the garbhabīja (zygote) will be subtle and indistinguishable. After seven

days it becomes just like jelly; this state is the proper time for performing the ritual - puṁsavana karmas. Strong willpower and actions can surpass even the divine ordination.

The common concept about this ritual is that it is intended for begetting a male child. But it seems the preceptors of our basic treatises did not have such an idea. They have not even mentioned about the sex differentiation of the embryo in this context. It is mentioned “अव्यक्तः प्रथमे मासी” and not “अव्यक्त लिङ्गः”. The main body parts of the embryo (head, etc.) become manifested in the third month only, and then onwards it can feel the sensation of pleasure and pain (sukha and du:kha). So, here the word “अव्यक्तः” means that not manifested with its main organs.

In the first śloka of this chapter we learn that the satva being impelled by the afflictions of its own past actions, enters into a particular womb, unites with the śuklārthava, and becomes an embryo. As a result of its own wicked deeds, various kinds of defects and deformities may affect the embryo. To avoid all these calamities, our ācāryās have advised us to do the rituals - puṁsavanakarmas. Here, the ‘puṁ’ śabda does not denote a ‘pumān’ (male), but it denotes puruṣa, which, according to ayurveda, is a proper combination of pañca-mahābhūtās and the soul. (अस्मीन् शास्त्रे पञ्चमहा-भूतशरीरिसमवायः पुरुष इत्युच्यते - सु.सू. १/२२)

When our preceptors advised to do these puṁsavanakarmas, their aim was that the embryo formed in the uterus should stay there safely, and grow gradually into a human being with a proportionally built body and a pleasant mind.

Now the mode of performing puṁsavana-karmas is described.

पुष्ये पुरुषकं हैमं राजतं वाऽथवाऽऽयसम् ॥ ३८ ॥  
कृत्वाऽग्निवर्णे निर्वाप्य क्षीरे तस्याञ्जलिं पिबेत् ।

(puṣyē puruṣakam haimam  
rājataṁ vāsthavāḥṣyasam ॥ 38 ॥  
kṛtvāḥgnivarnē nirvāpya  
kṣīrē tasyāñjaliṁ pibēt ।)

A puruṣaka (small icon of a human being) made of gold, silver or iron, is to be made red hot and dipped in milk. One añjali (192 ml) of this milk is to be taken internally. This should be done on the day of puṣyanakṣatra (8th Lunar asterism).

गौरदण्डमपामार्गे जीवकर्षभसैर्यकान् ॥ ३९ ॥  
पिबेत्पुष्ये जले पिष्टानेकद्वित्रिसमस्तशः ।

(gauradaṇḍamapāmārgē  
jīvakarṣabhasairyakān ॥ 39 ॥  
Pibētpuṣyē jalē piṣṭā-  
nēkadvitrisamastaśaḥ ।)

On the day of puṣyanakṣatra, the white stem of apāmārga (*Achyranthus aspera*), jīvaka (*Malaxis acuminata*), ṛṣabhaka (*Malaxis muscifera*) and śairyaka (*Nilgiranthus ciliatus*) should be taken separately or in combinations of two, three or all, and ground with water.

क्षीरेण श्वेतबृहतीमूलं नासापुटे स्वयम् ॥ ४० ॥  
पुत्रार्थे दक्षिणे सिश्रेद्रामे दुहितृवाञ्छया ।

(kṣīrēṇa śvētabṛhatīmūlam  
nāsāputē svayam ॥ 40 ॥  
Putrārthē dakṣiṇē śiścēd-  
vāmē duhitṛvāñchayā ।)

The roots of śvētabṛhatī (*Solanum anguivi*) should be ground well with milk and filtered.

Instill some drops of this into the nostril of the woman by herself. If she desires a son, this should be done into her right nostril and if a daughter, into the left.

पयसा लक्ष्मणामूलं पुत्रोत्पादस्थितिप्रदम् ॥ ४१ ॥  
नासयाऽऽस्येन वा पीतं वटशुङ्गाष्टकं तथा ।  
ओषधीर्जीवनीयाश्च बाह्यान्तरुपयोजयेत् ॥ ४२ ॥

(payasā lakṣmaṇāmūlaṁ  
putrōtpādasthitipradam ॥ 41 ॥  
Nāsayāऽऽsyēna vā pītam  
vaṭa śuṅgāṣṭakam tathā ।  
ōśadhīrjīvanīyāśca  
bāhyāntarupayōjayēt ॥ 42 ॥)

Roots of lakṣmaṇā (*Ipomoea sepiaria*) should be ground with milk and consumed through nose or mouth. This helps the formation and survival of the embryo. Eight sprouts of vaṭa (*Ficus benghalensis*) give similar effect if used in the same way. Besides, drugs of Jīvanīyagaṇa (Sū. chapter 15) should be used externally and internally also.

The above are the medicines and methods advised in this context in Aṣṭāṅgahrdayam. We can see many other prescriptions in Carakasāmhita and Aṣṭāṅgasāṅgraham on this subject. Suśrutasaṅhita, though the word puṁsavana is not even mentioned, refers to one prescription: Grind any of the drugs - lakṣmaṇa, vaṭaśuṅga, sahadēva or viśvadēva with milk and instill three or four drops into the right nostril of the woman if she desires a son or into the left if desires a daughter.

The explanation of this prescription given in its commentary (described as taken from another older treatise) deserves special attention. It says that this nasya is to be done before the conception. A woman desirous of a

progeny should do this for five days; on those days, her food should be only boiled rice with milk; and after five days, she should copulate with husband. This procedure helps for conception. The nasya described here if administered after conception will protect and maintain the embryo; and if administered before the third month, it helps to have a male progeny.

उपचारः प्रियहितैर्भर्त्रा भृत्यैश्च गर्भधृक् ।  
नवनीतघृतक्षीरैः सदा चैनामुपाचरेत् ॥ ४३ ॥  
(Upacāra: priyahitairbhartrā  
bhṛtyaiśca garbhadhṛk ।  
navanītaghṛtakṣīrai:  
sadā caināmupācarēt ॥ 43 ॥)

The husband and attendants should affectionately look after the pregnant woman, serving whatever she likes. She should be nourished with butter, ghee and milk.

अतिव्यवायमायासं भारं प्रावरणं गुरु ।  
अकालजागरस्वप्नं कठिनोत्कटकासनम् ॥ ४४ ॥  
शोकक्रोधभयोद्वेगवेगश्रद्धाविधारणम् ।  
उपवासाध्वतीक्ष्णोष्णगुरुविष्टम्भिभोजनम् ॥ ४५ ॥  
रक्तं निवसनं श्वभ्रकूपेक्षां मद्यमामिषम् ।  
उत्तानशयनं यच्च स्त्रियो नेच्छन्ति तत्त्यजेत् ॥ ४६ ॥  
तथा रक्तस्रुतिं शुद्धिं वस्तिमामासतोऽष्टमात् ।  
एभिर्गर्भैः स्रवेदामः कुक्षौ शुष्येन्म्रियेत वा ॥ ४७ ॥

(Ativyavāyamāyāsaṁ  
bhāraṁ prāvaraṇaṁ guru ।  
akālaajāgarasvapnaṁ  
kaṭhinōtkakāśanam ॥ 44 ॥  
Śōkakrōdhabhayōdvēga-  
vēgaśradhdhāvidhāraṇam ।  
upavāsādhvatikṣṇōṣṇa-  
guruviṣṭambhibhōjanam ॥ 45 ॥  
Raktaṁ nivasanaṁ śvabhra-

kūpēkṣām madyamāmiṣam ।  
uttānaśayanam yacca  
striyō nēcchanti tattyajēt ॥ 46 ॥  
Tathā raktasrutim śuddhim  
vastimāmāsatōSṣtamāt ।  
ēbhīrgarbha: sravēdāma:  
kukṣau śuṣyēnmriyēta vā ॥ 47 ॥ )

The pregnant woman should abstain from over indulgence in sex, exertion, bearing of loads, wearing heavy cloths of covering, day time sleep and keeping awake at night, sitting on hard seats, squatting, emotions such as grief, anger, fear, excitement, etc. She should not suppress the natural urges, take food that are too pungent, hot, heavy and constipating; do not fast, walk too long, wear red clothes, peep into chasms and wells and lie supine; she should not take alcohol and meat. She should obey elderly women and not do things that they are not allowed. Similarly, she should not be subjected to bloodletting, purificatory steps and enema till the eighth month. By doing these faulty actions, the embryo may either prematurely expel or emaciate inside the uterus or ruin.

वातलैश्च भवेद्गर्भः कुब्जान्धजडवामनः ।  
पित्तलैः खलतिः पिङ्गः, श्वित्री पाण्डुः कफात्मभिः ४८

(Vātalaiśca bhavēdgarbha:  
kubjāndhajaḍavāmana: ।  
pittalai: khalati: piṅga:,  
śvitrī pāṇḍu: kaphātmabhi: ॥ 48 ॥ )

By vāta provoking foods and actions, the offspring may become hunch backed, blind and dull or dwarf; by pitta provoking, it will become bald headed or tawny coloured; by kapha provocatives, it will be either with white patches on the skin (leucoderma) or with pale coloured body.

व्याधींश्चास्या मृदुसुखैरतीक्ष्णैरौषधैर्जयेत् ।  
(Vyādhīmścāsyā mṛdusukhair-  
atīkṣṇairauśadhairjayēt । )

If any disease affects the pregnant woman, it should be treated with medicines which are mild and easily consumable.

द्वितीये मासि कललाद्धनः पेश्यथवाऽर्बुदम् ॥ ४९ ॥  
पुंस्त्रीकळीबाः क्रमात्तेभ्यः .....

(dvitīyē māsi kalalādghana:  
pēśyathavāṠrbudam ॥ 49 ॥  
Puṁstrīkḷībā: kramāttēbhya: .....

In the second month, from the kalala (jelly like) state, the garbhabija develops into the stage of ghana, pēsi or arbuda. If the garbha adapts a ghana shape, then it will be a male child, if pēsi, a female child and if arbuda, a eunuch. The explanation of these words ‘ghana pēsi and arbuda’ is given in the commentary of Suśrutasaṁhita as quoted from ācārya Bhōja’s statement: चतुरश्रा भवेत् पेशी वृत्तः पिण्डो घनः स्मृतः शात्मली मुकुळाकारं अर्बुदं परिपक्षते, according to which pēśī means caturaśra (quadrangular), ghana is a dense solid lump with round shape, and arbuda is just like the bud of śālmali (*Bombax ceiba*).

.....तत्र व्यक्तस्य लक्षणम् ।  
क्षामता गरिमा कुक्षेर्मुच्छ्रा च्छर्दिरोचकः ॥ ५० ॥  
जृम्भा प्रसेकः सदनं रोमराज्याः प्रकाशनम् ।  
अम्ळेष्टता स्तनौ पीनौ सस्तन्यौ कृष्णचूचुकौ ॥ ५१ ॥  
पादशोफो विदाहोऽन्ये श्रद्धाश्च विविधात्मिकाः ।

( .....tatra vyaktasya lakṣaṇam ।  
kṣāmatā garimā kukṣēr-  
mūrccā cchardīrācaka: ॥ 50 ॥  
jṛmbhā prasēka: sadanaṁ  
rōmarājyā: prakāśanam ।

amlēṣṭatā stanau pīnau  
 sastanyau kṛṣṇacūcukau ॥ 51 ॥  
 pādaśōphō vidāhōṢnyē  
 śraddhāśca vividhātmikā: 1 )

The characteristic features of the woman in this period are: feeling of weakness, heaviness of the abdomen, fainting, vomiting, loss of appetite, yawning, salivation, debility, manifestation of hairline over the abdomen, desire for sour things, slightly enlarged breasts with milk, black clouded nipples, swelling of the feet and burning of the heart. Also, some other authorities include in this group various kinds of desires for particular objects.

मातृजं ह्यस्य हृदयं मातुश्च हृदयेन तत् ॥ ५२ ॥  
 सम्बद्धं तेन गर्भिण्या नेष्टं श्रद्धाविमाननम् ।  
 देयमप्यहितं तस्यै हितोपहितमल्पकम् ॥ ५३ ॥  
 श्रद्धाविघाताद्गर्भस्य विकृतिः च्युतिरेव वा ।

(mātrjam hyasya hṛdayam  
 mātuśca hṛdayēna tat ॥ 52 ॥  
 Sambaddham tēna garbhīṇyā  
 nēṣṭam śraddhāvīmananam ।  
 dēyamapyahitam tasyai  
 hitōpahitamalpakam ॥ 53 ॥  
 Śraddhāvighātādgarbhasya  
 vikṛti: cyutirēva vā 1 )

The embryo's heart is originated from mother and it is connected with mother's heart. So, her desires should not be ignored. The desired things, even though not agreeable to her condition, should be given mixed with suitable things and in small quantities. Ignoring her desires may create abnormalities to the foetus, or may cause abortion.

व्यक्तीभवति मासेऽस्य तृतीये गात्रपञ्चकम् ॥ ५४ ॥

मूर्द्धा द्वे सक्थिनी बाहू सर्वसूक्ष्माङ्गजन्म च ।  
 सममेव हि मूर्द्धाद्यैज्ञानं च सुखदुःखयोः ॥ ५५ ॥

(vyaktībhavati māsēṢsya  
 ṛṭīyē gātrapañcakam ॥ 54 ॥  
 mūrddhā dvē sakthinī bāhū  
 sarvasūkṣmāṅgajanma ca ।  
 samamēva hi mūrddhādyai-  
 jñānam ca sukhadu:khayō: ॥ 55 ॥ )

In the third month, the five main organs of the foetus (the head, two legs and two arms) are manifested and also the origin of the minute particles. Together with head, etc. the sensation of pleasure and pain also develops.

गर्भस्य नाभौ मातुश्च हृदि नाडी निबध्यते ।  
 यया स पुष्टिमाप्नोति केदार इव कुल्यया ॥ ५६ ॥

(Garbhasya nābhau mātuśca  
 hṛdi nādī nibadhyatē ।  
 yayā sa puṣṭimāpnōti  
 kēdāra iva kulyayā ॥ 56 ॥ )

In the same month, the beginning of the umbilical cord also becomes clear which connects the mother's heart and foetus' umbilical each other. Through this cord, the foetus gets nourishment, just like a paddy field getting water through a canal.

चतुर्थे व्यक्तताऽङ्गानां, चेतनायाश्च पञ्चमे ।  
 षष्ठे स्नायुसिरारोमबलवर्णनखत्वचाम् ॥ ५७ ॥  
 सवैः सर्वाङ्गसम्पूर्णो भावैः पुष्यति सप्तमे ।

(caturthē vyaktatāṢgānām,  
 cētanāyāśca pañcamē ।  
 ṣaṣṭhē snāyusirārōma-  
 balavarṇanakhatvacām ॥ 57 ॥  
 sarvai: sarvāṅgasampūrṇō  
 bhāvai: puṣyati saptamē 1)



In the fourth month, all the organs are clearly manifested, and in the fifth month, cētana (consciousness) also becomes clear. Tendons, veins, hair, strength, colour, nails and skin manifest in the sixth month. And in the seventh month, the foetus becomes fully developed with all its characteristic features and aspects, and is well nourished.

गर्भेणोत्पीडिता दोषास्तस्मिन् हृदयमाश्रिताः ।  
कण्डूं विदाहं कुर्वन्ति गर्भिण्याः किक्किसानि च ॥ ५८ ॥

(Garbhēṅōtpīḍitā dōṣās-  
tasmin hṛdayamāśritāḥ ।  
kaṇḍūrṅ vidāhaṁ kurvanti  
garbhīṅyāḥ kikvisāni ca ॥ 58 ॥)

The dōṣas, being pressed up by the foetus, depending on the heart region, create problems such as itching, burning sensation and kikkisa (wrinkles that appear on the skin of abdomen, thighs and breasts during pregnancy).

नवनीतं हितं तत्र कोलाम्बुमधुरौषधैः ।  
सिद्धमल्पपटुस्नेहं लघु स्वादु च भोजनम् ॥ ५९ ॥  
चन्दनोशीरकल्केन लिम्पेदूरुस्तनोदरम् ।  
श्रेष्ठया वैणहरिणशशोणितयुक्तया ॥ ६० ॥  
अश्वघ्नपत्रसिद्धेन तैलेनाभ्यज्य मर्दयेत् ।  
पटोलनिम्बमञ्जिष्ठासुरसैः सेचयेत्पुनः ॥ ६१ ॥  
दार्वीमधुकतोयेन मृजां च परिशीलयेत् ।

(Navanītaṁ hitaṁ tatra  
kōlāmbumadhuraṣadhaiḥ ।  
siddhamalpapaṭusnēhaṁ  
laghu svādu ca bhōjanam ॥ 59 ॥  
Candanōśīrakalkēna  
limpēdūrustanōdaram ।  
śrēṣṭhayaḥ vaiṇahariṇa-  
śāśāṅṅitayuktayā ॥ 60 ॥  
Aśvaghnapatrasiddhēna

tailēnābhyajya mardayēt ।  
paṭōlanimbamañjiṣṭhā  
surasaiḥ sēcayētpunaḥ ॥ 61 ॥  
Dārvīmadvhukatōyēna  
mrjām ca pariśīlayēt ।)

In this condition, butter medicated with the decoction of kōla (*Ziziphus mauritiana*) and the drugs of sweet group, is beneficial if used internally and externally. Her food should be light and sweet with less salt and fat. Her thighs, breasts and abdomen should be anointed with a paste of candana (*Santalum album*) and uśīra (*Vetiveria zizanioides*) or a paste of triphala (three myrobalans) mixed with the blood of an antelope or a rabbit. Oil prepared with the leaves of aśvaghna (*Nerium oleander*) is to be applied on her body and massaged with the paste of paṭōla (*Trichosanthes lobata*), nimba (*Azadirachta indica*) mañjiṣṭhā (*Rubia cordifolia*) and surasa (*Ocimum tenuiflorum*). Then she should be irrigated with water boiled with dārvī (*Berberis aristata*) and madhuka (*Glycyrrhiza glabra*); after that she should take bath properly.

ओजोऽष्टमे सञ्चरति मातापुत्रौ मुहुः क्रमात् ॥ ६२ ॥  
तेन तौ म्ळानमुदितौ तत्र जातो न जीवति ।  
शिशुरोजोनवस्थानान्नारी संशयिता भवेत् ॥ ६३ ॥

(ōjōṣṣṭamē sañcarati  
mātāputrau muhuḥ kramāt ॥ 62 ॥  
Tēna tau mḷānamuditau  
tatra jāto na jīvati ।  
śīśurojōnavasthānā-  
nnārī samśayitā bhavēt ॥ 63 ॥)

In the eighth month, the ojas (vital energy/ essence) moves between mother and child alternatively. So, they become faded or

delightful respectively. Due to the unsteadiness of the ōjas, the child born in this month will not survive. The mother's life also will be in critical condition.

Ōjas is the vital essence of the saptadhātūs. Detailed description of this is available in the 11<sup>th</sup> chapter of Sūtrasthāna.

क्षीरपेया च पेयाऽत्र सघृताऽन्वासनं घृतम् ।  
मधुरैः साधितं शुद्धयै पुराणशकृतस्तथा ॥ ६४ ॥  
शुष्कमूलककोलाऽम्बकषायेण प्रशस्यते ।  
शताह्वाकल्कितो वस्तिः सतैलगृतसैन्धवः ॥ ६५ ॥

(Kṣīrapēyā ca pēyāḌtra saghṛtāḌnvāsanam ghṛtam ।  
saghṛtāḌnvāsanam ghṛtam ।  
madhuraiḥ sādhitam śuddhyai  
purāṇaśakṛtastathā ॥ 64 ॥  
Śuṣkamūlakakōlāmḅka-  
kaṣāyēṇa praśasyatē ।  
śatāhvākalkitō vastiḥ  
satailaghṛtasaindhavaḥ ॥ 65 ॥)

In this month, gruel prepared with milk mixed with ghee has to be taken. Anuvāsana (enema with lubricants) should be given with ghee medicated with sweet drugs. Similarly a vasti (decoction enema) prepared with the decoction of śuṣkamūlaka (dried *Raphanus sativus*) and kōla (*Ziziphus mauritiana*) mixed with the paste of śatāhva (*Anethum graveolens*), sesame oil, ghee and rock salt should be given to remove the old faeces.

तस्मिंस्त्वेकाहयातेऽपि कालः सूतेरतः परम् ।  
वर्षाद्विकारकारी स्यात्कुक्षौ वातेन धारितः ॥ ६६ ॥

(TasmimstvēkāhayāteḌpi  
kālaḥ sūterataḥ param ।  
varṣādvikārakārī syāt-  
kukṣau vātēna dhāritaḥ ॥ 66 ॥)

When one day is left back to complete the eighth month, it is time for delivery. Complication may occur if it is delayed for one year due the provocation of vāta.

शस्तश्च नवमे मासि स्निग्धो मांसरसौदनः ।  
बहुस्नेहा यवागूर्वा पूर्वोक्तं चानुवासनम् ॥ ६७ ॥

(Śastaśca navamē māsi  
snigdho māmsarasaudanaḥ ।  
bahusnēhā yavāgūrvā  
pūrvōktaṁ cānuvāsanam ॥ 67 ॥)

In the ninth month, taking rice mixed with meat soup and fat is desirable; or yavāgu (thick gruel) with much fat may be taken. The lubricating enema with ghee, prescribed to do in the eighth month, also may be given.

तत एव पिचुं चास्या योनौ नित्यं निधापयेत् ।  
वातघ्नपत्रभङ्गाम्भः शीतं स्नानेऽन्वहं हितम् ॥ ६८ ॥

(Tata ēva picuṁ cāsyā  
yōnau nityam nidhāpayēt ।  
vātagnapatrabhaṅgāmbhaḥ  
śītam snāneḌnvaham hitam ॥ 68 ॥)

A piece of cloth soaked in the same ghee, should be kept always in the vagina. Water, boiled with vāta pacifying drugs and then cooled, should be used for daily bath.

निःस्नेहाङ्गीं न नवमान्मासात्प्रभृति वासयेत् ।

(Niḥsnēhāṅgīm na navamānma-  
sātprahṛti vāsayēt ।)

Her body should never be without lubrication from the ninth month onwards.

प्राग्दक्षिणस्तनस्तन्या पूर्वं तत्पार्श्वचेष्टिनी ॥ ६९ ॥

पुत्रामदौर्हदप्रश्ररता पुंस्वप्नदर्शिनी ।

उन्नते दक्षिणे कुक्षौ गर्भे च परिमण्डले ॥ ७० ॥

पुत्रं सूतेऽन्यथा कन्यां या चेच्छति तृसङ्गतिम् ।  
नृत्यवादित्रगान्धर्वगन्धमाल्यप्रिया च या ॥ ७१ ॥

(prāgdakṣiṇastanastanyā  
pūrvam̐ tatpārśvacēṣṭinī ॥ 69 ॥  
Punnāmadaurhṛdapra-  
śnaratā puṁsvapnadarśinī ।  
unnatē dakṣiṇē kukṣau  
garbhē ca parimaṇḍalē ॥ 70 ॥  
Putram̐ sūtēṢnyathā kanyām̐  
yā cēcchati tṛsaṅgatim̐ ।  
nr̥tyavāditragāndharva-  
gandhamālyapriyā ca yā ॥ 71 ॥)

A woman having milk in the right breast first, who prefers right side for all activities, who enquires always about objects of masculine names and longs to get them, who sees masculine objects in dreams, whose abdomen elevate more on right side, and round in appearance, will give birth to a male child. On the contrary, if she shows symptoms just opposite to these, likes the company of man, interested in dance, instrumental and vocal music, perfumes and garlands, will give birth to a female child.

कळीबं तत्सङ्गरे, तत्र मध्यं कुक्षेः समुन्नतम् ।  
यमौ पार्श्वद्वयोन्नामात्कुक्षौ द्रोण्यामिव स्थिते ॥ ७२ ॥

(Kḷībam̐ tatsaṅkarē, tatra  
madhyam̐ kukṣēḥ samunnatam ।  
yamau pārśvadvyōnnāmāt-  
kukṣau drōṇyāmiva sthitē ॥ 72 ॥)

If these symptoms are seen intermingled, then the child may be a eunuch. In this case, her abdomen will be elevated in the middle part. If both sides of the abdomen are seen bulged and the middle part depressed (like a boat), the woman will deliver twins.

प्राक् चैव नवमान्मासात् सा सूतिगृहमाश्रयेत् ।  
देशे प्रशस्ते सम्भारैः सम्पन्नं साधकेऽहनि ॥ ७३ ॥  
तत्रेदीक्षेत सा सूतिं सूतिकापरिवारिता ।

(Prāk caiva navamānmāsāt  
sā sūtigrhamāśrayēt ।  
dēśē praśastē sambhāraiḥ  
sampannam̐ sādhakēṢhani ॥ 73 ॥  
Tatrēdikṣēta sā sūtim̐  
sūtikāparivāritā ।)

Even before the beginning of the ninth month, she should be admitted in a well-equipped maternity home situated in a suitable place on an auspicious day. There, accompanied by many skilled elderly women, she waits for the confinement.

अद्यश्वःप्रसवे ग्लानिः कुक्ष्यक्षिश्चथता कळमः ॥ ७४ ॥  
अधोगुरुत्वमरुचिः प्रसेको बहुमूत्रता ।  
वेदनोरुदरकटीपृष्ठहृद्वस्तिवङ्कणे ॥ ७५ ॥  
योनिभेदरुजातोदस्फुरणस्रवणानि च ।  
आवीनामनु जन्मातस्ततो गर्भोदकस्रुतिः ॥ ७६ ॥

(adyaśvaḥprasavē glāniḥ  
kukṣyakṣiśṭhatatā kḷamaḥ ॥ 74 ॥  
Adhōgurutvamaruciḥ  
prasēko bahumūtratā ।  
vēdanōrūdarakāṭipṛṣṭha-  
hṛdvastivaṅkṣaṇē ॥ 75 ॥  
Yōnibhēdarujātō-  
dasphuraṅasravaṅāni ca ।  
āvīnāmanu janmātatatō  
garbhōdakasrutīḥ ॥ 76 ॥)

On the days just before the expected date, the woman experiences feeling of fatigue, looseness of abdomen and eyes, exhaustion, feeling of heaviness in the lower parts, loss of appetite, more salivation, frequent urination, pain in the

thighs, abdomen, wrist, back, heart, bladder and groins; she feels various types of pain such as splitting, pricking, etc., throbbing in the vaginal tract and oozing of amniotic fluid.

अथोपस्थितंगर्भा तां कृतकौतुकमङ्गलाम् ।  
हस्तस्थपुत्रामफलां स्वभ्यक्तोष्णाम्बुसेचिताम् ॥ ७७ ॥  
पाययेत्सघृतां पेयां तनौ भूशयने स्थिताम् ।  
आभुग्नसक्थिमुत्तानामभ्यक्ताङ्गीं पुनः पुनः ॥ ७८ ॥  
अधो नाभेर्विमृदीयात्कारयेज्जृम्भचङ्कमम् ।

(Athōpasthitaṅgarbhām  
tām kṛtakautukamaṅgalām ।  
hastasthapunnāmaphalām  
svabhyaḥktoṣṇāmbusecitām ॥ 77 ॥  
Pāyayētsaghr̥tām pēyām  
tanau bhūśayanē sthitām ।  
ābhugnasakthimuttānām-  
abhyaḥkātāṅgīm punaḥ punaḥ ॥ 78 ॥  
Adhō nābhērvimṛdīyāt-  
kārayējīr̥mbhacaṅkramam ।)

Then the auspicious kautukamaṅgala (a sacred thread tying on the hand as a ritual) is to be tied on her arm, and a fruit of masculine gender held in the hand. Then, after anointed with oil, irrigated with warm water and taken some gruel mixed with ghee, she should be made to lie on her back with knees folded (lithotomic position) on a bed spread on the floor; again she should be anointed repeatedly and massaged on the parts below the navel region; she should be made to yawn frequently and made to walk.

गर्भः प्रयात्यवागेवं, तल्लिङ्गं हृद्विमोक्षतः ॥ ७९ ॥  
आविश्य जठरं गर्भो वस्तेरुपरि तिष्ठति ।

(garbhaḥ prayātyavāgēvaṁ,  
talliṅgaṁ hṛdvimōkṣataḥ ॥ 79 ॥  
Āviśya jaṭharaṁ garbhō

vastērupari tiṣṭhati ।)

By these actions, the foetus comes down with his head downwards. Its symptoms is that the foetus being detached from the heart region, occupies the abdomen just above the bladder.

आव्योऽभित्वरयन्त्येनां खट्टामारोपयेत्ततः ॥ ८० ॥  
अथ सम्पीडिते गर्भे योनिमस्याः प्रसारयेत् ।  
मूदु पूर्वं प्रवाहेत बाढमाप्रसवाच्च सा ॥ ८१ ॥  
हर्षयेत्तां मुहुः पुत्रजन्मशब्दजलानिलैः ।  
प्रत्यायान्ति तथा प्राणाः सूतिक्लेशावसादिताः ॥ ८२ ॥

(āvyōSbhitvarayantyēnām  
khaṭvāmārōpayēttataḥ ॥ 80 ॥  
Atha sampīditē garbhē  
yōnimasyāḥ prasārayēt ।  
mṛdu pūrvam pravāhēta  
bāḍhamāprasavācca sā ॥ 81 ॥  
Harsayēttām muhuḥ  
putrajanmaśabdajalanilaiḥ ।  
pratyāyānti tathā prāṇāḥ  
sūtiklēśāvasādītāḥ ॥ 82 ॥)

When labour pain repeatedly and strongly occurs, she should be made to lie on a cot, and when the foetus is being pressed out through the vaginal tract, it should be dilated; then she should bear down mildly in the beginning, and afterwards forcibly till the baby comes out. To relieve her exhaustion due to delivery and to regain the vital vigour, she should be consoled by the news of her baby's birth and by sprinkling water and fanning.

धूपयेद्गर्भसङ्गे तु योनिं कृष्णाहिकञ्चुकैः ।  
हिरण्यपुष्पीमूलं च पाणिपादेन धारयेत् ॥ ८३ ॥  
सुवर्चलां विशल्यां वा जराय्वपतनेऽपि च ।  
कार्यमेतत्तथोत्क्षिप्य बाह्वोरेनां विकम्पयेत् ॥ ८४ ॥  
कटीमाकोटयेत्पाष्ण्यां स्फिजौ गाढं निपीडयेत् ।

तालुकण्ठं स्पृशेद्वेण्या मूर्ध्नि दद्यात्सुहीपयः ॥ ८५ ॥  
 भूर्जलाङ्गलिकीतुम्बीसर्पत्वक्कुष्ठसर्षपैः ।  
 पृथग्द्वाभ्यां समस्तैर्वा योनिलेपनधूपनम् ॥ ८६ ॥  
 कुष्ठतालीसकल्कं वा सुरामण्डेन पाययेत् ।  
 यूषेण वा कुलत्थानां विल्वजेनासवेन वा ॥ ८७ ॥  
 (Dhūpayēdgarbhasaṅgē tu  
 yōniṁ kṛṣṇāhikañcukaiः ।  
 hiranyapuspīmūlām ca  
 pāṇipādēna dhārayēt ॥ 83 ॥  
 Suvarcalām viśalyām vā  
 jarāyvapatanēSpi ca ।  
 kāryamētattathōtkṣipya  
 bāhvōrēnām vikampayēt ॥ 84 ॥  
 Kaṭimākōṭayētpārṣṇyā  
 sphijau gādham nipīdayēt ।  
 tālukaṅṭham sprśēdvēnyā  
 mūrdhni dadyātsnuhīpayaः ॥ 85 ॥  
 Bhūrjalāṅgalikītumbī-  
 sarpatvakkuṣṭhasarṣapaiः ।  
 pṛthagdvābhyām samastairvā  
 yōnilēpanadhūpanam ॥ 86 ॥  
 Kuṣṭhatālīsakalkam vā  
 surāmaṇḍēna pāyayēt ।  
 yūṣēṇa vā kulatthānām  
 vilvajēnāsavēna vā ॥ 87 ॥ )

If, by any chance, obstruction for delivery occurs, fumigate the vagina with the slough of a black serpent, or wear the root of hiranyapuspī (*Curculigo orchiioides*)/suvarcala (*Bacopa monnieri*)/viśālya (*Gloriosa superba*) on the hand and feet. All these can be used for the obstruction of the placenta also. In this juncture, holding her arms she should be lifted and shaken; and hit her hip with her heels, press the buttocks hardly, touch the palate and throat with a tuft of hair; apply the milky juice of snuhī (*Euphorbia ligularia*) on the vertex; or

apply a paste prepared by either of the following, or in combination, in the vagina:

Bhūrjā	<i>Betula utilis</i>
Lāṅgalikī	<i>Gloriosa superba</i>
Tumbī	<i>Lagenaria siceraria</i>
Sarpatvak	Slough of serpent
Kuṣṭha	<i>Saussurea lappa</i>
Sarṣapa	<i>Brassica juncea</i>

The above drugs can be used for fumigation also; or a paste prepared out of kuṣṭha (*Saussurea lappa*) and talīsa (*Abies spectabilis*) should be given internally mixed with sura (liquor prepared with rice flour) or with the soup of black gram or with āsava of vilva (*Aegle marmelos*).

शताह्वसर्षपाजाजीशिग्रुतीक्ष्णकचित्रकैः ।  
 सहिङ्गुकुष्ठमदनैर्मूत्रे क्षीरे च सार्षपम् ॥ ८८ ॥  
 तैलं सिद्धं हितं पायौ योन्यां वाऽप्यनुवासनम् ।

(Śatāhvāsarṣapājājī-  
 śigrutīkṣṇakacitrakaiः ।  
 sahiṅgukuṣṭhamadanairmūtrē  
 kṣīrē ca sārṣapam ॥ 88 ॥  
 Tailam siddham hitam pāyau  
 yōnyām vāSpyanuvāsanam ।)

Mustard oil medicated with a paste of the following drugs mixed with cow's urine and milk is beneficial if used as anuvāsana or uttara vasti:

Śatāhva	<i>Anethum graveolens</i>
Sarṣapa	<i>Brassica juncea</i>
Ajājī	<i>Cuminum cyminum</i>
Śigru	<i>Moringa oleifera</i>
Tikṣṇaka	<i>Toddalia asiatica</i>
Citraka	<i>Plumbago indica</i>
Hiṅgu	<i>Ferula asafoetida</i>
Kuṣṭha	<i>Saussurea lappa</i>
Madana	<i>Catunaregum spinosa</i>

शतपुष्पावचाकुष्ठकणासर्षपकल्कितः ॥ ८९ ॥  
 निरूहः पातयत्याशु सस्नेहलवणोऽपराम् ।  
 तत्सङ्गे ह्यनिलो हेतुः सा निर्यात्याशु तज्जयात् ॥ ९० ॥

(śatapuṣpāvacaḥkuṣṭha-  
 kaṇāsarsapakalkita: ॥ 89 ॥  
 Nirūha: pātayatyāśu  
 sasnēhalavaṇōsparām ।  
 tatsaṅgē hyanilō hētu:  
 sā niryātyāśu tajjayāt ॥ 90 ॥)

A nirūha (decoction enema) prepared with the paste of śatāhva, vaca (*Acorus calamus*), kuṣṭha, kaṇa (*Piper longum*) and sarṣapa mixed with oil and salt is very effective for expelling the placenta. Vāta is the causative factor for its obstruction and once it is removed, the placenta comes out easily.

कुशला पाणिनाऽक्तेन हरेत्कळ्मसखेन वा ।  
 मुक्तगर्भापरां योनिं तैलेनाङ्गं च मर्दयेत् ॥ ९१ ॥

(Kuśalā pāṇināSktēna  
 harētklṛptanakhēna vā ।  
 muktagarbhāparām yōniṁ  
 tailēnāṅgaṁ ca mardayēt ॥ 91 ॥)

An expert woman can remove (extract) placenta with her hand with close cut nails annointed with ghee or oil. After the baby and placenta are severed from the uterus, the vagina and the whole body should be annointed with oil and massaged.

मकल्लाख्ये शिरोवस्तिकोष्ठशूले तु पाययेत् ।  
 सुचूर्णितं यवक्षारं घृतेनोष्णजलेन वा ॥ ९२ ॥  
 धान्याम्बु वा गुडव्योषत्रिजातकरजोन्वितम् ।

(Makkallākhyē śirōvasti-  
 kōṣṭhaśūlē tu pāyayēt ।  
 sucūrṇitaṁ yavakṣāraṁ  
 ghr̥tēnōṣṇajalēna vā ॥ 92 ॥

Dhānyāmbu vā guḍavyōṣa-  
 trijātakarajōnvitam ।)

After delivery, if the woman suffers from makkala (pain in the head, bladder and abdomen), well powderd yavakṣāra (potassi carbonas) mixed with ghee or warm water is to be given; or she may take water boiled with corriander mixed with jaggery and the powder of vyōṣa (*Zingiber officinale*, *Piper nigrum* and *Piper longum*) and trijātaka (*Elettaria cardamomum*, *Cinnamomum verum* and *Cinnamomum tamala*).

अथ बालोपचारेण बालं योषिदुपाचरेत् ॥ ९३ ॥

(atha bālōpacārēṇa  
 bālaṁ yōṣidupācarēt ॥ 93 ॥)

Then, the new born baby should be nursed by an experienced woman as per the directions given in the chapter Bālōpacaraṇīya (the first chapter of uttarasthāna).

सूतिका क्षुद्रती तैलाद्भूताद्वा महतीं पिबेत् ।  
 पञ्चकोलकिनीं मात्रामनु चोष्णं गुडोदकम् ॥ ९४ ॥  
 वातघ्नौषधतोयं वा, तथा वायुर्न कुप्यति ।  
 विशुद्ध्यति च दुष्टासं द्वित्रिरात्रमयं क्रमः ॥ ९५ ॥

(Sūtikā kṣudvatī tailād-  
 ghr̥tādvā mahatīm pibēt ।  
 pañcakōlakiniṁ mātrāmanu  
 cōṣṇaṁ guḍōdakam ॥ 94 ॥  
 Vātaghnauṣadhatōyaṁ vā,  
 tathā vāyurna kupyati ।  
 viśuddhyati ca duṣṭāsaṁ  
 dvitirirātramayaṁ krama: ॥ 95 ॥)

When the delivered woman feels hungry, she should be given ghee or oil mixed with the powder of pañcakōla (*Piper longum*, *Piper longum* (root), *Piper brachystachyum*,

*Plumbago indica* and *Zingiber officinale*) in the maximum dose. Then water boiled with jaggery or with drugs that pacify vāta is to be taken. By these, the aggravated vāta will be controlled and also the vitiated blood becomes purified. This order should be followed for two or three days.

The suggestion to give ghee or oil in maximum dose to the sūtika seems to be improper. This dose is intended only for those who are to be subjected to purificatory steps. Sūtika is not fit to undergo these steps as she belongs to that group of persons, for whom śamana is suitable. The śamanasnēha is of medium dose which can be digested within four yāmās (12 hours) and is to be given when the person feels hungry.

According to Aṣṭāṅgasāṅgraha, the dose of snēha in this context is “अहपरिणामिनि” i.e. digestible during day time (12 hours). Caraka and Suśruta opine that the dose of snēha and all other regimen should be according to the constitution, strength, customs and habits of woman. Considering all these facts, Vaidyaratnam P.S. Varier revised this portion in his Aṣṭāṅgaśārīra as: सुतिका क्षुद्रती तैलात् घृतात् वा युक्तितः पिबेत्, पञ्जकोलकिर्नी मात्राम्. This revision seems to be more appropriate

स्नेहयोग्या तु निःस्नेहममुमेव विधिं भजेत् ।  
पीतवत्याश्च जठरं यमकाक्तं विवेष्टयेत् ॥ ९६ ॥

(Snēhayōgyā tu ni:snēha-  
mamumēva vidhiṁ bhajēt ।  
pītavatyāśca jaṭharam  
yamakāktam vivēṣṭayēt ॥ 96 ॥)

If the woman is not fit for intake of ghee or oil, the above said drugs can be taken in the form of decoction, powder, etc. After taking

the medicine, annoint her abdomen with yamakasnēha (mixture of two fats – ghee and oil) and tie with a bandage.

जीर्णे स्नाता पिबेत्पेयां पूर्वोक्तौषधसाधिताम् ।  
त्र्यहादूर्ध्वं विदार्यादिवर्गकाथेन साधिता ॥ ९७ ॥  
हिता यवागूः स्नेहाढ्या सात्म्यतःपयसाऽथवा ।  
सप्तरात्रात्परं चास्यै क्रमशो बृंहणं हितम् ॥ ९८ ॥  
द्वादशाहेऽनतिक्रान्ते पिशितं नोपयोजयेत् ।

(Jīrṇē snātā pibētpēyām  
pūrvōktaūṣadhasādhitām ।  
tryahādūrdhvaṁ vidāryādi-  
vargakvāthēna sādhitā ॥ 97 ॥  
Hitā yavāgū: snēhādhyā  
sātmyata:payasāSthavā ।  
saptarātrātparam cāsyai  
kramaśō bṛṇhaṇam hitam ॥ 98 ॥  
DvādaśāhēSnatikrāntē  
piśitam nōpayōjayēt ।)

When the intaken medicine (snēha, decoction, etc.) are well digested she should take bath and drink pēya (thin gruel) prepared with the earlier mentioned drugs. After three days she can take yavāgu (thick gruel) prepared in the decoction of Vidāryādigaṇa (Sū. 15) mixed with plenty of ghee; or the gruel may be prepared with milk if she is accustomed to it. After seven days, gradually, nourishing articles can be given. But meat should not be used before twelve days.

यत्नेनोपचरेत्सूतां, दुःसाद्ध्यो हि तदामयः ॥ ९९ ॥  
गर्भवृद्धिप्रसवरुक्क्वेदास्रमुतिपीडनैः ।

(yatnēnōpacarētsūtām,  
du:sāddhyō hi tadāmaya: ॥ 99 ॥  
Garbhavṛddhiprasavaruk-  
kḷēdāsrasrutipīḍanai: ।)

The delivered woman should be looked after very carefully. If by chance, any disease develops, it is very difficult to cure because of the afflictions due to the growth of foetus, labour pain and the discharge of fluid and blood.

एवं च मासादध्यर्धान्मुक्ताहारादियन्त्रणा ॥ १०० ॥  
गतसूताभिधाना स्यात्पुनरार्तवदर्शनात् ॥ १०० १/२ ॥

(Ēvaṁ ca māsādadyardhān-  
muktāhārādiyantraṇā ॥ 100 ॥  
gatasūtābhidhānā syāt-  
punarārtavadarśanāt ॥ 100 ½ ॥)

Besides, she should follow a strict diet control for a period of one and a half month. She is no

more called a sūtika with the beginning of the next menstruation cycle.

इति श्रीवैद्यपतिसिंहगुप्तसुश्रीमद्वाग्भटविरचितायामष्टाङ्ग-  
हृदयसंहितायां द्वितीये शारीरस्थाने गर्भवक्रान्तिर्नाम  
प्रथमोऽध्यायः ॥ १ ॥

(iti śrīvaidyapatisimhaguptasūnuśrīmadvāg-  
bhaṭaviracitāyāmaṣṭāṅgaḥṛdayasaṁhitāyām  
dvitīyē śārīrasthānē garbhavakrāntirṇāma  
prathamōऽdhyāyaḥ ॥ 1 ॥ )

Thus ends the chapter Garbhavakrānti, the first in Śārīrasthāna of Aṣṭāṅgaḥṛdayasaṁhita, composed by Śrīmad Vāgbhaṭa, the son of Śrī Vaidyapati Simhagupta.

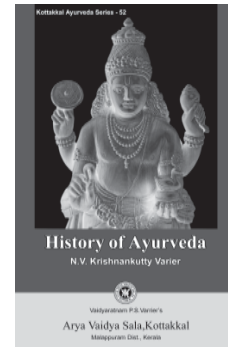
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## APPLICATION OF LEECH IN BUERGER'S DISEASE - A CRITICAL STUDY

Uday Patankar, Arvind Kumar Shakya and S.S. Sharma\*

**Abstract:** Buerger's disease is an inflammation of the small and medium sized arteries, veins and nerves in the legs principally leading to restricted blood flow. The exact cause of this disease is unknown. It primarily occurs in men who smoke. This paper briefly discusses the ayurvedic management of Buerger's disease; the etiology, pathology, clinical features, etc. are also dealt with.

### **Introduction**

Buerger's disease is an inflammation of the small and medium sized arteries, veins and nerves in the legs principally leading to restricted blood flow. Buerger's disease can lead to gangrene of the affected areas. It primarily occurs in men who smoke. Endarteritis obliterans, Presenile gangrene, thrombo angitis obliterans (TAO) are the synonyms of this disease.

### **Epidemiology**

#### **Geographical distribution**

Buerger's disease has a worldwide distribution. It is now more prevalent in the Middle, near and far East than in North America and Western Europe.

There is an extremely high prevalence of TAO in India among the people of low socio-economic class who smoke bidis (home made

cigarettes with raw tobacco). In Asia, a much higher proportion of patients with limb ischaemia have been attributed to TAO than that in the United States and Europe. This is more common in the Jewish race. It affects approximately 6 out of 1,00,000 people, predominantly under the age group of 20 - 40 years.

The disease starts nearly always but not invariably between the ages of 20 and 40 years. Although it may be seen and diagnosed first at a later age, the history often dates to age earlier than 40 years. It almost always affects men but may occur rarely in women also. The incidence of men to women is 99:1. The theories that have been advanced for the rarity of the disease in women are:

- Difference in the habits and exposure
- Sex-linked heredity factor

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- Biological difference which provides immunity

Death from Buerger's disease is rare but in patients who continue to smoke 43% may require one or more amputations in 7 to 6 years.

### **Etiology**

The exact cause of Buerger's disease is not known. It is seen most often in young to middle aged men (ages 20-40) who are heavy smokers of cigarette. Cases of this disease in non-smokers are very rare and rarely it may affect women.

#### **1. Smoking**

Buerger's disease is closely related to smoking; usually, in those who smoke 20 or more cigarettes per day have high chance to occur this disease. Tobacco causes direct endothelial damage leading to hypercoagulability and thrombosis. The progression and continued symptoms associated with TAO are closely linked with continued smoking.

#### **2. Vasoconstriction of peripheral blood vessel**

This may be caused by the increased activity of the adrenal glands due to presence of nicotine in blood.

3. **Hormonal influence:-** This suggests sex distribution.

4. Hyper coagulable state of blood due to elevated fibrinogen levels and hyper aggregability of platelets has been reported.

#### **5. Auto immune etiology**

Recently an auto-immune etiology has been postulated based on the findings of both antibodies and lymphocyte-mediated sensitivity to collagen. There is no single etiological

mechanism present in all the patients with TAO. Tobacco seems to play a central role in the initiation and the continuation of the disease. Other etiologic factors such as genetic predisposition, immunologic mechanism, endothelial dysfunction and abnormalities in coagulation may play a role in some patients.

#### **6. Miscellaneous factors**

- A pre-diabetic condition
- Increased viscosity
- Glandular dysfunction
- High salt diet
- Electric shock
- Nutritional disturbance

### **Pathology**

Pathology of this disease can be divided into three stages namely acute, sub-acute and late.

#### **Acute stage**

In this stage there will be increased platelet adhesiveness; the walls of the vessels are invaded by polymorpho-nuclear leucocytes. Cellular thrombosis occurs within vessels with occlusion of the lumen. Small micro abscesses within the thrombus may characteristically be present. These abscesses have central foci of polymorpho-nuclear leucocytes. Only a segment of the vessel is involved which may be long or short.

Inflammatory cells migrate into surrounding vessel wall involving all three layer's inflammatory reaction and spreads to the vessel coats, adjacent vessels and nerves.

#### **Sub-acute phase**

This involves perivascular fibrosis and

recanalization of the thrombus, and there may be vascularisation of blood vessels wall.

#### **Late phase**

In chronic lesion, the artery and the vein are bound together by fibrous adhesions. The nerve may also be involved in the same adhesions. Involvement of the nerve is responsible for agonizing pain. The thrombus shows fibroblastic activity and endothelial proliferation. The thrombosis is now organized into fibrous tissue. The internal and external elastic lamina of the artery is frequently much thickened.

#### **Clinical features**

This disease occurs almost exclusively in males between 20-40 years of age. A typical patient is one who is a heavy smoker and has started smoking at an early age.

The clinical features of this disease are many and varied. They not only depend on the site of the lesion but also with the rapidity of the disease process. The majority of the symptoms of thromboangitis obliterans are as a result of ischaemia often added by infection.

The early symptoms may include coldness of the affected limbs, loss of hairs from the digits, brittle nails, burning sensation, tingling and numbness of the affected part. Pain is present in almost all of the cases and it may be the first symptom of the disease; the following types are listed in order of their frequency:

- Claudication in the foot muscles
- Rest pain in the toes and fore foot
- Painful digital gangrene
- Fulminating acute ischaemia of the foot with distal pulses

Due to the peripheral involvement, the pedal arteries are affected earlier and the patients complain of pain while walking on the arch of foot (foot claudication) somewhat less often at the calf of leg. Pain may be typical of intermittent claudication.

Due to progression of ischaemia there will be rest pain. Gradually, postural colour changes, ulceration and gangrene of anyone digit and finally of the entire foot occurs. Involvement of upper limb is rare; occasionally mesenteric or cerebral vessels may get involved.

Pain in Buerger's disease also results from superficial phlebitis and ischaemic neuritis. The typical presentation may involve: intermittent claudication → rest pain → postural colour changes → trophic changes → ulceration → gangrene.

#### **Investigation**

Arteriography is the standard investigation though other investigations like lipid profile, coagulation screening, plasma libnogen, etc. are required to exclude the other causes of gangrene. The differential diagnoses are:

- Buerger's disease
- Diabetic ulcer.
- Atherosclerosis
- Endocarditis
- Other types of vasculitis

#### **Buerger's disease**

The distal nature is that it usually affects medium and peripheral vessels and progresses proximally. Arteriogram is the gold standard investigating procedure. Characteristic appearance of this disease is smooth and normal

large arteries, extensive occlusion in the small arteries with extensive collateral circulation. Appearance differs from atherosclerosis in having micro abscesses in thrombi, proliferation of endothelial cells, lack of lipid aggregates, presence of intact internal elastic lamina.

#### **Atherosclerosis**

Build up cholesterol plaques in arteries, late onset; other causes than smoking precipitating atherosclerosis are present. It is found in visceral and cerebral blood vessels.

#### **Endocarditis**

It has its own typical presentation

#### **Treatment**

The following are the precaution required in these cases:

- Abstain from tobacco use in all forms
- Avoid drugs which constrict blood vessels
- Avoid injury from heat and cold
- Avoid tight clothing
- Avoid sitting or standing in one position for long time
- Do not walk on bare foot
- Report all injuries to family physician immediately

The following are the drugs to be tried:

- Anti coagulants (e.g. Heparin, Warferin)
- Vasodilators (e.g. Propanolol)
- Anti-platelet aggregators (e.g. Aspirin)
- Fibrinolytic (e.g. Streptokinase)
- Anti-inflammatory (e.g. Trypsin)
- Drug which cause thinning of blood (e.g. Aspirin)

The surgical treatments recommended are:

- a) Arterial reconstruction, b) Micro vascular transplantation and c) Amputation when gangrene occurs.

#### **Ayurvedic management**

In ayurvedic classics we cannot find an exact correlation for this disease entity. On the basis of the above description, it can be seen that there is localized raktaduṣṭi in Buerger's disease; and for the management of raktaduṣṭi, acarya Suśruta suggests the procedure of raktamōkṣam. While describing raktamōkṣam as a half of the whole treatment, he rightly quotes the importance of blood letting in the following verse:

त्वग्दोषा ग्रन्थयः शोफा रोगाः शोणितजाश्च ये ।  
रक्तमोक्षणाशीलानां न भवन्ति कदाचन ॥

(सु. सू. १४/३४)

It is said that one who prefers raktamōkṣam as per the norms prescribed in the classics, will not suffer from skin disease, granthi, śōpha and other blood related disorders. There are different types of raktamōkṣam according to the site of vitiation (Table 1). Of these, we

TABLE 1

Different types of raktamōkṣam according to the site of vitiation

Method	Dōṣa	Site of raktaduṣṭi
Śṛṅga (horn)	Vāta	Tvak (skin)
Jaḷūka (leech)	Pitta	Gambhīr prānta (deep tissues)
Alābu (gourd)	Kapha	Tvak (skin)
Sirāvyadha (venepuncture)	-	Sarvaśarīra (whole body)
Pracchānanam	-	Granthita rakta (coagulated blood)

have selected jaḷūka (leech) for raktamōkṣam in Buerger's disease for the following reasons:

1. Suśruta advises raktamōkṣam used by jaḷūka for gambhīr prānta raktaduṣṭi and also for pittapradhānaduṣṭi. In Buerger's disease there is gambhīr prāntagata raktaduṣṭi as it is a disease of arteries; pitta has its own role in causing raktaduṣṭi.
2. Jaḷūka is told as the best among aṇuśāstra.
3. This is the easiest, less painful method of raktamōkṣam with no major complication.
4. According to the available researches, the contents of saliva of jaḷūka are:
  - a. Anticoagulant - Hirudin; the most powerful anticoagulant available today
  - b. Anti platelet aggregator - destabilise; a powerful anti platelet aggregator that dissolves blood clots; Apyrase is also found
  - c. Anti-inflammatory - Bdellin; it is a

protcase inhibitor like Trypsin and Chymotrypsin

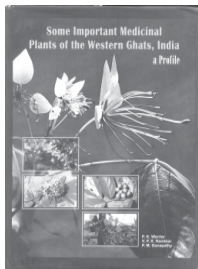
- d. Anti-inflammatory and antioxidant - Eglin
- e. Factor of diffusion and antibiotic - Hyaluronidase
- f. Vasodilator substance
- g. Anesthetic substance

All the above contents are destroyers of the pathology of Buerger's disease.

#### **Conclusion**

Several patients suffering from Buerger's disease have undergone this therapy with excellent results, and it needs further double blind and single blind study as amputation is the only effective treatment in the modern system. With this view research work is going on in our department, and by the grace of Lord Dhanvantari we hope to gather good statistical data to clear this problem.

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## HYPERTENSION: AN AYURVEDIC PERSPECTIVE

Parashuram Singh Yadav and Ajay Kumar Sharma\*

**Abstract:** Hypertension is a symptom rather than a disease. In the present life style, it has become one of the major causes that bring about various disorders, both mental and physical in all the strata of the society. This paper elaborately discusses hypertension and its management in ayurveda; its classification, pathogenesis, clinical features, etc. are also dealt with.

### Introduction

There is no specific description available for the term 'cardiovascular system' in any ayurvedic classics; however, various references pertaining to cardiovascular activity indicate that our ācāryās had similar concept on this subject<sup>1</sup>. Suśruta mentions that the nutrient fluid circulates throughout the body with a variable speed like that of sound, light and water<sup>2</sup>. One of the cardinal signs of raktavṛddhi is sirā-pūrṇata<sup>3</sup> and of raktakṣaya is sirāśaithilya<sup>4</sup>. Pūrṇata and śaithilya refer only to a specific condition of blood vessels, which may interfere with the blood circulation affecting the level of blood pressure, and may lead to hypertension or hypotension.

### Definition

High blood pressure is a trait as opposed to a specific disease, and represents a quantitative rather than a qualitative deviation from the normal state; any definition of hypertension therefore is arbitrary.

Systemic blood pressure rises with age, and the incidence of cardiovascular disease, mainly stroke and coronary artery disease, is closely related to average blood pressure at all ages, even when the blood pressure readings are within the so called normal range. The cardiovascular risks associated with a given blood pressure are dependent upon the combination of risk factors in individual; these include age, gender, weight, physical inactivity, family history, blood cholesterol, diabetes mellitus and preexisting vascular disease. Therefore, effective management of hypertension requires a holistic approach that is based on various factors. Thus the definition of hypertension seems to be "the level of blood pressure at which the benefit of treatment outweighs the costs of hazards." The WHO has defined hypertension, as a state in which systolic pressure is 150mm of Hg or more and diastolic pressure is 95mm of Hg or more.

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### **Etiology and classification**

According to etiology, hypertension can be divided into two groups i.e. 1) Primary or essential and 2) Secondary hypertension.

#### **Primary or essential**

In more than 95% of the cases, a specific underlying cause of hypertension cannot be found. Such patients are said to have essential hypertension or primary hypertension.

#### **Secondary**

In about 5% of the cases, hypertension can be shown to be consequence of a specific disease or abnormality leading to sodium retention and/or peripheral vasoconstriction. The main cause of secondary hypertension may be alcohol, pregnancy, renal diseases, various endocrine disorders, various drugs, etc.

#### **Clinical classifications**

Hypertension can be classified according to the level of blood pressure (Table 1).

#### **Pathogenesis**

The pathogenesis of essential hypertension is not clearly understood. Different investigators have proposed the kidney, peripheral resistance

and the sympathetic nervous system as the seat of the primary abnormality; but in reality the problem is probably multifactorial. On the other hand, the pathogenesis of secondary hypertension is better understood due to its clear-cut causative factors.

#### **Adverse effects**

The common organs get damaged by long standing hypertension are heart, kidney, blood vessels and retina. The following changes can be observed in various organs as a sequel to hypertension:

##### **1. Cardiovascular system**

Increased myocardial work leads to concentric hypertrophy of left ventricle, angina pectoris and accelerated coronary artery disease. There are systolic as well as diastolic dysfunctions.

##### **2. Kidneys**

Progressive arteriosclerosis involves both efferent and afferent renal arterioles and capillaries of glomerular tuft. This leads to compromise of renal functions, shrinkage of kidneys and proteinuria.

TABLE 1  
Clinical classification of hypertension according to the level of BP

Category	Systolic pressure (mm. Hg)	Diastolic pressure (mm. Hg)	Recommended action
Normal	< 130	< 85	Reassess in 5 years
High normal	130-139	85-89	Reassess annually
Hypertension:			
Stage I (mild)	140-159	90-99	Confirm over 12 week and treat
Stage II (moderate)	160-179	100-109	Re-measure weekly and treat
State III (severe)	180-209	110-119	Confirm over 1-2 weeks and treat
Stage IV (very severe & malignant)	> 210	> 120	Treat immediately

### 3. CNS

Hypertension may cause microaneurysm which may rupture and cause cerebral haemorrhage. Accelerated atherosclerosis may cause cerebral thrombosis, embolism and infarction. Cerebral arteriolar spasm may cause hypertensive encephalopathy.

### 4. Fundus of eyes

Hypertension may lead to haemorrhage and cotton wool exudates and finally papilledema in the eyes.

#### Clinical features

Most of the patients, who have no specific symptoms referable to their blood pressure elevation, are identified only in the course of a physical examination. Commonly witnessed symptoms of hypertension include:

- Headache; which is characteristically present in severe hypertension. Commonly this type of headache is localized to the occipital region, particularly in morning hours.
- Dizziness/vertigo, due to transient ischemia.
- Palpitations
- Fatigue
- Impotence
- Epistaxis - nasal bleeding
- Haematuria - bleeding from the urinary tract
- Blurring of vision owing to retinal changes
- Angina pectoris - pre-cardiac pain
- Dyspnoea (breathlessness) due to cardiac failure; left ventricular hypertrophy in long standing cases
- Symptoms of underlying diseases that cause secondary hypertension.

#### Laboratory tests for evaluation

##### a. Investigations for all patients

- i. Urine analysis for presence of blood, protein and glucose

- ii. Blood urea, electrolytes, creatinine
- iii. Blood glucose
- iv. Serum for estimation of phosphate, potassium and uric acid
- v. Serum total lipid, high density lipoprotein (HDL), serum cholesterol, serum triglycerides
- vi. 12 lead E.C.G. for left ventricular hypertrophy & coronary artery disease
- vii X-ray - chest
- viii Echocardiogram

##### b. Investigation for selected patients

- i Chest radiograph to detect cardiomegaly, heart failure, coarctation of the aorta
- ii Echocardiogram to detect left ventricular hypertrophy
- iii Renal ultrasound: to detect possible renal disease
- iv Renal angiography: to detect renal artery disease
- v Urinary cortisol and dexamethasone suppression test to detect possible Cushing Syndrome.

#### Etiopathogenesis based on ayurveda

It may not be desirable to equate a disease from one system with that of the other system on the basis of superficial similarity as there is fundamental difference in the approach of each system in describing the pathogenesis. Still, the above tendency may help some extent to communicate one's ideas regarding these diseases. More over exchange of ideas, cross reading, diffusion of information and research are characteristics of the modern society. Hence it may require such an attempt for understanding a disease described in ayurveda from the point of view of modern medicine.

Dr. Gananath Sen has coined a word



dhamanīprapūrṇata to denote high blood pressure in view of increased blood volume in the dhamanis. Vaidya Athawale and others have equated it with dhamanīpratichāya in view of arterial changes. Some ayurvedic scholars have equated it with siragatavāta or raktavṛttavātarōga. Vaidya Triguna Sen considers it to be vyānāvṛtarakta. Some scholars equate it with samānavāta. Arterial hypertension is also correlated with the premonitory phase of a well-known disease, raktapitta. Prof. R.H. Singh is of the opinion that the term raktagatavāta and kaphapittāvṛtavayānavāyu, in which, rasa, rakta and mēda dhātus are the main dūṣyas, are much nearer to arterial hypertension.

Caraka describes raktagatavāta elaborately: It states that the symptoms include sever pain, burning sensation, discolouration, emaciation, anorexia, boils and rigidity of the limbs after meals<sup>5</sup>. The dōṣas vitiated at snāyu, sira and kaṇḍara afflict one with stamba (rigidity), saṅkōca (constriction), granthi (sclerosis), supti (numbness). The vāta in sirās causes pain, constriction or dilation of sirās. This expression indicates that due to vātaprakōpa, sira sometimes becomes rikta or pūrṇa, which ultimately produce hypertension.

Briefly, the probable etiopathogenesis of hypertension, according to ayurvedic principles, may include excessive indulgence in various āhāra-vihārajanya nidānas like rūkṣa, śīta, uṣṇa, kṣāra, lavaṇa, guru āhārās, atibhōjana, vidhāhi āhāra, viruddhāhāra, krōdha, śōka, bhaya and īrṣya. These nidānas produce jaṭharāgnimāndya. Due to jaṭharāgnimāndya, excessive production of āmadōṣa takes place, which ultimately causes dhātvaṅnimāndya and production of sāmarasadhātu. Due to jaṭharā-

gnimāndya, sāmarasadhātu leads to mēdōdhātuṣṭvṛddhi, and vitiated mēdōdhātu attacks the dhamanis of hṛdaya, mastiṣka and vṛkka, and results in accumulation of fatty material inside various blood vessels of the body leading to dhamanīkāṭhinya and vimārga gamana of rasaraktādīdhātus. Vimārgagamana of rasaraktādi dhātus produces the disease termed raktagatavāta vis-à-vis hypertension. (Chart 1)

#### **Samprāptighaṭaka**

The following are the probable samprāptighaṭaka of hypertension:

Dōṣa	- Tridōṣa
Dūṣya	- Rasa, rakta, mēda
Adhiṣṭhāna	- Dhamanis, hṛdaya
Srōtas	- rasāvaha, raktāvaha, mēdōvaha, manōvaha
Srōtōduṣṭi type	- Śaṅka, vimārgagamana, atipravṛtti
Agni	- Agnimāndya
Vyādhisvābhāva	- Cirakāri
Sādhyāsādhyata	- Kṛchrasādhyata /yāpa

#### **Line of treatment**

According to ayurvedic point of view, in hypertension, normal homeostasis of the dōṣa, dhātu, mala and agni are disturbed. Therefore, the main aim of treatment is to correct the status of agni and bring sāmyāvastha in the dōṣa, dhātu and mala. The general principle in the management of hypertension may include:

##### **1. Nidānaparivarjana**

Nidānaparivarjana is the most rational approach in the treatment of hypertension. Causative factors, if located, should be removed at the earliest possible.

##### **2. Śōdhanacikitsa**

Śōdhanacikitsa is the radical treatment of a disease and is supposed to eradicate the vitiated

dōṣas from the body, thereby completely prevent or cure the disease.

Virēcanakarma:- Before administration of virēcana therapy, the patient should be prepared by snēhana therapy with the help of medicated ghṛtas such as Pañcagavyaghṛta, Kalyāṇaka ghṛta, Haridrādi ghṛta, Dantīghṛta, etc<sup>6</sup>. After completing snēhana therapy, virēcana therapy has to be done. It corrects the status of agni and disorders of pittadōṣa and vitiated mēdōdhātu. Important preparations used for the virēcana therapy in the management of

hypertension are: Harītakīcūrṇa with luke-warm water, Triphalācūrṇa with luke-warm water, Tr̥vṛta-triphala kvātha (decoction), Dantīmūla kalka (paste) and Abhayādīmōdaka.

Vastikarma:- Vastikarma plays an important role in the management of hypertension. Use of Vacādīlēkhanavasti may lower the level of raktagata vasā/serum cholesterol (lipids). It may also lower the blood pressure and pulse rate of the patients of hypertension. With the administration of Vacādīlēkhanavasti, kapha dōṣa and mēdōdhātu are brought within

TABLE 2

Some ayurvedic formulations indicated for the management of hypertension

1. Single drugs

Sarpagandha, brāhmi, śāṅkhapuṣpi, arjuna, palāṇḍu, laśuna, āmlaki, aśvagandha, harītaki, vaca, śīlājatu, bala, mūlaka, bhṛṅgarāja, jāpa, karavīra, ritha, gōkṣura, ādraka, vibhītaki, puṣkaramūla, mēthī, punarṇava, gōmūtra, maṇḍūkapaṇī, jaṭāmānsī, śigru, tāmbūla, etc.

2. Compound drugs

- Cūrṇas (powders):- Sarpagandhacūrṇa, Vacādī cūrṇa, Gōkṣurādi cūrṇa, Aśvagandha cūrṇa, Puṣkaramūlacūrṇa, Pippilyādi cūrṇa, Nāgabālā cūrṇa, etc.
- Kvāthas (decoctions):- Puṣkaramūlādi kvātha, Pañcavalkādi kvātha, Daśamūla kvātha, Punarṇavādi kvātha, Gōkṣurādi kvātha, etc.
- Rasas (metallic preparations):- Rasarājarasa, Hṛdayārṇavarasa, Hṛdayēśvararasa, Cintāmaṇīcaturmukharasa, Yōgēndrarasa, Prabhākararasa, Candrakalārasa, Icchabhēdirasa, Kāmadugdharasa, Bṛhat vāta cintāmaṇī rasa, etc.
- Guṭikas/vaṭis (tablets):- Sarpagandhaghanavaṭi, Śīlājatuvaṭi, Candraprabhāvaṭi, Ārōgyavarddhini vaṭi, Brāhmī vaṭi, Amarasundari vaṭi, Prabhākaramīśraṇ, etc.
- Bhasmas/Pistis (metallic oxides) – Pravālapisti, Kahāravapisti, Muktaṭpisti, Abhrakabhasma, Mṛgaśṛṅgabhasma, Akīkapisti, etc.
- Asavas/Ariṣṭas (fermented preparations):- Daśamūlāriṣṭa, Aśvagandhāriṣṭa, Balāriṣṭa, Arjunāriṣṭa, Sārasvatāriṣṭa, Uśīrāsava, Candanāsava, Punarṇavāsava, etc.
- Avalēhas (paste):- Brāhmarasāyana, Cyavanaprāsāvalēha, Triphalāvalēha, etc.
- Pākas/Ghṛtas:- Arjunakṣīrapāka, Rasōnakṣīrapāka, Arjunaghṛta, Balādyaghṛta, Śvadamṣṭrādyaghṛta, etc.

physiological limits and regulation of vāta-dōṣa takes place resulting in saṁprāptivighaṭana of hypertension. Mustādiyāpanavasti, Ēraṇḍamūlādivasti are also effective in the management of hypertension.

Śirōdhāra- Śirōdhāra is very important in the treatment of hypertension. This therapy produces anxiolytic, adaptogenic and tranquilizing effects in the body and mind; and reduces mental tension and anxiety. Some of the preparations used in śirōdhāra for the management of hypertension are: Kṣīrabala, Lākṣādi taila, Cow milk mixed with decoction of daśamūla and Śatāvāritaila.

### 3. Śamanacikitsa

Śamanacikitsa is the treatment which consists

of conservative measures like laṅghana (fasting), pacana (digestion), etc. by administration of appropriate drugs indicated for alleviating the vitiated dōṣas and thereby preventing the disease. There are so many formulations indicated for the management of hypertension (Table 2).

### 3. Exercise

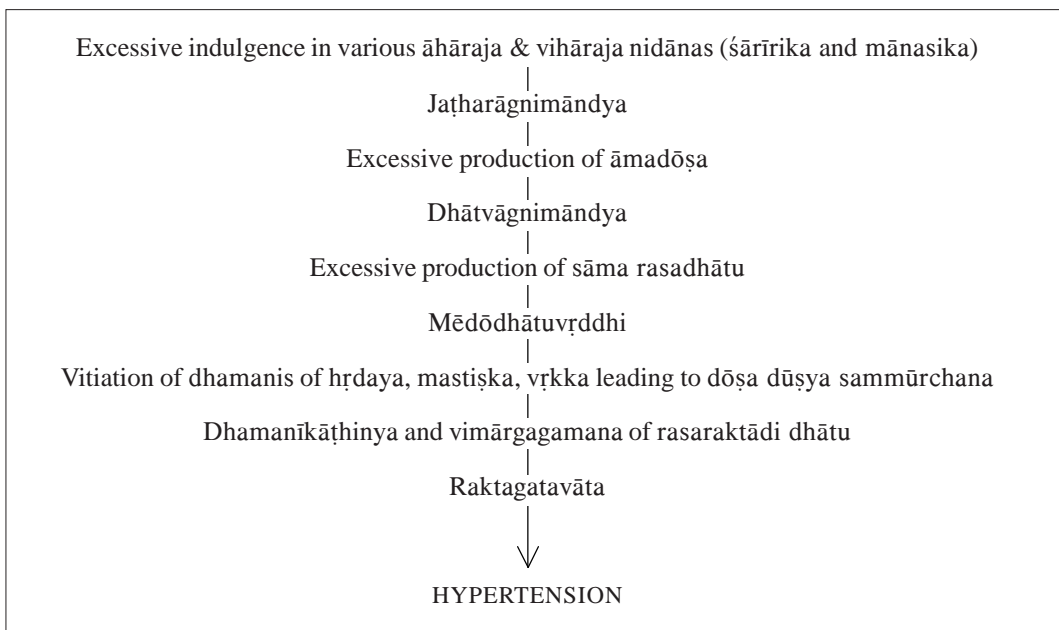
Exercise plays very important role in the management of hypertension, because it is helpful to reduce dhamanikāṭhinya and level of raktagatavāta. Exercise is also helpful in the dilation of blood vessels, which ultimately reduces blood pressure.

### 4. Yōgābhyāsa

Yōgāsana is very helpful to manage all sort of

Chart 1

Flow diagram of ayurvedic aetiopathogenesis of hypertension



stress and anxiety oriented disorders. There are different types of yōgakriyās such as yāma, niyāma, prāṇyāma, śavāsana, makarāsana, etc. which produce tranquility of mind and thereby help to reduce the level of mental stress and anxiety.

#### 5. Pathya

Purāṇa śali, purāṇa yava, mudga yūṣa, maśūra, jāṅgalamāmsarasa, āmalaki, mātuluṅga, pippali, drākṣā, banana, apple, various types of vegetables, punarnava śaka, jīvantī śaka, ārdra, etc. come under this category.

#### 6. Apathya

This category includes: guru āhāra, kṣāra, lavaṇa, divāśayana, kaphamēdōvardhaka āhāras, vidāhi, viruddhāhāra, imli, ācāra, tobacco, egg, alcohol, ativyāyāma, atikrōdha, etc.

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## PHARMACOGNOSTICAL STUDIES ON *COMMIPHORA BERRYI* (ARN.) ENGL.; BARK

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**Abstract:** *Commiphora berryi* (Arn.) Engl. belongs to the family Burseraceae. It possesses antiulcer, sedative and anti-bacterial activity. In the view of its medicinal value the pharmacognostical characters including microscopic and macroscopic studies have been made and presented.

### Introduction

*Commiphora berryi* (Arn.) Engl. (Burseraceae) is an armed shrub or a tree distributed in Peninsular India. It is known as mudgiluvai in Tamil, Indian Balm of Gilead in English.

### Materials and methods

The plant specimen was collected from Tiruchengode, Namakkal District of Tamil Nadu and identified by Botanical Survey of India, Southern Circle, Coimbatore zone; macro and micro analysis were carried out. The bark was removed from the plant for microscopical work, and fixed in FAA (Formalin 5 ml + Acetic acid 5 ml + 70% ethyl alcohol 90ml). After 24 hours of fixing, the specimens were dehydrated with graded series of tertiary-butyl alcohol. Infiltration of the specimens was carried by gradual addition of paraffin wax (Melting point 58-60°C) until TBA solution

attained super saturation and the specimens were cast into paraffin blocks.

The paraffin embedded specimens were sectioned with the help of Rotary Microtome. The thickness of the section was 10-12 $\mu$  m, and was stained with Toluidine blue. Since toluidine blue is a polychromatic stain, the staining results were remarkably good; and some cytochemical reactions were also obtained. The dye rendered pink colour to the cellulose walls, blue to the lignified cells, dark green to suberin, violet to the mucilage and blue to the protein bodies.

Photographs of different magnifications were taken with Nikon Labphot 2 Microscopic Unit; bright field was used for normal observations. Polarized light was employed for the study of crystals, starch grains and lignified cells; since these structures having birefringent property,

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they appeared bright against dark background under polarized light. Magnifications of the figures indicated by the scale bars.

#### Macroscopical characters

The surface of the bark is light brown or ash coloured and it occurs in the form of quills and channels. In the cut end, the bark exhibits reddish brown in the inner zone and pale yellow in the outer zone. The bark has astringent in taste and is odourless<sup>4</sup> (Fig. a & b).

#### Microscopical characters

##### Periderm

The periderm is narrow and it is superficial in position. It consists of a few layers of phellem; phelloderm is absent. At certain places, the periderm is deeper and encloses a mass of cortical cells. Scleroids and tannin containing cells are abundant in the cells inner to the periderm<sup>5,6</sup> (Fig. c1).



Fig. a

*Commiphora berryi* (Arn.) Engl.  
Morphology of bark

##### Collapsed phloem

The collapsed phloem is the widest part of the bark. It consists of crushed and obliterated sieve elements, dilated axial parenchyma, wide circular secretory canals and wavy, narrow phloem rays. The secretory canals occur in horizontal rows within tangential wide bands tannin bearing parenchyma cells (Fig. c2).

##### Non-collapsed phloem

It is the innermost zone of the bark. It consists of sieve elements, phloem parenchyma and phloem rays. Secretory canals are absent (Fig. c3). The sieve elements are polygonal in cross-sectional view; they occur in radial rows, the companion cells are small and occur along the comers, especially near the phloem rays (Fig. d2).

##### Secretory canals

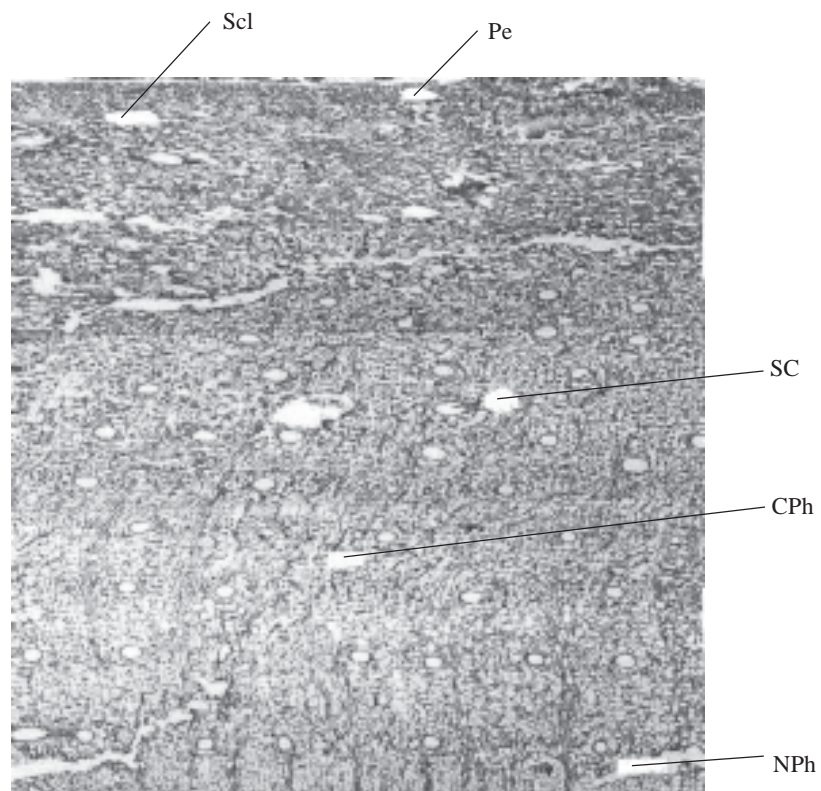
The secretory canals occur both within the phloem rays and in the phloem tissue (Fig. e). The canal is wide, circular in outline; it is surrounded by one or two ensheathing cells with dark contents. The surrounding cells of the canal are tanniferous (Fig e1). When the secretory canals occur within the rays, the rays become wide, spindle shaped multiseriate (Fig e2).

##### Phloem rays

The phloem rays are predominantly biseriate; they are short and wide; the rays are heterocellular consisting of squarish or polygonal central cells and broadly conical marginal cells. The rays are non-storied (Fig. f).

##### Resin duct

Broad resin ducts are fairly abundant in the collapsed phloem zone; they are articulated and branched. They occur vertically parallel to the



**Fig. b**

*Commiphora berryi* - (Arn.) Engl. - Morphology of bark

**Scl** Sclerenchyma   **Pe** Periderm   **SC** Secretory Canal  
**CPh** Collapsed phloem   **NPh** Non-collapsed phloem

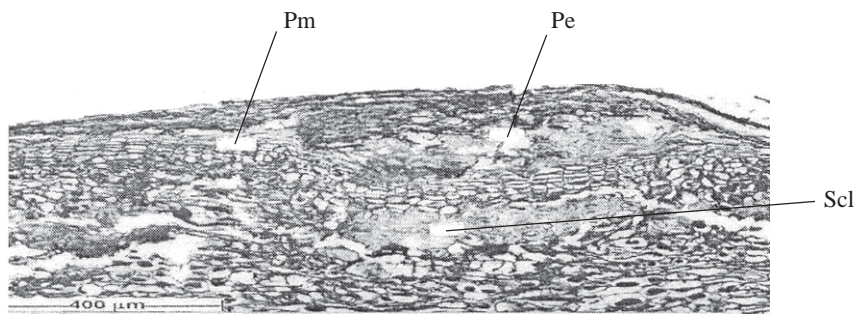


Fig. c1

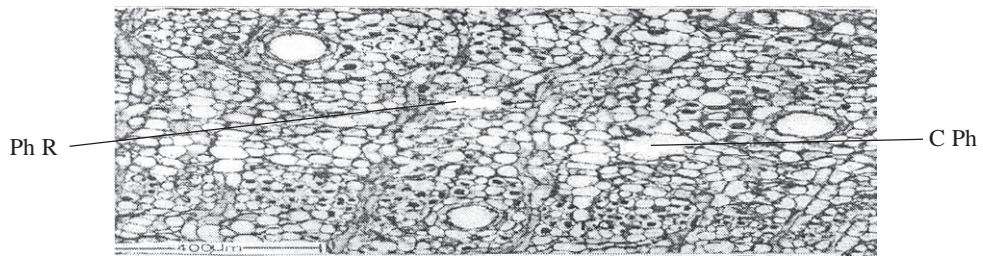


Fig. c2

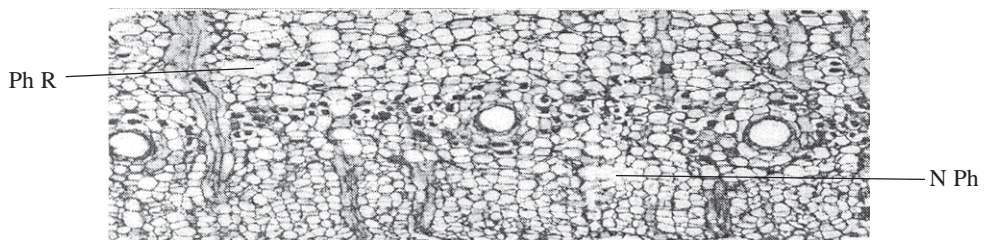


Fig. c3

Fig. c1 - c3 *Commiphora berryi* (Arn.) Engl. - Microscopical characters of bark

**Pe** Periderm **Pm** Phellem **Scl** Sclerenchyma **Ph R** Phloem Ray  
**C Ph** Collapsed Phloem **N Ph** Non-collapsed phloem



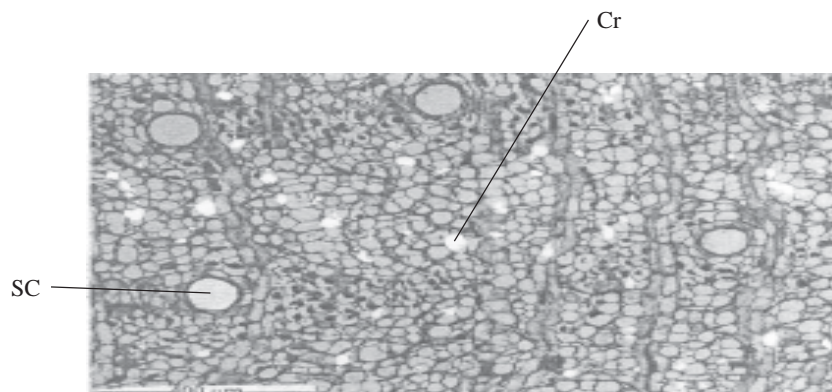


Fig. d1

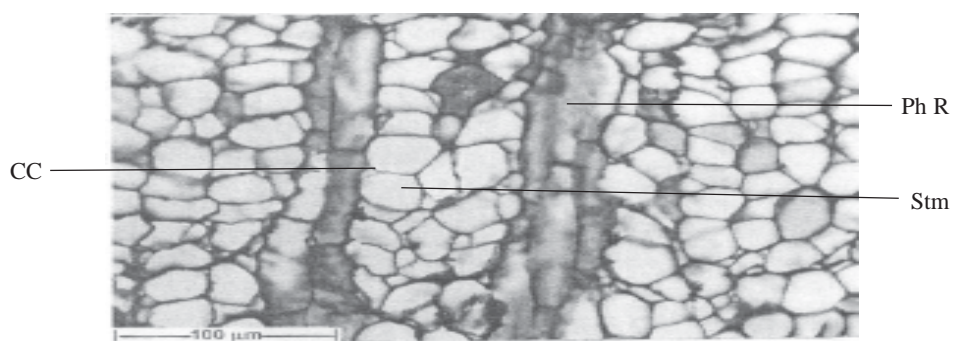


Fig. d2

Fig. d1 - d2 *Commiphora berryi* (Arn.) Engl.

**Cr** Crystal **SC** Secretory Canal **Ph R** Phloem Ray **CC** Companion Cell  
**Stm** Sieve tube members

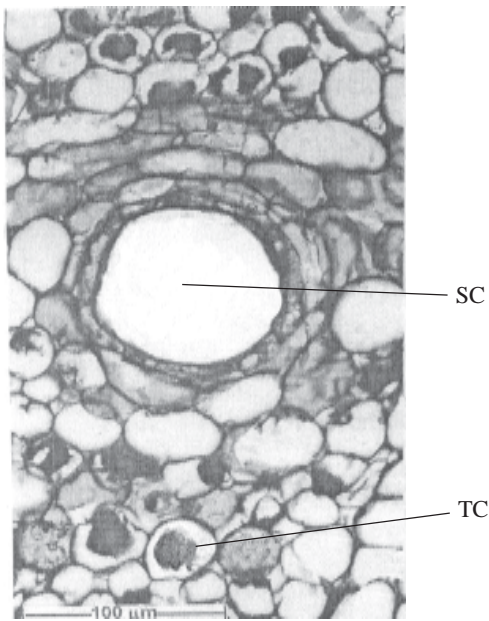


Fig. e1

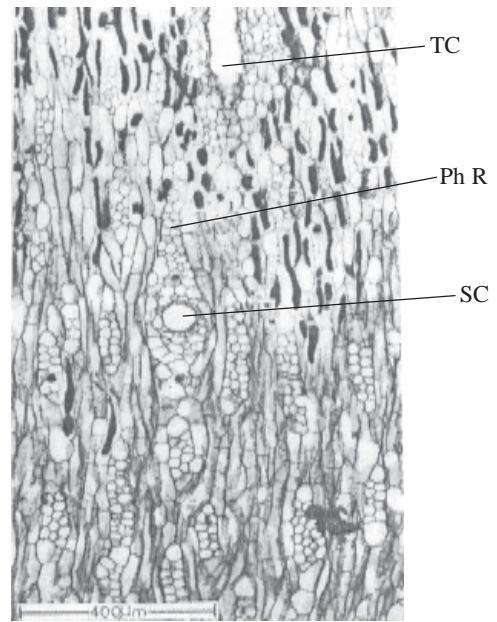


Fig. e2

Fig. e1 - e2 *Commiphora berryi* (Arn.) Engl. - bark  
 SC Secretory Canal TC Tanniferous Cells Ph R Phloem Ray

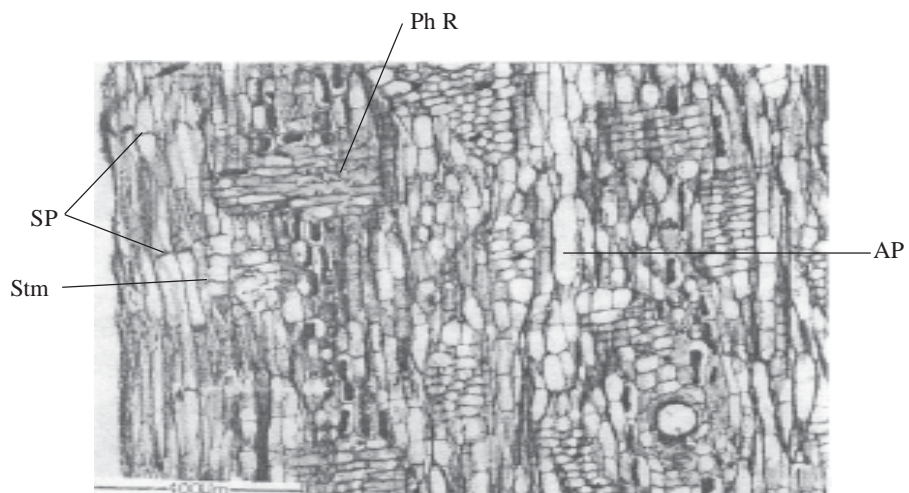


Fig. f1

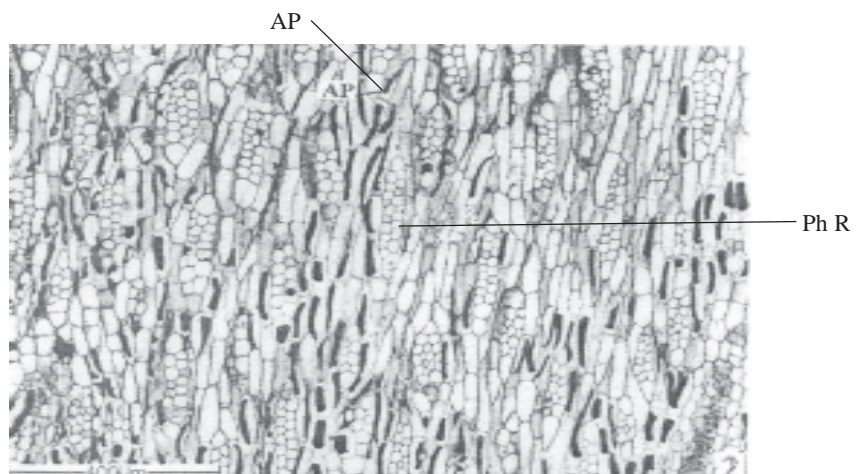


Fig. f2

Fig. f1 - f2 *Commiphora berryi* (Arn.) Engl. - bark

**SP** Sieve Plate **Ph R** Phloem Ray **Stm** Sieve Tube Members **AP** Axial Parenchyma

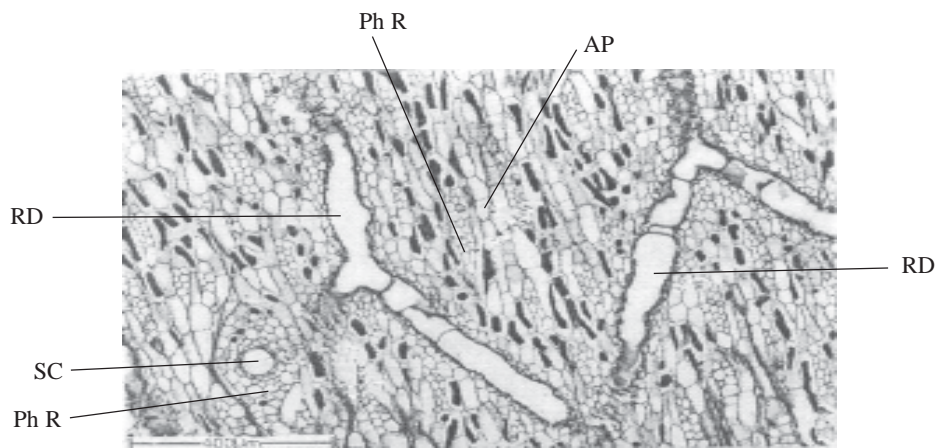


Fig. g1

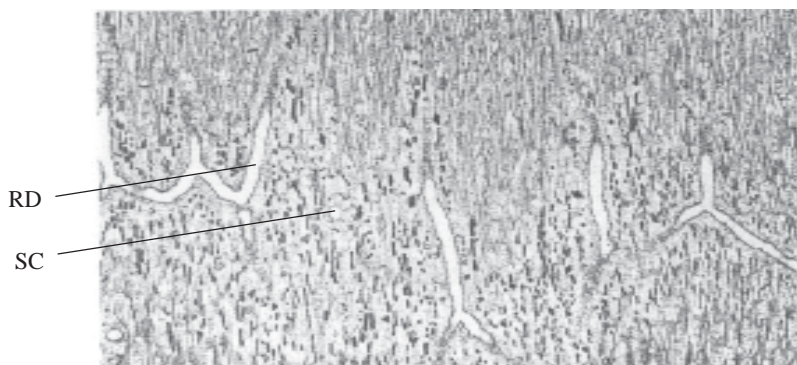


Fig. g2

Fig. g1 - g2 *Commiphora berryi* (Arn.) Engl. - bark

**RD** Resin duct **AP** Axial Parenchyma **Ph R** Phloem Ray **SC** Secretory Canal



Fig. h1  
Fibre Scleroid

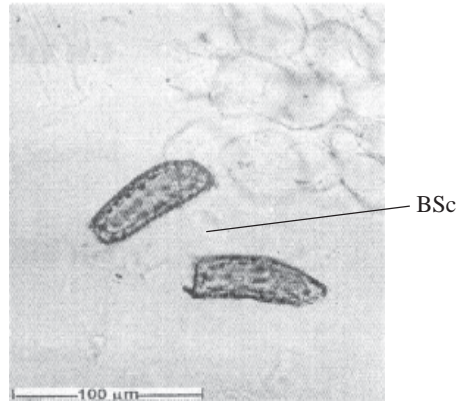


Fig. h2

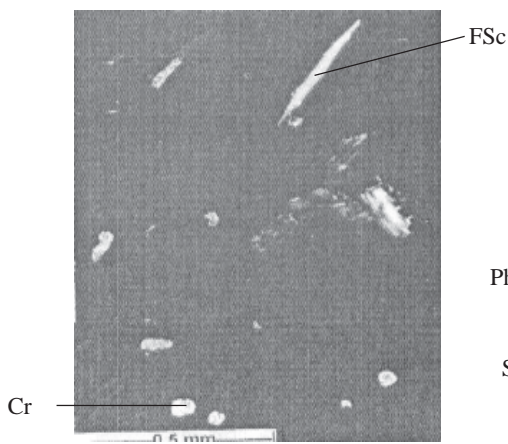


Fig. h3

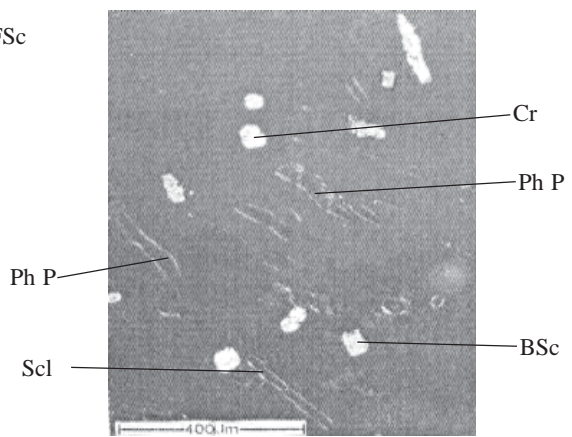


Fig. h4

Fig. h1 - h4 *Commiphora berryi* (Arn.) Engl. - bark  
**BSc** Brachy Scleroid **FSc** Fibre Scleroid **Cr** Crystal  
**Ph P** Phloem Parenchyma **Scl** Scleroid

long axis of the phloem elements. No content is visible in the canals. Structurally they are similar to the canals of the phloem rays. (Fig. g1)

#### **Crystal inclusion**

Calcium oxalate crystals are fairly abundant in the collapsed phloem tissue. The crystals are prismatic type; they are mostly cuboidal or oblong. (Fig. d1)

#### **Powder microscopy**

When the powdered bark was viewed under the microscope, different types of cell inclusions and cells were observed. Most common element is the long, narrow thick walled cells with tapering ends; these elements are called fibre-scleroids. These cells have lignified walls, and are with wide canal-like simple pits (Fig. H1-3). Another cell type is the brachyscleroid or stone cells; they are rectangular, squarish or triangular with thick lignified walls with wide simple pit (Fig. h2) Calcium oxalate prismatic crystals and phloem parenchyma cells are also visible in the powder. (Fig. h3-4)

#### **Acknowledgement**

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## THERAPEUTIC AND NUTRITIONAL SIGNIFICANCE OF *GHIZA-E-DAWAI*

M. M. H. Siddiqui and Tanzeel Ahmad\*

**Abstract:** Hippocratic practice does not include extensive use of drugs probably for he did not believe in magical remedies, instead recommended judicious use of simple and effective drugs. In the Unani system of medicine *Ghiza-e-Dawai* is one, which not only fills the Hippocratic practice to provide efficacious remedy but also provide sufficient nutrition to the body.

Balanced diet consists of essential quantities of carbohydrates, proteins, fats, minerals and vitamins. They are necessary for the maintenance of normal physical and mental health of an individual, and ordinarily, the body drives its daily nutritional requirements from various foodstuffs; it is only when the normal nutritional requirements are not met with that calls for supplement from outside. Inadequate quantity or quality of an ingredient in foodstuff causes specific disease, which is curable by that ingredient alone. However, isolated deficiency states are uncommon in comparison to multiple ingredient deficiencies, but certain isolated conditions like iron deficiency, calcium deficiency and protein deficiency are common. Multiple or isolated deficiency states cause low resistance or general debility which results increased susceptibility to the diseases<sup>1,2</sup>.

The disease condition can be surmounted by various methods of treatments like homoeopathy (*Ilaj-bil-misl*), allopathy (*Ilaj-bid-zid*),

surgery (*Ilaj-e-jarahi*), regimental therapy (*Ilaj-bid-tadbeer*), psychotherapy (*Ilaj-e-nafsi*), alternate therapies (*Ilaj-e-mutabadila*) and so on. Apart from these therapies, *Ilaj-bil-ghiza* and *Ilaj-bid-dawa* involve with the use of naturally occurring items known as herbo-animo-minerals<sup>3</sup>.

According to Unani philosophers, edible items are of four types: 1 food (*ghiza*), 2 drug (*dawa*), 3 food-cum-drug (*Ghiza-e-Dawai*) and 4 drug-cum-food (*Dawa-e-Ghizai*). Of these, *Ghiza* and *Ghiza-e-Dawai* include cereals, pulses, fruits (juice and pulp), vegetables, egg, meat, sugar, whereas *Dawa* and *Dawa-e-Ghizai* include different parts of plants and herbs such as roots, rhizomes, stems, barks, leaves, twigs, flowers (stigma or styles), seeds (pericarp, seed kernel) and gum/resins; horns, teeth, gizzard, liver, brain, fat, blood, glands, shells, honey, wax, etc. of animals and birds; and gold, zinc, silver, copper, iron (*Zavi-al-ajsad*), sulphur, mercury, arsenic (*Zavi-al-arwah*), diamond,

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TABLE 1  
Showing percentage of Organic and Inorganic constituents in the ingredients of  
*Halwa Naryal wala and Hareera Maghz-e-Akhrot wala*

<b>I <i>Maghz-e-Badam (Prunus amygdalus)</i></b>				20. Folic Acid	0.58-0.81mg/100g
1.	Moisture	5.20 %	21. VitaminB60	13-0.23mg/100g	
2.	Protein	20.80 %	22. Vitamin A	30.10mg/100g	
3.	Fat	58.90 %	23. Vitamin C	3mg/100g	
4.	Carbohydrate	10.50 %	24. Pantothenic Acid	0.4-0.9mg/100g	
5.	Fiber	1.70 %	25. Biotin	0.87-1.05mg/100g	
6.	Mineral matter	2.90 %	<b>III. <i>Maghz-e-Funduk (Corylus avellana)</i></b>		
7.	Calcium	4.07 %	1. Fat	60.90 %	
8.	Oxalic acid	4.07 %	2. Protein	12.70 %	
9.	Phosphorus	4.90 %	3. Carbohydrate	17.70 %	
10.	Iron	4.50 %	4. Phosphorus	0.35 %	
11.	Thiamine	0.24 %	5. Nicotinic Acid	6000ug/100g	
12.	Nicotinic Acid	2.50 %	6. Pantothenic Acid	380ug/100g	
13.	Riboflavin	0.25mg/100g	7. Vitamin E	335g/kg	
14.	Folic Acid	0.45 ppm	<b>IV <i>Tukhm-e-Khash-khash (Papaver somniferum)</i></b>		
<b>II <i>Maghz-e-Akhrot (Juglans regia)</i></b>				1. Moisture	4.3-5.2 %
1.	Moisture	4.50 %	2. Protein	22.3-24.4 %	
2.	Protein	15.60 %	3. Ether ext. (Fat)	46.5-49 %	
3.	Ether ext. (Fat)	64.50 %	4. N-free ext.	11.7-14.3%	
4.	Carbohydrate	11.00 %	5. Crude fiber	4.8-5.8 %	
5.	Fiber	2.60 %	6. Ash5	6-6.0 %	
6.	Mineral matter	1.80 %	7. Calcium	1.03-1.45%	
7.	Sodium	2.70 %	8. Phosphorus	0.79-0.89%	
8.	Potassium	687mg/100g	9. Iron	8.5-11.0%	
9.	Calcium	61mg/100g	10. Thiamine	740-1180mg/kg	
10.	Magnesium	131mg/100g	11. Riboflavin	756-1203mg/kg	
11.	Iron	2.35mg/100g	12. Iodine	6ug/kg	
12.	Copper	0.31mg/100g	13. Magnesium	29ug/kg	
13.	Phosphorus	510mg/100g	14. Copper	22.9mg/kg	
14.	Sulphur	104mg/100g	15. Sodium	0.3g/kg	
15.	Chlorine	23mg/100g	16. Zinc	130mg/kg	
16.	Iodine	2.8ug/100g	17. Lecithin	2.80%	
17.	Thiamine	0.33-0.40mg/100g	18. Oxalic acid	1.62%	
18.	Riboflavin	0.10mg/100mg	19. Pentosa	3.0-3.6%	
19.	Nicotinic Acid	0.49-0.98mg/100g			

-/-



**V *Tukhm-e-khurfa siyah (Portulaca oleracea)***

1. Fat	39.60 %
2. Protein	2.4%
3. Carbohydrate	2.90%
4. Mineral	2.3 %
5. Moisture	2.3 %
6. Calcium	111mg/kg
7. Magnesium	120mg/kg
8. Oxalic acid	1679mg/kg
9. Iron	14.5 %
10. Sodium	67.2mg/100g
11. Potassium	71.6%
12. Copper	0.19%
13. Sulphur	63mg/g
14. Chlorine	73mg/g
15. Thiamine	0.10mg/100g
16. Riboflavin	0.22mg/100g
17. Nicotinic acid	0.70mg/100g
18. Vitamin C	29mg/100g
19. Vitamin A	7500 I.D/100g

**VI *Naryal (Cocos nucifera)***

1. Moisture	45.0%
2. Fat	41.60%
3. Protein	4.50%
4. Mineral matter	1.0%
5. Fiber	3.0%
6. Calcium	0.01%
7. Carbohydrate	13.00%
8. Phosphorus	0.24%
9. Iron	1.79mg/100g
10. Vitamin C	1.70mg//100g
11. Vitamin B	15um//100g
12. Vitamin E	0.20mg//100g
13. Copper	0.20mg//100g

**VII *Sooji (Triticum aestivum)***

1. Moisture	12.20%
2. Protein	12.1 0%
3. Gluten	9.30%

4. Fat	1.70%
5. Sedimentation	22mI
6. Ash	1.49%
7. Fiber	1.90%
8. Carbohydrate	69.4%
9. Calcium	48mg/100g
10. Phosphorous	358mg//100g
11. Iron	4.9mg/100g
12. Carotene	29mg/100g
13. Thiamin	0.49mg/100g
14. Riboflavin	0.17mg//100g
15. Niacin	4.3mg/100g
16. Folic acid	35.8ug//100g

**VIII *Filfil siyah (Piper nigrum)***

1. Protein	4.80%
2. Fat	2.70%
3. Carbohydrate	13.70%
4. Fiber	6.40%
5. Mineral	1.80%
6. Calcium	270mg%
7. Phosphorus	70mg%
8. Iron	2.4mg%
9. Thiamine	0.05mg%
10. Riboflavin	0.04mg%
11. Nicotinic acid	0.2%
12. Ascorbic acid	.1mg/100g
13. Carotene	900IU/100g

**IX *Roghan zard (Cow ghee)***

1. Fat	100g%
2. Retinol	600ugm/100g

**X *Sugar***

1. Moisture	0.4gm%
2. Protein	0.1 gm%
3. Carbohydrate	99.40gm%
4. Calcium	12mg/100g
5. Phosphorous	1g/100g
6. Iron	0.2mg%

jade, sapphire (*Hajaryat*) and *Araziat* (*gil-e-makhtoom*, *gil-e-armani*, *gil-e-multani*) are from mineral origin. *Ghiza* and *Ghiza-e-Dawai* are used to maintain physical and mental health, and *Dawa* and *Dawa-e-Ghizai* are used to eradicate the diseases not only by providing nutrition but also by combating with the disorder either by their action on micro-enzyme systems of the body or on micro-organism directly. Basically they nourish the body and ultimately enhance the body resistance (defensive force) which protect the body from diseases<sup>2,3</sup>.

Patients suffering from anxiety neurosis (*Tashweesh* or *Iztirab-e-nafsani*) often complain of physical and mental restlessness, insomnia, tremors, palpitation, tension, irritability, breathlessness, indigestion, heart-burn, nausea,

vomiting, constipation or diarrhea, increased frequency of micturition, sweating, drowsiness, headache, and dysmenorrhoea, or amenorrhoea. In Unani medical concept, this ailment is the mismatch state of mental faculties (*Quwa-e-Nafsani*) like imagination faculty (*Quwa-e-Takhayyul*), thought faculty (*Quwa-e-Fikir*), memorising and learning faculty (*Quwa-e-Hifz*); and the causative factors for the disturbance of these faculties are abnormal bilious temperament (*Soo-e-Mizaj Safrawi*) or abnormal melancholic temperament (*Soo-e-Mizaj Saudawi*) of brain. Abnormal bilious temperament predisposes crudeness, insomnia, frolic attitude and impaired thoughts, whereas abnormal melancholic temperament predisposes palpitation, restlessness, distrusts, worries, sadness and fear of tension.

TABLE 2  
Showing composition of *Halwa Naryal wala* and *Hareera Maghz-e-Akhrot wala*  
(Prepared with sufficient quantity of water according to *biaz-e-kabir* method)

Preparation	Ingredients	Synonym	Part used	Quantity
<i>Halwa Naryal Wala</i> (10g)	<i>Naryal</i>	<i>Cocos nucifera</i>	Seed kernel	1.176g
	<i>Sooji</i>	<i>Triticum aestivum</i>	Flour	1.176g
	<i>Fil-fil</i>	<i>Piper nigrum</i>	Fruit	0.294g
	<i>Raghan Zard</i>	<i>Asli ghee</i>	Fat	0.588g
	<i>Qand safaid</i>	Sugar	-	6.766g
<i>Hareera Maghz Akhrot wala</i> ½ cup	<i>Maghz-e-Badam</i>	<i>Prunus amygdalus</i>	Seed kernel	10g
	<i>Maghz-e-Akhrot</i>	<i>Juglans regia</i>	Seed kernel	10g
	<i>Maghz-e-Funduk</i>	<i>Corylus avellana</i>	Seed kernel	10g
	<i>Tukhm-e-Khash khash</i>	<i>Papaver somniferum</i>	Seed	03g
	<i>Tukhm-e- Khurfa Siyah</i>	<i>Portulaca oleracea</i>	Seed	03g
	<i>Qand safaid</i>	Sugar	-	05g

In the Unani system of medicine, anxiety neurosis is treated by those herbo-animo-minerals that are claimed to be sedative (*Musakkin*) and act as an agent that cools, lubricates and moistens the brain and nerves (*Murattib-e-Dimagh*). For example, Maghziat (seed kernel) of dry fruits e.g. *badam* (*Prunus amygdalus*), *akhrot* (*Juglans regia*), *chilghoza* (*Pinus gerardiana*), *kishniz* (*Coriandrum sativum*), coconut (*Cocos nucifera*), parts of certain plants such as *khash-khash* (seed of *Papaver somniferum*), *kurfa siyah* (seed of *Portulaca oleracea*), *filfil safaid* (fruits of *Piper nigrum*), etc. are in the use since ancient times<sup>4</sup>. Apart from their pharmacological actions and curative value, above mentioned herbo-animo-minerals also possess good nutritional value.

The therapeutic and nutritional significance of the above *Dawa-e-Ghiza* can be assessed on the basis of chemical standards present in the herbs (Table-1)<sup>4,5</sup>. The claim of curative and nutritive value (*Dawaiat/Gizaiat*) of the herbo-animo-minerals has been proved to be true in certain ailments; for example, in the case of anxiety neurosis (*Iztirab-e-Nafsani*), 10g *Halwa Naryal wala* (Table-2) in the morning and evening, and ½ cup *Hareera Maghz-e-Akhrot wala* (Table-2) at bed time given for 30 days, will provide approximately 22.565g fat, 7.477g protein and 24.303g carbohydrate per day, which will provide approximately 340.14 calories along with vitamins and minerals as supplement per day (Table-3); and one month treatment shall provide approximately 10204.20

TABLE 3

Showing quantity and caloric value of ingredients of *Halwa Naryal wala* and *Haeera Maghz-e-Akhrot wala*

Ingredient	Fat (g)	Caloric value	Protein (g)	Caloric value	Carbohydrate (g)	Caloric value
<i>Naryal</i>	0.435	0.040	0.047	0.19	0.082	0.33
<i>Sooji</i>	0.019	0.18	0.142	0.58	0.816	3.34
<i>Fil-fil safaid</i>	0.0007	0.006	0.014	0.05	0.040	0.16
<i>Raghan Zard</i>	0.588	5.46	-	-	-	-
<i>Qand safaid</i>	-	-	0.670	0.27	6.725	27.57
Total	1.0427	9.686	0.873	1.09	7.636	31.40
Total of morning & evening	2.085	19.372	1.746	2.18	15.326	62.80
<i>Maghz-e-Akhrot</i>	6.450	59.98	1.560	6.39	1.100	4.51
Maghz-e-badam	5.890	54.77	2.080	8.52	1.050	4.30
Maghz-e-Funduk	6.090	56.63	1.270	5.20	1.770	7.25
Tukhm Khashkhash	1.434	13.33	0.699	2.86	-	-
Tukhm Khurfa siyah	0.616	5.73	0.072	0.29	0.087	0.35
Qand safaid	-	-	0.050	0.20	4.970	20.37
Total of night dose	20.480	190.44	5.731	23.46	8.977	36.78
Grand total of per day dose	22.565	209.854	7.477	30.65	24.303	99.64

calories along with sufficient quantity of vitamins and minerals. The above calculated calories are in addition to the effectiveness of the drugs.

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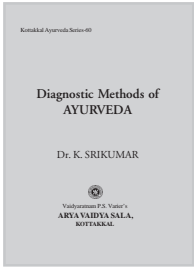
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## EFFECT OF *TINOSPORA CORDIFOLIA* (GUḌŪCĪ) ON THIRST – AN EXPERIMENTAL STUDY ON ALBINO RATS

Dineshkumar Malviya, A.K. Sonker and R.K. Sharma\*

**Abstract:** Thirst (pipāsa) is one of the natural urges, and according to Caraka, if it is suppressed, causes dryness of throat, deafness, fatigue, depression and cardiac pain. Carakasamhita describes a group of antidipsetic drugs like śuṅṭhī, mustaka, parpaṭaka, candana, guḍūcī, etc. for the management of thirst (tṛṣṇanigraha). This paper discusses the antidipsetic property of guḍūcī (*Tinospora cordifolia*) based on the experimental study on albino rats.

### Introduction

Ayurveda is one of the oldest sciences of life originated from vēdas. It is one of the ancient wisdoms which is still in practice with all the recognition and acceptance. This system envisages comprehensive understanding of the totality of the body and the concept of health including their alterations. Thus the main aim of ayurveda is to give guideline for maintenance and promotion of health as well as for prevention and treatment of disease. Its purpose, in other words, is to describe all the methods and means for constantly maintaining a balanced state of dōṣa, dhātu and malas i.e. the maintenance of homeostasis. Similarly, natural urges are also to be considered as one of the important factors in the maintenance of the homeostasis. Caraka postulates the theory of natural homeostasis that elucidates the disturbance in the equilibrium, the causative

factor in equilibrium, in cases of imbalance of the dhātu in body.

Thirst (pipāsa) is one of the important natural urges, which, if suppressed, causes dryness of throat, deafness, fatigue, depression and cardiac pain (Ca. sū. 7/21). Thirst, probably, is not a simple sensation but a feeling or affect. Thirst, of course, is experienced in water deprivation; water constitutes the greater part of the body weight of animals. The human body contains approximately 65% water. Its content in different tissues varies; the skeleton contains about 20% water, the liver, muscle, brain, skin, heart and connective tissues 70 - 80%; the blood about 80% and other fluids of the body and secretions (milk, perspiration gastric juice, etc.) 90 to 99%.

The total daily water requirement of man constitutes approximately 2.5 litres. In the

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human body organism, about 1.5 litre water departs through the kidneys with urine, about 500 ml through the lungs in vapour state, about 200 ml through the intestine with faeces; water is lost through the skin by perspiration and by elimination in gaseous state. The latter is apparently a pure physical process of water permeation through the membranes.

One important point to be noted is that the two terms, pipāsa and tṛṣṇa, are synonyms occur in ayurvedic literature. Pipāsa is desire, while trisna is a disorder; both Caraka and Suśruta describe it as a disease.

Carakasamhita mentions a group of antidipsetic drug such as śuṅṭhī, mustaka, parpaṭaka, candana, guḍūcī, etc. that are capable to quench or control the thirst (tṛṣṇānigrahaṇa). Suśruta recommends the drugs of śāribādi and parūṣakādi gaṇas. The drug having sweet (madhura) and bitter (tikta) tastes are said to be as praśamana while the drugs of pungent taste (kaṭurasa) are promoters of thirst (tṛṣṇa-janaka); drugs of astringent taste (kaṣāyarasa) create dryness in buccal cavity.

#### **Material and method**

The study was to investigate the efficacy of guḍūcī (*Tinospora cordifolia*) on thirst. For the purpose of the experimental evaluation, the study was divided in to two groups i.e. control and experimental.

Healthy adult albino rats of either sex of charles faster strain, weighing 140-150g, were used for the study. The rats were maintained under standard laboratory conditions i.e. under 28 + 3°C temperature, 65 – 70% humidity, 12 hours light and dark cycle. They were fed with standard rat food (Hindustan lever India, Rat pellets) and water adlibitum.

The water intake of both the groups observed and recorded along with water weight and diet consumption i.e. normally up to 2 weeks adlibitum. After two weeks observation, the guḍūcīkaṣāya was given to the experimental group up to one week and result was observed in comparison to the control group.

#### **Observation and result**

During the experiment, the weight, water and diet consumption were measured daily up to 2 weeks adlibitum. After two weeks, the drug (guḍūcīkaṣāya) were administered in experimental rats (E1, E2 and E3) and the rats (C1 C2 and C3) treated as the control group; The data obtained from the experimental study on thirst were statically evaluated by using appropriate statistical methods (Table 1).

**Weight of rats:-** It was observed that the weight of rats in experimental group was slightly increased after intra-gastric administration of guḍūcīkaṣāya in comparison to control group; but the result was not statically significant (Table 1 & 2).

**Diet consumption:-** The normal diet consumption was approximately 10-20g. The result and statistical data before and after administration in all the rats are given in Table 3&4.

**Water intake:-** It is observed that daily water intake of rats in control group were 30-40 + 10 ml. The data of daily normal water intake of rats were not represented clearly; it was depended on the weight of rats, temperature and humidity with related days. After administration of the drug in experimental group, it showed a considerable reduction of water intake (10-15 ml+3). Normal water intake of all the rats is given in Table (5).

TABLE 1

Effect on weight of rats (in g) before and after administration of Gudūcikaṣāya

Rat code	BEFORE ADMINISTRATION OF THE DRUG							AFTER ADMINISTRATION OF THE DRUG						
	DAYS							DAYS						
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>
C <sub>1</sub>	290.0	285.0	283.3	281.7	279.0	272.0	269.0	274.0	281.0	279.0	282.0	285.0	288.0	285.0
C <sub>2</sub>	215.0	216.0	218.0	222.0	225.0	226.5	229.5	220.0	222.0	217.0	217.0	214.0	215.0	229.0
C <sub>3</sub>	209.0	213.0	204.5	204.5	201.5	194.0	194.0	198.0	204.0	205.0	202.0	202.0	199.0	215.0
E <sub>1</sub>	233.0	233.5	230.0	232.0	224.0	218.0	225.5	232.0	235.0	234.0	236.0	237.0	236.0	222.0
E <sub>2</sub>	225.0	254.0	252.0	250.5	247.7	242.0	243.6	253.0	253.0	254.0	252.0	232.0	252.0	248.0
E <sub>3</sub>	234.0	236.0	235.0	233.5	227.0	222.0	226.0	235.0	234.0	235.0	236.0	247.0	238.0	234.0

TABLE 3

Effect on diet consumption of rats (in g) before and after administration of Gudūcikaṣāya

Rat code	BEFORE ADMINISTRATION OF THE DRUG							AFTER ADMINISTRATION OF THE DRUG						
	DAYS							DAYS						
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>
C <sub>1</sub>	17.0	12.0	17.0	16.0	13.0	12.0	11.0	12.0	20.0	19.0	10.0	17.0	20.0	16.0
C <sub>2</sub>	12.0	13.0	14.3	13.3	12.0	8.0	12.0	12.0	17.0	18.0	17.0	12.0	15.0	12.0
C <sub>3</sub>	9.0	11.0	9.0	11.0	9.8	8.0	6.0	12.0	17.0	14.0	12.0	13.0	10.0	13.0
E <sub>1</sub>	12.0	13.0	15.0	13.0	6.0	7.0	12.0	14.0	12.0	16.0	14.0	16.0	11.0	6.0
E <sub>2</sub>	16.0	16.0	17.0	16.0	13.6	11.6	13.0	14.0	15.0	14.0	13.0	16.0	14.0	6.0
E <sub>3</sub>	14.0	14.0	15.0	13.8	12.5	11.4	13.5	14.0	17.0	15.0	13.0	17.0	15.0	2.0

TABLE 2  
Statistical analysis of weight of rats before and after administration of Guḍūcikaṣāya

Group	Weight (mean + SD)		Paired 't' test (AD-BD)
	Before drug	After drug	
Control (n = 3)	234.71 + 40.21	234.45 + 41.51	-0.26 + 2.24 t = 0.20, p > 0.05 NS
Experimental (n = 3)	235.76 + 11.54	239.76 + 8.35	4.00 + 3.41 t = 2.04, p > 0.05 NS

TABLE 4  
Statistical analysis of diet consumption before and after administration of Guḍūcikaṣāya

Group	Diet consumption (mean + SD)		Paired 't' test (AD-BD)
	Before drug	After drug	
Control (n = 3)	11.71 + 2.44	14.56 + 1.85	2.843 + 0.596 t = 8.27, p < 0.02 S
Experimental (n = 3)	13.23 + 1.90	13.04 + 0.38	-0.197 + 1.519 t = 0.22, p > 0.05 NS

TABLE 5  
Normal water intake of rats (ml)

Rat code	Days													
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>
C1	-	54.3	54.3	57.5	52.0	42.5	54.0	46.3	35.9	42.2	46.0	43.5	50.6	50.1
C2	-	61.8	58.3	59.0	61.0	57.5	61.2	28.3	17.6	29.6	39.1	35.0	38.8	53.5
C3	-	67.8	66.3	62.0	61.0	65.0	59.5	21.8	20.5	25.6	33.9	22.0	24.9	24.0
E1	-	67.3	66.8	68.0	68.0	62.0	64.2	27.2	23.5	50.5	39.9	36.5	35.5	38.0
E2	-	73.3	68.8	69.0	66.0	69.0	68.0	23.4	21.8	28.5	33.5	32.8	35.1	33.0
E3	-	64.3	61.8	66.0	61.0	65.0	61.8	27.4	21.0	21.5	29.4	27.0	26.9	33.5
Temperature	90	90	90	86	86	86	88	88	86	86	88	90	90	92
Humidity %	85	71	71	70	76	92	77	92	84	84	77	85	85	76



The result and statistical data before and after drug administration in all the (control and experimental) rats are given in Table (6&7).

Dose:- The dose of the drug is very important to achieve the desirable result. It was regulated to 1-3 ml.

### Discussion

The aim of Ayurveda is to prevent and maintain the health of healthy person as well as alleviate the diseases of diseased person. Now a days global attention has been focused on the utilization of natural remedies for the prevention and promotion of overall health status. Synthetic drugs are undoubtedly more potent and effective but their continuous oral administration have been reported cardiac, metabolic, endocrine, neurologic and hemopoitic side effects. Most of the synthetic drugs are hepatotoxic. The cardiological manifestations are the most common side effect of synthetic drug.

Keeping the above facts in view WHO has decided to utilize to alternative form of medicine including natural products. These herbal products are used in India with sound concepts from time immemorial. The ancient concept of health has received a global acceptance due to its holistic approach. Due to the crude in nature and accessibility, many herbal products can be used as food, part of food, cereal and dairy or as a drink. The local application of herbal plant material is common and popular.

In spite of wide acceptability, a very little scientific study has been carried out to prove the safety and efficacy of such herbs. In the present study a confirmatory study it is observed that guḍūcī (*Tinospora cordifolia*) is an antidipsetic drug (Tr̥ṣṇānigraha mahā-kaṣāya). The chemical components present in guḍūcī are berbarine alkaloid, glycoside giloin and gilosteror, tinosporine and cardifoilde (Quadrat-i-khuda Msci. Res. 1964).

TABLE 6  
Effect on water intake before and after intragastric administration of Guḍūcikaṣāya (in ml)

Rat code	BEFORE DRUG							AFTER DRUG						
	Days							Days						
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>
C1	29.0	40.0	44.5	45.0	52.0	46.0	46.0	43.0	42.5	33.8	33.3	34.5	63.5	61.5
C2	42.5	38.5	45.5	48.5	69.5	-	-	23.5	32.0	49.3	35.8	32.0	40.0	37.0
C3	24.0	26.5	23.2	25.2	21.5	22.0	21.5	23.5	20.0	22.8	29.8	33.0	18.0	18.0
E1	37.5	42.5	44.5	42.0	42.5	28.8	52.4	48.5	25.0	33.8	25.8	29.0	15.0	15.0
E2	33.2	30.0	65.5	34.0	40.5	37.5	39.5	27.5	24.0	25.8	22.8	27.0	21.0	18.0
E3	37.0	30.0	35.5	38.5	35.7	37.5	42.5	39.5	22.0	22.8	20.8	26.8	21.0	15.0
Temperature	94	92	92	94	96	94	86	86	92	92	88	86	88	90
Humidity %	86	76	76	74	84	86	76	84	76	76	77	84	77	71

TABLE 7  
Statistical analysis of water intake before and after administration of Guḍūcikaṣāya

Group	Water intake (mean + SD)		Paired 't' test (AD-BD)
	Before drug	After drug	
Control (n = 3)	38.51 + 13.38	34.61 + 10.54	-3.90 + 0.12 t = 0.83, p < 0.05 S
Experimental (n = 3)	38.00 + 3.01	24.01 + 0.38	13.99 + 2.64 t = 9.20, p > 0.02 NS

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## HEALTH THROUGH SELF-REGULATION - AN INSIGHT THROUGH AYURVEDA

Madhabendra Nath Pal\*

**Abstract:** Viewed in the light of modern science, tridōṣa theory of ayurveda relates to bio-equilibrium among physical, physiological and psychological functions; when they operate in harmony with one another it is called health. Hurry, worry and fury are the three major killers that adversely affect the bio-equilibrium and health. So it is necessary to be calm and restrained for bio-equilibrium and health. This is an in-depth study revealing consciousness to be the prime operator of life that regulates ones conduct and behaviour: and this is what is self-regulation that ensures health, denoting a state of life active and operational.

### Introduction

Upon closely coming together of ātman (consciousness), manas (mind) and śarīra (body) with the sense organs for integration into a union, life appears on birth and on disintegration of this union, life disappears on death.

Āyu: is the span of time commencing from birth and terminating in death; all physical, physiological and psychological activities and functions concerning manas and śarīra take place in between birth and death; when all of them operate in harmony with one another there appears an equilibrium; such equilibrium is described as bio-equilibrium that leads to health. All the activities and functions in the long run cause to generate conditions for rōgās (diseases) and so also for svāsthya (health).

Rōga leads to a state of life with asukha (pain), and svāsthya with sukha (pleasure). Attainment of pleasure or health is considered to be the principal purpose of life.

There is an intrinsic tendency in human being to overcome pain and attain pleasure; it is this tendency that is at the root of curing rōga and attaining svāsthya.

The term ayurveda is derived from two Sanskrit words, āyu: and vēda; āyu: broadly stands for life and vēda for science. So, in the broadest sense, ayurveda is the science of life, and it occupies a place of prominence for its tridōṣik theory relating to bio-equilibrium.

This is an attempt to elucidate the inherent ability of man to overcome pain and attain pleasure; on the assertion, exertion and exercise

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of which harmony in the activities and functions is ensured, and this is what is being described as health through self-regulation.

### **Tridōṣa theory**

All human activities and functions - physical, physiological and psychological - take place mostly at the expense of energy derived mainly from intake, digestion and assimilation of food and drink. On digestion, food and drink undergo division broadly into two portions, *sūkṣma* (fine) and *sthūla* (gross). Out of the *sūkṣma* portion, forces so emerge as to constitute what is called *manas* (mind). The gross portion undergoes further subdivision broadly into two portions, *āhāra prasāda* (essential) and *kiṭṭa* (residual). The essential portion further undergoes transformation, one after another, in the following sequence, into seven components viz. *rasa* (chyle), *rakta* (blood), *māmsa* (protein), *mēda* (fat), *asthi* (bone), *majja* (marrow) and *śukra* (reproductive element). Each of these components is called a *dhātu* (upholder) and collectively *saptadhātu* (seven *dhātūs*), as each of them supports and nourishes *śarīra* (body). Each of these *dhātūs*, in modern terms, corresponds to the bodily tissues indicated within the brackets against each of them.

The *kiṭṭa* portion undergoes transformation into *mala* (waste products) such as *purīṣa* (faeces), *mūtra* (urine), *svēda* (sweat), *nakha* (nail), *kēśa* (hair), and into three factors, namely, *vāta*, *pitta* and *kapha*. Each of these factors is called a *dōṣa* (pollutant) that causes pollution of the *saptadhātu*, and collectively called *tridōṣa* (tripollutant).

The division and transformation of food and

drink go on simultaneously. When *vāta*, *pitta* and *kapha* operate in harmony with one another, it leads to a state described as *dōṣasamata*, denoting *svāsthya* or health and *sukha* or pleasure; and when they do not do so, it leads to a state described as *dōṣavaiṣmya*. The optimum quantity, the required quality, and the manner of intake of food and drink are the fundamental factors of the state called *dōṣasamata*.

To restore *dōṣasamata* from *dōṣavaiṣmya*, or to maintain the state of *dōṣasamata* is what an ayurvedic physician seeks to achieve in treating an ill person, or in promoting health of a person free from diseases<sup>6</sup>. This, in a nutshell, is the *tridōṣa* theory, the bedrock upon which ayurveda is formed.

Kaviraj Gananath Sen was the pioneer, who interpreted *tridōṣa* in terms of physiology. According to him *vāta* corresponds to the functions relating to the central nervous system, *pitta* to those in metabolism, and *kapha* to those of hormones. When all these function in harmony with one another, as their overall effect leads to a dynamic equilibrium, *dōṣasamata* comes into force. When these functions do not operate so with one another, as their overall effect leads to a state where there is no dynamic equilibrium, or if it has been set up earlier, it is deranged, *dōṣavaiṣmya* comes into force<sup>7</sup>.

### **Principle of bio-equilibrium**

An in-depth study of *tridōṣa* theory, made mostly in the light of the views of Kaviraj Sen in terms of homeostasis<sup>3</sup> and bioenergetics<sup>4</sup>, inspired this author to formulate and propound the following hypothesis described as the principle of bio-equilibrium:

“The forces arising out of bio-energy tend to attain an equilibrium. If the equilibrium is subjected to stress as in the state of the life when disease appears, there arises tendency to relieve the living organism of the stress; any means like application of drug may contribute to this tendency to restore the equilibrium for life to continue; but, exhaustion of this tendency with no prospect of its return to normal, leads to extinction of life<sup>8</sup>”

The equilibrium stated in the above hypothesis is described as bio-equilibrium, which represents *dōṣasamata*; it emerges from the optimum energy flow that is derived from digestion and assimilation of food and drink, as sustains life at normal<sup>1</sup> .

A critical analysis of the principle of bio-equilibrium brings the essential idea of life to the focus that it emerges from the integrated union of the three-fold abilities i.e. 1) to initiate activities and functions, 2) to sustain the activities and functions and 3) to regulate the activities and functions when they go out of harmony.

Of these, the ability to regulate the activities and functions by itself, i.e. self-regulatory ability, plays the predominant role of life for its continuing existence, and seems to be the quintessence of life. It is predominantly manifested in bringing about the state of life denoting *svāsthya* (health) that emanates from harmony in the activities and functions, and it rests on the optimum energy flow leading life to continue at normal, indicative of *svāsthya*<sup>1</sup>.

On disappearance with no prospect for return of the self-regulatory ability, life terminates in death; while disappearance with prospect for

its return, status of health gradually declines to a critical level, below which or when ailment and disease appear, and on return of this self-regulatory ability, prospects for health also return. Obviously, in the former event, drug has no role to play, while in the latter, it may merely aid to the self-regulatory ability.

#### **Consciousness: self-regulation**

*Manas* (mind) and *śārīra* (body) are made mostly of matter derived radically from intake, digestion and assimilation of food and drink. *Ātman* (consciousness) is mostly energy; it is eternal and of perpetual cosmic existence; it is neither born nor does it die, and is not subjected to such transformations as *manas* and *śārīra* do. Indeed, *ātman* (consciousness) acts as the umpire witnessing the game of life being played in the ever-changing and mortal frame of *manas* and *śārīra*. And it discriminates as to which transformation is pain or pleasure.

Consciousness is ever alert and operational<sup>9</sup>. Immediately after death, despite the presence of all the organs almost intact, life ceases owing to disappearance of *ātman* (consciousness).

The most predominant aspect of consciousness is its self-regulatory ability that constitutes the master key to the domain of its concert with mind and body with sense organs. This is illustrated with reference to maintenance of the optimal level of glucose in the blood.

Brain is the central storehouse and the principal source of information instructing all the other functions and control systems what to do, and it operates through a communication network described as the nervous system. As part of the central nervous system, the endocrine glands regulate through hormones, secreted by them,

such processes as growth, level of metabolism, fertility and pregnancy leading to reproduction. In this respect, the working of the hormone insulin is of paramount importance. Glucose is the primary source of energy needed by the cells and it is supplied at the optimal level through circulation of blood. Such optimal level of glucose is regulated by a special group of cells called the islets of Langerhans in the pancreas that secretes insulin.

Insulin sends the information instructing the liver what to do; if there is too much of glucose in the blood, the liver breaks down such excess as it can, and stores the rest as glycogen; and if there is deficiency of glucose in the blood, the liver breaks down glycogen, thereby raising glucose to the optimal level in the blood<sup>9</sup>.

Insulin, therefore, plays a very important role in regulating the metabolism of glucose, and the regulatory role is actuated by feedback of information, which in turn, is initiated by consciousness. Thus, it is obvious that consciousness is deeply integrated with its self-regulatory ability, that is to say consciousness plays its most effective role through self-regulation.

#### **Health: self-regulation**

It is indicated that as many as one hundred trillion living tiny cells, each with a diameter of 20 $\mu$ , are so organized as to constitute an adult human being, and so structured as to include a gastrointestinal system to digest food and drink, a cardiovascular system to distribute food, drink, oxygen and products of metabolism, a respiratory system to take oxygen and remove carbon-dioxide, an urinary system

to remove waste materials, a reproductive system for perpetuating the species, and nervous and endocrine systems to initiate, co-ordinate and integrate the activities and functions of the other systems<sup>3</sup>.

One thousand chemical reactions take place in each of these cells for carrying out a wide variety of activities and functions. Essentially, such reactions mostly relate to hydrolysis (breaking down of material with water), oxidation (combination of oxygen), putting the materials it has taken up into pieces, and building up of materials according to needs and even production of special proteins from proteins it has taken up from outside<sup>5</sup>.

Virtually it is not possible even to imagine the grand total number of such chemical reactions taking place all the time, in the one hundred trillion cells. Still, it is interesting to note as to how such an almost infinite number of chemical reactions are initiated and co-ordinated, integrated and regulated at the instance of the three-fold abilities, stated ante, for life to continue at normal.

These chemical reactions take place gradually in small steps, mostly through metabolic pathways for instance, glucose, the principal source of energy in the cells, is gradually broken down in small steps with release of energy in tiny packets, so to say, at the moderate temperature; normally at 98.5° F, so essential for, and conducive to the cells to continue their existence at normal, and this is effectuated by the concerned enzymes at each of these step. Still, these steps may be said to represent the gist of the actual events leading to the release and transmission of energy.

Each such reaction at each of these steps is a reversible one, that proceed both forward and backward, till a dynamic equilibrium comes into force. When the rate of the forward reaction equals to that of the backward reaction<sup>5</sup>, it may better be imagined than visualized as to how such dynamic equilibrium in the almost infinite number of such chemical reactions contribute to the integrated and overall dynamic equilibrium, that emerges and persists throughout the function and control systems. Such integrated and overall dynamic equilibrium leads to the steady state of internal environment known as homeostasis which is at the root of harmony in the activities and functions, that represents a state of life described as *svāsthya*.

In the process of effecting and ensuring such steady state internal environment, self-regulatory ability occupies the place of prominence and predominance; that is to say, self-regulation is intimately linked with appearance and sustenance of health.

#### **Mind transformation of energy**

Constituted of forces emerging from the fine (*sūkṣma*) portion, derived from digestion and assimilation of food and drink, the mind operate as the core and subtle internal instrument, on the application of which consciousness (*ātman*) initiates, sustains and regulates the activities and functions of the function and control systems related to the body with the sense organs (*śarīra*).

Mind is characterized by its *triguṇa* or three fold virtues, namely, *satva*, *rajas* and *tamas*, as mind exists and operates broadly and generally in these states. In the state of *tamas*, mind

continues to stay idle, remaining virtually inactive, unless moved by some superior force to do otherwise; this state is indicative of the inertia of rest. In the state of *rajas*, mind continues to go on acting without any pause, often manifesting hyperactivity, unless compelled by some superior force to do otherwise; this state is indicative of inertia of motion.

In the state of *satva*, mind plays the role of the superior force that is required to influence the states of *tamas* and *rajas*, as and whenever needed; mind exercises acceleration, restraint and or regulation over the latter two categories of forces of relatively lesser intensities or magnitudes, manifested in the states of *tamas* and *rajas*. In this way, mind comes out of idleness and regulates hyperactivity thereby leading to harmony in the activities and functions of control systems. This mechanism of action of mind in the state of *satva* is at the root of acquiring and promoting health; that is to say, application of force through mind at a speed neither too slow, nor too fast, but at the optimum speed, leads to overall harmony in the activities and functions, and contributes to emergence, promotion and sustenance of health. Human being is the embodiment of mind in its three states of *satva*, *rajas* and *tamas* in different permutation and combinations depending on the circumstances in which he is placed at different times: mind in the state of *satva*, plays an important role of regulating the permutations and combinations. An in-depth analysis of the activities and operations of mind in these three states leads one to hold that mind consists of a number of packages of forces of varying intensities or magnitudes; they broadly and

gradually increase upwards from the state of *tamas* where energy persists mostly in potential form through the state of *rajas* where energy mostly persists and operates in the kinetic form, to the state of *satva*. Mind in the state of *satva* is, indeed, constituted of forces of very profound or exceedingly high magnitude, emerging from electrical impulses, caused in the brain, that enables a human being to exercise self-regulatory ability as effectively as demanded by the function and control systems. In this state of *satva*, mind comes to occupy a unique position, and the longer the mind remains in this state, the more of potentiality it acquires and possesses so as to ensure auto-regulatory or self-regulatory ability as and when needed.

In essence, it is the self-regulatory ability that is linked with consciousness, and it emerges through transformation of energy into electrical impulse in the brain so mind in the state of *satva* becomes effective through transformation of energy into electrical impulse.

#### **Conduct of mind**

A patient introspection would reveal that one may become a spring of endless energy if he conducts his mind in such manner that it bring all the beck and call, like a disciplined soldier; the mind, tickled by nature almost all the time, moves to and fro from one object to other, or from one thought to another with dissipation of energy that serves no useful purpose of experiencing pleasure. For instance, hurry, worry and fury are, the triple major enemies of mind, cause to disturb the harmony of the activities and functions of the control systems, and thereby disturbing and deranging the inner

environment or homeostasis; as a consequence, they contribute to the emergence of conditions in which ailment and disease appear and health suffers adversely.

In the circumstances, fickleness of mind is required to be brought under control for attainment and promotion of harmony and health. This is possible only when one takes to the path of reasoned thinking with calm and restraint. If one consciously applies one's mind through self-regulation it leads to health, because it is only self-regulation through consciousness that promotes health<sup>2</sup>.

#### **Conclusion**

The critical analysis of the activities and functions - physical, physiological and psychological - as stated in the foregoing sections, brings the idea of health to the sharp focus that it is the ability to heal operating through the agency of self-regulatory ability that ensures harmony among these activities and functions leading to emergence, promotion and maintenance of health. Anyone who takes regular and unflinching practice to exercise self-regulation consciously can enjoy health with enduring pleasure.

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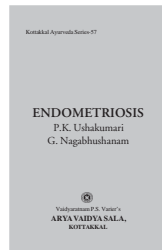


Medicine, Halle (Saale), Germany for inviting me to attend the Congress and present a paper (for which this paper was prepared). Spontaneous efforts of Dr (Mrs) Aruna Pal, MBBS, DMCW, my daughter, in preparing the typescript of the paper, deserves a loving mention.

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#### **ENDOMETRIOSIS**

Essay adjudged first in  
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Endometriosis is a gynecological problem occurring in some females during the fertility period. It is characterized by the formation of endometrium like cells on the ectopic parts of the body other than in the uterus, like ovaries, parts of viscera, appendix, or even remote places like lungs and brain. As per the influence of the female hormonal stimulation, it acts as bleeding spots, just like the endometrium and manifest a variety of symptoms, and is a real agony for the patient.

## EXCERPTS FROM CIKITSĀMAÑJARI - L

P. Unnikrishnan\*

**Abstract:** Treatment of vāta disorders continues. All time reputed formulations for vāta disorders like Kastūryādi guḷika, Śudhabalā tailam, Kṣīrabalā tailam and Prabhañjanavimardanam are also explained in this chapter.

Consumption of milk medicated with pañcamūla (roots of *Aegle marmelos*, *Gmelina arborea*, *Stereospermum colais*, *Oroxylum indicum*, *Premna corymbosa*) and bala (*Sida rhombifolia* ssp. *retusa*) relieves vāta.

Due to hyperactivity of vāta, the patient may suffer from churning pain, and in extreme cases, he may become unconscious. Application of Balāśvagandhādi or Balāguḷūcyādi medicated oil on the head is very effective.

Medicated oil prepared from the expressed juice of catuśśītam as liquid component and fine powder of the following as solid component may be applied on the body. For added effect, one-fourth quantity of ghee can also be added while preparing the oil.

Mezhuku	Bee wax
Ceñcālyam	<i>Shorea robusta</i>
Mañcaṭṭipoṭi	<i>Rubia cordifolia</i>
Arakku	Lac
Amukkuram	<i>Withania somnifera</i>
Aratta	<i>Alpinia galanga</i>

Application of Piṇḍatailam on the body is very

effective. Intake of Śudhabala; Vidāryādi kaṣāya or ghee medicated with the drugs of Vidāryādi group is also advised. In the presence of intermittent churning pain, application of a lukewarm paste made of ṅavara rice (*Oryza sativa*) is suggested.

Prepare one prastha (768 g) of sesame oil from the kaṣāya of the following, reduce to one-fourth, and to which four times curd (dadhi) and mastu (whey) are to added.

Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Aśvagandha	<i>Withania somnifera</i>
Lākṣā	Lac

Fine powders of the following – 1 karṣa (12g) each - are to be added as solid component.

Rāsna	<i>Alpinia galanga</i>
Candana	<i>Santalum album</i>
Mañjiṣṭha	<i>Rubia cordifolia</i>
Mūrvā	<i>Chonemorpha fragrans</i>
Madhuka	<i>Glycyrrhiza glabra</i>
Cōraka	<i>Kaempferia galanga</i>
Sāriba	<i>Hemidesmus indicus</i>
Uśira	<i>Vetiveria zizanioides</i>
Jalada	<i>Cyperus rotundus</i>

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Kuṣṭha	<i>Saussurea lappa</i>
Agaru	<i>Aquilaria agallocha</i>
Suradruma	<i>Cedrus deodara</i>
Haridra	<i>Curcuma longa</i>
Kaṭukā	<i>Picrorhiza scrophulariiflora</i>
Kauntī	<i>Piper cubeba</i>
Śatāhva	<i>Anethum graveolens</i>
Padmakēsara	<i>Nelumbo nucifera</i>

The above oil is to be prepared in mild fire, and the preparation is to be preserved in a clean vessel. The oil shall be consumed for the relief of all fevers, insanity, wasting disorders, cough, etc. on the day of auspicious star and tithi. All diseases caused by deranged vāta are relieved and body gets nourishment by the consumption of this kaṣāya, as stated by Aśvinidēvas.

Intake of the above also relieves chronic cough and respiratory difficulties; add ghee, one-fourth quantity of lipid component, for enhanced effect. In exacerbations of vāta, consumption of root of kṣudrasimhī (*Solanum indicum*) is effective. In the presence of stiffness and flatulence, make warm the affected area with a cloth bundle prepared with fried ripe jack tree leaves, leaves of āvaṇakku (*Ricinus communis*) and ripe coconut pulp. Inhalation of fumes arising from boiling medicated milk is very effectual. Irrigation with lukewarm ghee and sesame oil mixture on the affected area is also effective. Intake of milk boiled and medicated with jīraka (*Cuminum cyminum*) tied in a cloth bundle, is advised. Vidāryādi kaṣāya can be consumed.

Kaññi medicated with the kaṣāya prepared from the following is effective in deranged vāta.

Vilva	<i>Aegle marmelos</i>
Dhānyam	<i>Coriandrum sativum</i>
Kuṛuntōṭṭi	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Jīraka	<i>Cuminum cyminum</i>

Malar	Nocake
Mudga	<i>Vigna radiata</i>
Jīvantī	<i>Holostemma ada-koedien</i>
Cukku	<i>Zingiber officinale</i>
Maram	<i>Cedrus deodara</i>

A kaṣāya prepared from the following also possesses similar properties.

Bṛhatīdvaya	<i>Solanum xanthocarpum</i> <i>Solanum indicum</i>
Amśumatīdvaya	<i>Desmodium gangeticum</i> <i>Pseudarthria viscida</i>
Gōkṣura	<i>Tribulus terrestris</i>
Bhadrā	<i>Aerva lanata</i>
Lājā	Nocake

Ingredients of another kaṣāya with similar quality are given below.

Prśniparṇī	<i>Desmodium gangeticum</i>
Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Vilva	<i>Aegle marmelos</i>
Vamśapatra	<i>Bambusa arundinacea</i>
Suradruma	<i>Cedrus deodara</i>
Jīraka	<i>Cuminum cyminum</i>

A kaṣāya prepared from the following, on consumption added with milk relieves vāta.

Kṛṣṇa	<i>Piper longum</i>
Laśuna	<i>Allium sativum</i>
Dēvadru	<i>Cedrus deodara</i>
Prśniparṇī	<i>Desmodium gangeticum</i>
Jīrakadvaya	<i>Cuminum cyminum</i> <i>Nigella sativa</i>

Milk medicated with daśamūla shall be used to prepare butter to which fine powders of malarpoṭi (powdered nocake), sugar, jīrakam and verukinpuzhu (semen of civet) are added and mixed well. Alternatively, consumption of powdered jīraka added with nocake powder and sugar is preferred. Butter mixed with verukinpuzhu shall be taken. Drinking fine powder of the roots of cuṅṭa (*Solanum indicum*)

mixed with coconut water is effective especially in breathlessness condition; finely powdered jīraka can also be added for additional effect. Consumption of fine powders of jīraka and root of āvaṇakku mixed with coconut pulp juice is effectual.

Medicated water prepared from the following, on consumption with ghee and puzhuku (semen of civet) relieves vāta.

Jīraka	<i>Cuminum cyminum</i>
Kiriyātta	<i>Andrographis paniculata</i>
Lāja	Nocake
Ikṣu	<i>Saccharum officinarum</i>
Mudga	<i>Vigna radiata</i>
Cukku	<i>Zingiber officinale</i>

Ghee two parts as lipid component, expressed juice of ceṟupūḷa (*Aerva lanata*) one part as liquid component and fine powder of ajājī (*Lepidium sativum*) as solid component; medicated ghee so prepared on consumption relieves violent manifestations of vāta.

Consumption of tender coconut water mixed with fine powders of jīraka and ēlattari (*Elettaria cardamomum*) normalizes vāta.

Intake of expressed juice from the tender shoots of alābu (*Luffa acutangula*) mixed with puzhuku and fine powder of jīraka also relieves vāta.

Medicated ghee mixed with fresh powder of jīraka and verukinpuzhuku on consumption relieves vāta.

Pills rolled from the fine powders of ajājī, kiriyātta (*Andrographis paniculata*) and jīraka in verukinpuzhu, on consumption in water boiled with jīraka relieve vāta; small quantities of ghee also may be added if necessary. Medicated ghee detailed in the treatment of hikka (hiccough) also may be consumed.

Medicated ghee prepared from the expressed juice of the cooked stems of cura (*Luffa acutangula*) as liquid component, and fine powder of jīraka as solid component, if consumed added with verukinpuzhuku relieves vāta. Warm ghee and puzhuku also can be consumed for the relief from hiccough and breathlessness.

A kaṣāya prepared from the following cures vāta.

Lājam	Nocake
Cukku	<i>Zingiber officinale</i>
Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Vilva	<i>Aegle marmelos</i>
Mūvila	<i>Pseudarthria viscida</i>
Mūlayila	<i>Bambusa arundinacea</i>
Jīraka	<i>Cuminum cyminum</i>

A kaṣāya prepared from the following consumed with ghee and puzhuku relieves stiffness.

Pazhamplā- vilañeṭṭi	Leaf stalk of <i>Artocarpus heterophyllus</i>
Mūvila	<i>Pseudarthria viscida</i>
Vamśapatrika	<i>Bambusa arundinacea</i>

Medicated ghee prepared from the expressed juice of punarnava (*Boerhaavia diffusa*) as liquid component, and pazhamplāvilañeṭṭi and jīraka as solid component, on consumption relieves rheumatic disorders. Agitation caused by vāta is relieved on consumption of this kaṣāya.

A kaṣāya prepared from the following consumed with puzhuku relieves diseases caused by increased vāta.

Bhadrā	<i>Aerva lanata</i>
Guha	<i>Pseudarthria viscida</i>
Vēṇupatrī	<i>Bambusa arundinacea</i>
Jīvanti	<i>Holostemma ada-koedien</i>
Dāru	<i>Cedrus deodara</i>
Jīraka	<i>Cuminum cyminum</i>

The following kaṣāya consumed with ghee and puzhuku relieves hiccough and stiffness.

Karimpu	<i>Saccharum officinarum</i>
Kūvaḷattinvēr	<i>Aegle marmelos</i>
Iñci	<i>Zingiber officinale</i>
Malar	Nocake
Jīrakam	<i>Cuminum cyminum</i>
Curakkazhuttu	<i>Luffa acutangula</i>

A kaṣāya prepared from veḷutta kaṭalātivēr (*Achyranthus aspera*), consumed with powdered ēlattari and puzhuku relieves hiccough, stiffness and derangement of vāta affecting the upper half of the body. Intake of Magadhajādi powder relieves hiccough, stiffness, vomiting and flatulence.

Intake of medicated ghee prepared from the kaṣāya of the following as liquid component, and drugs detailed in the solid component of Magadhajādi ghee as solid component relieves vāta. Consumption of Vidāryādi kaṣāya is effective; Siṁhīsīṁhamukhyādi kaṣāya added with milk is also effectual.

A kaṣāya prepared from the following also pacify vāta; consumed with milk, it relieves chest pain, vomiting, hiccough and breathing difficulties.

Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Dhānyaka	<i>Coriandrum sativum</i>
Nikhila	<i>Zingiber officinale</i>
Vilva	<i>Aegle marmelos</i>
Jīraka	<i>Cuminum cyminum</i>
Jīvantī	<i>Holostemma ada-koedien</i>
Lāja	Nocake
Mudga	<i>Vigna radiata</i>
Ikṣu	<i>Saccharum officinarum</i>
Bhadrika	<i>Aerva lanata</i>
Ōrila	<i>Desmodium gangeticum</i>
Mūvila	<i>Pseuderthria viscida</i>

Milk medicated with the following two sets of

drugs on consumption cures edema, distension of abdomen and hiccough.

Set 1	
Vilva	<i>Aegle marmelos</i>
Kāśmārya	<i>Gmelina arborea</i>
Takkarī	<i>Premna corymbosa</i>
Pāṭala	<i>Stereospermum colais</i>
Duṇḍukā	<i>Oroxylum indicum</i>
Bṛhatīdvaya	<i>Solanum xanthocarpum</i> <i>Solanum indicum</i>
Amśumatīdvaya	<i>Desmodium gangeticum</i> <i>Pseuderthria viscida</i>
Gōkṣura	<i>Tribulus terrestris</i>
Ceṛūḷa	<i>Aerva lanata</i>
Cukku	<i>Zingiber officinale</i>

Set 2.	
Bṛhatīdvaya	<i>Solanum xanthocarpum</i> <i>Solanum indicum</i>
Amśumatīdvaya	<i>Desmodium gangeticum</i> <i>Pseuderthria viscida</i>
Gōkṣura	<i>Tribulus terrestris</i>
Ceṛūḷa	<i>Aerva lanata</i>
Cukku	<i>Zingiber officinale</i>

A kaṣāya prepared from the following on ingestion with honey relieves chest pain and hiccough.

Lāmājja	<i>Vetiveria zizanioides</i>
Am̄bu	<i>Plectranthus vettiveroides</i>
Ceṛūḷa	<i>Aerva lanata</i>
Kuṛuntōṭṭī	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Lāja	Nocake
Ikṣu	<i>Saccharum officinarum</i>
Cūta	<i>Mangifera indica</i>
Curakkazhuttu	<i>Luffa acutangula</i>
Tajirvettila	<i>Piper betel</i> (tender leaves)
Vilva	<i>Aegle marmelos</i>
Ārḍra	<i>Zingiber officinale</i>
Jīraka	<i>Cuminum cyminum</i>
Parippu	<i>Vigna radiata</i>

Medicated ghee with the expressed juices of

mātuḷuṅga (*Citrus medica*) and ādrakā (*Zingiber officinale*) as liquid component and the solid component of Magadhajādi ghee as solid component on consumption relieves vomiting and wasting disorders.

A pill prepared and rolled from the fine powders of the following in the expressed juice of bṛṅgā (*Eclipta prostrata*) or milk, and dried in shade on ingestion relieves diseases caused by agitated vāta.

Kastūri	<i>Piper cubeba</i> (substitutie)
Kiriyātta	<i>Andrographis paniculata</i>
Aratta	<i>Alpinia galanga</i>
Puzhuku	Civet
Kānta	Magnet
Indu	Borneo camphor
Jātiphala	<i>Myristica fragrans</i>
Kṣāra	Carbonate of potash
Kaṭukka	<i>Terminalia chebula</i>
Nellikka	<i>Emblica officinalis</i>
Tānnikka	<i>Terminalia bellirica</i>
Ēlattari	<i>Elettaria cardamomum</i>
Ilavaṅgattoli	<i>Cinnamomum verum</i>
Paccila	<i>Cinnamomum tamala</i>
Jīrakadvaya	<i>Cuminum cyminum</i>
	<i>Nigella sativa</i>
Dīpyaka	<i>Trachyspermum ammi</i>
Agragrāhi	<i>Anacyclus purethrum</i>
Śatāhvā	<i>Anethum graveolens</i>
Yaṣṭī	<i>Glycyrrhiza glabra</i>
Karayāmpū	<i>Syzygium aromaticum</i>
Kāvi	Red ochre
Tōyam	<i>Cyperus rotundus</i>
Rasaṁ	Mercury
Pāraṅkī	<i>Clerodendrum serratum</i>
Paśupāśī	<i>Myristica malabarica</i>
Candana	<i>Santalum album</i>
Vaca	<i>Acorus calamus</i>
Jīnōṣṇam	<i>Piper cubeba</i>
Cukku	<i>Zingiber officinale</i>
Kurumuḷaku	<i>Piper nigrum</i>
Tippali	<i>Piper longum</i>

Ponkāra	Borax
Añjana	Black antimony
Vajranāga	Plumbum
Manayōla	Realgar
Ajāji	<i>Lepidium sativum</i>
Cāliyam	Vermilion
(Cāyilyam)	

Expressed juice from the leaves of betel, rose water and salt water, mixed together and consumed relieves flatulence.

Diseases caused by vāta barren by other humors are difficult to cure, especially when the disease is more than one year old; at times they may turn quite unresponsive to the treatment. When vāta is blocked by pitta, cold and heat therapies are to be followed alternatively in a repeated manner. Ghee medicated with the Jīvanīya group of drugs is indicated. Meat of animals living in dhanva regions, cereals such as yava (*Hordeum vulgare*), śālī (*Oryza sativa*) are to be consumed. Laxatives that contain milk are used to soften stools. Vasti with milk medicated with vilva, kāśmarya, takkarī, pāṭalā, duṇḍuka and bala is also effective. At a later stage, vasti with medicated oils composed of drugs of sweet taste are to be given.

Consumption of cereals such as yava, meat of animals and birds that habituate in the region of land that contain little water, trees and mountains (jāṅgalā), sudation and vasti with medicaments of hot and pungent nature are effective in the blockade of vāta by kapha. Old ghee, oils from sesame seed and sarṣapa (*Brassica juncea*) also can be used.

In combined vitiation of kapha and pitta, the treatment has to be aimed to normalize pitta. Combined vitiation of vāta and blood are treated along the same lines as that of vātaśōṇita (rheumatoid arthritis). Irrigation of

the affected area with warm water medicated with the following is also indicated.

Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Śatāvārī	<i>Asparagus racemosus</i>
Śigru	<i>Moringa oleifera</i>
Varaṇa	<i>Crataeva magna</i>
Arka	<i>Calotropis gigantia</i>

Consumption of milk medicated with turmbī (*Lagenaria siceraria*) is effective; intake of Ajāyādi pills is preferred. A kaṣāya prepared from the following consumed with sugar and fine powder of jīraka relieves rheumatic diseases.

Uḷī	<i>Allium sativum</i>
Mūvila	<i>Pseudarthria viscida</i>
Kariṅjīrakam	<i>Nigella sativa</i>
Ceṛupūlavēr	<i>Aerva lanata</i>
Pippailī	<i>Piper longum</i>
Malar	Nocake

Components of another kaṣāya with similar indication are given below.

Vaṁśapatra	<i>Bambusa arundinacea</i>
Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Dīpya	<i>Trachyspermum ammi</i>
Viśva	<i>Zingiber officinale</i>
Dāru	<i>Cedrus deodara</i>
Guha	<i>Pseudarthria viscida</i>

Consumption of a kaññī prepared from water medicated with pañcamūla is indicated; preparations in coconut water, earlier detailed also can be used.

#### **Balātaila**

Boil 100 pala\* of crushed bala with water and reduce to one-fourth; add 10 pala of the fine paste of bala to it as solid component, and 1 āḍhaka (3.073 kg) of sesame oil and 2 āḍhaka

of cow's milk to be added to the mixture. Reduce this combination to obtain oil and the residue is to be filtered and discarded. This preparation, termed Śuddha-bala, cures rheumatic diseases. Application of this oil during and after pregnancy reduces pain associated with childbirth and revives the body during postnatal period. Consumption, external application, use as nasal drops, etc. of this oil in suitable quantity relieves eighty types of diseases that originate from vitiated vāta.

Sesame oil medicated with the kaṣāya of bala and cow's milk as liquid component and fine powder of bala as solid component, relieves all rheumatic disorders.

#### **Kṣīrabalataila-I**

Pound 5 pala of the roots of bala to a paste in milk and add four prastha (1 prastha = 768g) milk; add 1 prastha of sesame oil and boil the mixture in low fire and reduce to get oil. Consumption, vasti, nasya and external application of this oil relieves eighty types of diseases caused by deranged vāta.

#### **Kṣīrabalataila-II**

Mix 1 nāzhi (192 ml) sesame oil with ½ pala of the fine paste of balāṅghrī (Root of *Sida rhombifolia* ssp. *retusa*); add 2 nāzhi cow's milk and ⅓ nāzhi ghee; reduce this mixture in mild fire to obtain the oil component, free from water. This preparation, also known as Kṣīrabala, on consumption, application or usage in the form of nasal drops relieves vāta.

#### **Prabhañjanavimardanam tailam**

Prepare a kaṣāya from the following by reducing the water content to one-fourth.

Bala	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
Śatāvārī	<i>Asparagus racemosus</i>

\*1 pala= 48g

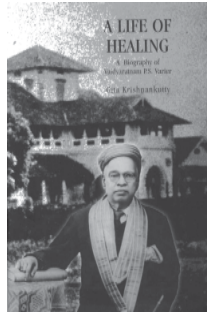
Śigru	<i>Moringa oleifera</i>
Varaṇa	<i>Crataeva magna</i>
Arka	<i>Calotropis gigantea</i>
Karañjaka	<i>Pongamia pinnata</i>
Ēraṇḍa	<i>Ricinus communis</i>
Kōraṇḍa	<i>Nilgirianthus ciliatus</i>
Vājīgandha	<i>Withania somnifera</i>
Prasāraṇī	<i>Merremia tridentata</i> ssp. <i>tridentata</i>
Vilva	<i>Aegle marmelos</i>
Kāśmarya	<i>Gmelina arborea</i>
Takkari	<i>Premna corymbosa</i>
Pāṭalā	<i>Stereospermum colais</i>
Duṇḍuka	<i>Oroxylum indicum</i>

Add ½ āḍhaka sesame oil and 1 āḍhaka cow's milk to the above; also add 1 prastha each curd and kāṭi (sour gruel); mix fine powders of the following, each 1 karṣa (12g), to it as the solid component.

Tagara	<i>Valeriana jatamansi</i>
Amarakāṣṭa	<i>Cedrus deodara</i>
Ēla	<i>Elettaria cardamomum</i>
Śuṅṭhi	<i>Zingiber officinale</i>

Sarṣapa	<i>Brassica juncea</i>
Cōraka	<i>Kaempferia galanga</i>
Śatāhva	<i>Anethum graveolens</i>
Kuṣṭha	<i>Saussurea lappa</i>
Sindhūtha	Rock salt
Rāsnā	<i>Alpinia galanga</i>
Kālānusārika	<i>Trigonella foenum-graecum</i>
Vaca	<i>Acorus calamus</i>
Citraka	<i>Plumbago indica</i>
Mārsī	<i>Nardostachys grandiflora</i>
Saraḷa	<i>Pinus roxburghii</i>
Kaṭurōhiṇī	<i>Picrorhiza scrophulariiflora</i>

The above mixture is to be boiled and reduced to obtain oil component. Consumption, external application, administration as nasal drops, etc. of this oil relieves eighty types of rheumatic disorders, flatulence, facial palsy, hernias, tumors caused by vitiated vāta, difficulties in childbirth, and different types of pains caused by deranged vāta. This highly potent preparation was propounded by sage Ātrēya and is termed Prabhañjanavimardanam.



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