

ISSN 0970 - 4086

Āryavaidyan

लाभानां श्रेय आरोग्यम्

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



Vol. XXIII, No. 1
August - October, 2009



A QUARTERLY JOURNAL OF
THE ARYA VAIDYA SALA - KOTTAKKAL

āryavaidyan

A Quarterly Journal of
the Arya Vaidya Sala, Kottakkal.

Vol. XXIII., No. 1

Regn. No. 55127/87

August - October, 2009

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

EDITORIAL BOARD

Editor

Dr. M.R. Raghava Varier

Hon. Consulting Editor

Dr. K. Madhavankutty

Members

Dr. A. P. Haridas
Consultant Physician, AVS.

Dr. Arsu
Professor, Department of Hindi,
University of Calicut.

Shri P. V. S. Varier
IAS (Retd.)

Shri K. G. Warriar
Teacher (Retd.)

Shri C. A. Varier
Trustee, AVS.

Dr. Indira Balachandran
Project Director,
CMPR, AVS.

Dr. T. S. Murali
Chief (Tech. Services), AVS.

Dr. K. Muralidharan
Superintendent
(AH&RC), AVS.

Dr. C. Ramankutty
Chief Medical Officer
(Publications), AVS.

Advisory Board

Prof. M. K. Prasad
Formerly Pro-vice Chancellor,
Calicut University

Dr. C. K. Ramachandran
Prof. of Medicine (Retd.),
Medical College, Calicut

Dr. K. Rajagopalan
Susrut Bhavan, Kollam

Dr. V. N. Pandey
A/50/NDSE-1, New Delhi

Dr. S. K. Misra
Delhi

Mr. Giorgio Fillippo Barabino
Genova

Dr. M. S. Valiathan
National Research Professor,
Manipal University,
Manipal.

Prof. N. R. Krishnaswamy
Prof. of Chemistry (Retd.),
Puttaparti, Bangalore.

Dr. G. Santhakumari
Thiruvananthapuram

CONTENTS

Arjuna (<i>Terminalia cuneata</i> Roth) and its adulterant <i>Lagerstroemia speciosa</i> (L.) Pers. - A comparative pharmacognostic study	B. Padmaja and K. Gopakumar	3
Evaluation of contraceptive effect of a traditional medicine on albino rats	Revan Siddappa Sarashetti, R.S. Wali, B.A. Sasnur and Allamprabhu Gudda	9
Effect of nasyakarma in the treatment of pīnasa (sinusitis) - A pilot study	T. Borah, S.N. Murthy, B.K. Bharali and D. Baruah	13
Management of side effects of chemotherapy and radiotherapy by āyurveda	S. P. Sardeshmukh, Arvind Kulkarni and Vineeta V. Deshmukh	16
Megacolon - A clinical experience	P.K. Warriar	22
Effect of herbo-mineral formulations in the management of hypertension - A clinical study	B.N. Sridhar and G. Venkateshwarlu	25
Tridoṣa theory and its application in modern therapeutics - A clinical approach	Sujeet Kumar, B.K. Dwivedy and N.P. Rai	30
Efficacy of picchāvasti in ulcerative colitis	Bal Govind Tiwari	36
Identification of certain clinical conditions in geriatric women attending āyurvedic gynaecology clinic in Sri Lanka - A survey	Kaumadi Karunagoda, Kamayani Shukla, Dayani Siriwardhene and L.P. Dei	39
Effect of māñibhadra vaṭaka in the management of ekakuṣṭha (psoriasis) - A clinical study	B. S. Praveen and T. B. Tripathy	46
Fighting menopause - A way back to life	Vaidya Nisha Gupta	52
Excerpts from Cikitsāmañjari - LXII	P. Unnikrishnan	59

**ARJUNA (*TERMINALIA CUNEATA* ROTH) AND ITS
ADULTERANT *LAGERSTROEMIA SPECIOSA* (L.) PERS.
- A COMPARATIVE PHARMACOGNOSTIC STUDY**

B. Padmaja & K. Gopakumar*

Abstract: Majority of the rural population are fully dependant on āyurvedic medicine and standardisation of āyurvedic drugs either single or compound are the most needed factor for the establishment, acceptance and globalisation of Indian system of medicine. Macro and microscopical studies of the single drug involved in the compound formulations are the basic study for the same since adulteration and substitution are the main problems now the āyurvedic industry is facing. During the market survey, it is observed that *Terminalia cuneata* and *Lagerstroemia speciosa* are being sold out in the name of the āyurvedic drug arjuna. Literature review revealed that comparative pharmacognostic studies of these two specimens have not been done. Hence this study was taken.

Introduction

The drug arjuna [*Terminalia cuneata* Roth (*Terminalia arjuna* W.&A.)] is an important āyurvedic drug. According to āyurveda, the bark is acrid and sweet in rasa (taste), cooling in guṇa (property), śīta in vīrya (potency) and kaṭu (acrid) in vipāka (post digestive taste). It is credited with several therapeutic properties in Āyurvedic, Unani and Siddha systems of medicine.

Among the ancient physicians Vāgbhaṭa prescribed the bark of arjuna in heart diseases³. The powdered bark mixed with honey is recommended to be given internally in fractures and contusions with echymosis, bilious disorders, diarrhoea, dysentery, sprue and haemorrhages⁵. The decoction is also useful in

cleaning sores and ulcers⁶. According to the Bhāvaprakāśanighaṇṭu, the bark has cooling, cardiotoxic, wound healing and intoxicating effects⁴. Among the modern investigators on chemistry and pharmacology of the drug, Causis, Mahaskar & Issac (1930) were unable to find any active principle of the nature of alkaloid or glucoside or essential oil. Pharmacologically a mild diuretic action was reported. Hooper (1891) reported the presence of calcium salt and tannin. Ghoshal (1909) reported the presence of sugar, tannin - a colouring matter, glucoside principle, carbonates of sodium and calcium with traces of chloride and alkali metals. Chopra (1923) also reported pure glucoside from the bark and recognised that it produces a small but persistent rise in blood pressure in experimental animals.

* Regional Research Institute, Poojapura, Thiruvananthapuram, Kerala

Gupta *et al* (1976) reported that phytochemically benzene extract showed the presence of sterol while in chloroform and alcoholic extracts the presence of reducing sugars and glucosides were found in traces and abundant respectively. On bio assay the frog heart preparation showed increased contraction power of the heart with water soluble portion of the whole alcoholic extract.

There are about 15 species of *Terminalia* available in India. The barks of these species are so similar in appearance and as such usually mistaken for one another and all of them are offered and sold as arjuna in the market.

The local name of *Terminalia cuneata* is nīrmarutu and maṇimarutu usually found in the gravelly river banks. There is another plant known by the vernacular name pūmarutu, or maṇimarutu growing in the same habitat. The



Fig. 1a
Terminalia cuneata Roth

botanical name of the tree is *Lagerstroemia speciosa* (L) Pers. Bark of *Terminalia cuneata* is in good demand and its distribution is limited to Palghat and Idukki districts of Kerala. Knowingly or unknowingly bark of *Lagerstroemia speciosa* (L) Pers. is usually found adulterated with the bark of *Terminalia cuneata*. Adulteration with the barks of other common species of *Terminalia*, especially *Terminalia tomentosa* W. & A. and *Terminalia paniculata* Rolt., is also not uncommon. The present study is the comparison of the anatomical and phytochemical features of *T. cuneata* and *L. speciosa*. Morphological, anatomical and phytochemical differences are listed so as to enable easy differentiation.

Materials and methods

The material for study was obtained from the office compound of RRI, Trivandrum, where both plants are cultivated. Also market samples of the drugs were identified and taken for comparison. Standard methods of anatomy were followed and drawings were done using camera lucida (Wallis 1985). Physico chemical studies and preliminary phytochemical screening were carried out as per standard methods and procedure (J.B. Harbone 1973). TLC studies of the alcohol extractive were carried out on silica G plate of 0.2 mm thickness using the solvent benzene. The plates were sprayed with 50 % sulphuric acid and heated to 110° for 10 minutes. The Rf values of the spots and their colours observed immediately after heating.

Morphological and histological differences

Terminalia cuneata is a large handsome tree growing to a height of about 18 to 30 metres with small greenish white epigynous apetalous flowers. *Lagerstroemia speciosa* is a large

beautiful flowering tree with widely spreading branches bearing large handsome purple (mauve) coloured perigynous flowers (Fig. I a&b). The morphological, histological and phytochemical studies of the stem bark of the two plants possess the following characteristics:

***Terminalia cuneata* Roth**

Trunk is stout, fluted or prominently buttressed, greyish green, or buff coloured, bark flaking off in large thin pieces. Bark 15 to 20 or 30 mm thick, fairly smooth-surfaced, greenish white or grey, peeling off in large thin flat flakes, pinkish grey coloured inside, acrid and sweet (Fig. IIa). A transection of mature bark shows secondary phloem and phloem rays with thin layer of phellum at the periphery. Pericycle contains isolated strands of fibres situated around a broad inner parenchymatous region intercepted



Fig. Ib
Lagerstroemia speciosa (L.) Pers.

by narrow phloem rays. Secondary phloem frequently characterised by islands of sclerenchyma cells including chambered fibres filled with small and large cluster crystals (Fig. IIIa). An amorphous yellowish brown content (phenolic compounds) is seen filled in the parenchyma cells of the pericycle in the bark of very old plants. Phloem parenchyma and medullary rays are fully packed with simple and compound starch grains (Fig. III).

***Lagerstroemia speciosa* (L.) Pers.**

Trunk bears a few strong straight spines, bark pale or grey flaking off in irregular pieces. Bark 6 to 14 mm thick, rough-surfaced greyish-brown, peeling off in large thin irregular flakes, creamy

TABLE 1
Phytochemical differences

Parameters	<i>L. speciosa</i> (in %)	<i>T. cuneata</i> (in %)
Loss on drying at 110°	12.5	14.1
Ash content	7.75	8.5
Acid insoluble ash	1.1	0.3
Water insoluble ash	4.9	4.1
Alcohol soluble extractive	8.9	14.66
Water soluble extractive	12.22	17.48

TABLE 2
TLC of benzene extractive

Parameters	<i>L. speciosa</i>	<i>T. cuneata</i>
Solvent: Benzene	6 Spots	5 Spots
Spray: Conc.H ₂ SO ₄	Rf. 0.15 (B) 0.18 (B) 0.40 (P) 0.63 (Yb) 0.82 (P) 0.92 (B)	Rf. 0.07 (G) 0.15 (B) 0.18 (B) 0.63 (Y) 0.92 (B)

B - Brown; P - Pink; Yb - Yellowish brown; G - Green

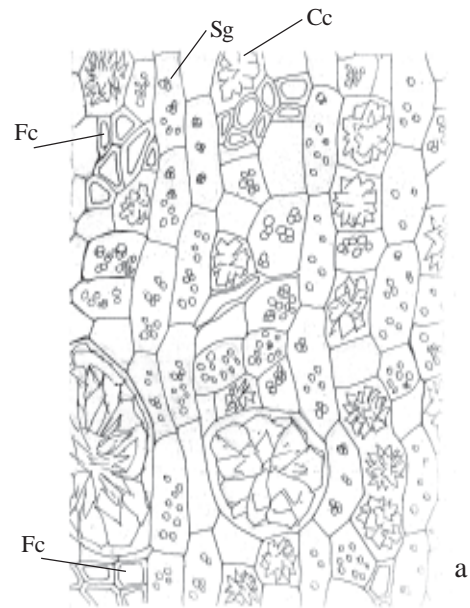


a

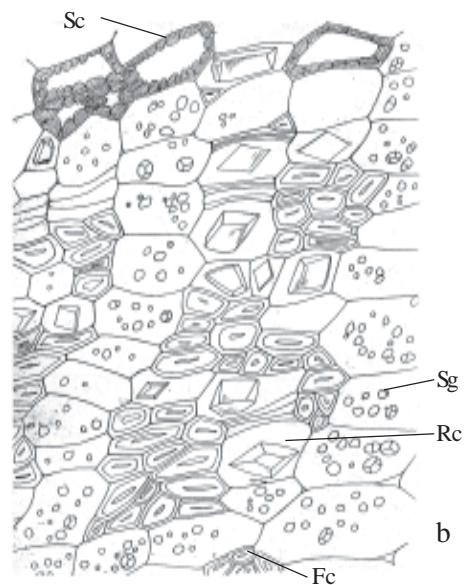


b

Fig. II a&b
 a. *Terminalia cuneata* Roth - bark
 b. *Lagerstroemia speciosa* (L).Pers. - bark



a



b

Fig. III a&b - Inner bark
 a. *Terminalia cuneata* Roth
 b. *Lagerstroemia speciosa* (L).Pers.
 Sg Starch grains; Cc Cluster crystals; Fc Fibre cells; Sc Stone cells; Rc Rhomboid crystal;

brown inside (Fig. IIb). T.S. shows secondary phloem, stone cells, phloem fibres with thin layer of cork outside. Pericycle shows isolated strands of fibres transversed by phloem rays. Secondary phloem consists of sclerenchyma cells, a few rows of stone cells, chambered fibres with small rhomboidal calcium oxalate crystals (Fig. IIIb). No such inclusions are seen. Simple and compound starch grains are present in the phloem parenchyma and medullary ray cells. The quantity of starch is less (Fig. IIIb).

Phytochemical differences, TLC of benzene extractive and fluorescence analysis are shown in Tables 1, 2 and 3 respectively.

Discussion

Comparative pharmacognostical study of the two plants helps in the correct identification of the genuine plant arjuna (*Terminalia cuneata*). Presence of red colouring matter and large cluster crystals of calcium oxalate are noteworthy features of *T. cuneata*.

Acknowledgement

Authors are thankful to the Director, CCRAS, New Delhi for providing facilities and Sri A.V. Bhat, former Survey Officer, RRI, Bangalore & Sri G. Viswanathan Pillai, ARO (Chem.), RRI, Poojapura for help and guidance.

References:

1. Anonymous, *The Wealth of India: Raw Materials*, Vol. X, Publications and Information Directorate, CSIR, New Delhi, 1976.
2. Ibid, Vol. VI, pp 24-25
3. *Astangahrdaya* with commentary of Kaikulangara Rama Varier, Sloka 53, P 1165, Sulabha book, Trivandrum, 1997
4. *Bhavaprakasam*, 5th Edn., Part I, P 523:26, 27, Chaukhamba Sanskrit Series, Varanasi, 1969.
5. *Chakradutta*, 3rd Edn., Chap. 31:8, Chaukhambha Sanskrit series, Varanasi, 1961.

TABLE 1
Fluorescence analysis

Reagent	<i>Lagerstroemia speciosa</i>		<i>Terminalia cuneata</i>	
	Ordinary light	U V Light	Ordinary light	U V Light
Pet.ether	Yellow	Milky-white	Colourless	Light pink
Benzene	Yellow	Milky-white	Light yellow	Light pink
Carbon tetrachloride	Pale yellow	Milky-white	Brownish-yellow	Light brown
Acetone	Orange yellow	Violet	Reddish-brown	Light yellow
Alcohol	Orange yellow	Violet	Reddish-brown	Violet
Methanol	Brownish yellow	Violet	Reddish-brown	Dark violet
Chloroform	Yellow	Milky-white	Brownish-yellow	Grey
Ethyl acetate	Yellow	Milky-white	Light yellow	Light violet
Water	Brown	Greyish-violet	Reddish-brown	Violet
Powdered drug	Creamy brown	Violet	Pinkish-grey	Violet

6. *Charakasamhita*, 3rd Edn., Ch. 14:214, Nirnaya Sagar Press, Bombay, 1941
7. Easu, K., *Plant Anatomy*, Wiley Eastern Pvt. Ltd., New Delhi, 1972
8. Gamble, J.S., *Flora of the Presidency of Madras*, Vol. I, pp 361-62, Botanical Survey of India, Calcutta, 1967
9. George Edward Trease and William Charles Evans, *Pharmacognosy*, 12th Edn., ELBS 1983.
10. Gupta, L.P. *et al*, Pharmacognostical and Pharmacological studies on *Terminalia arjuna*, *Journal of Research in Indian Medicine, Yoga and Homoeopathy*, Vol. XI., No. 4, pp 16-24, 1976
11. Hooper, *Pharmacographica Indica* 1. 381891
12. Kirthikar, K.R. and Basu, B.D., *Indian Medicinal Plants*, Vol. II, pp 1023-28 & 1080-81, Bishen Singh Mahendrapal Singh, Dehradun, 1993.
13. Harbone, J.B., *Phytochemical Methods*, Chapman and Hall, London, 1973
14. Kaikulangara Rama Varrier, *Astangahrdaya*, Reprint 1997
15. Metcalfe, C.R. and Chalk, L., *Anatomy of Dicotyledons*, Vol. I., pp 612-20 & 649-55, Oxford University, Clarenton Press, London, 1957.
16. Wallis, T.E., *Practical Pharmacognosy*, J. & A. Churchill Ltd., London, 1962

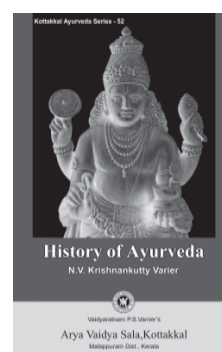
Kottakkal Ayurveda Series: 56

History of Ayurveda

An extensive study on the different stages of development of Indian Healthcare System from its early beginning to the present day.

Aryavaidyan N.V. Krishnankutty Varier

Price: Rs. 160./-



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

- From the Introduction by Prof. M.G.S. Narayanan

EVALUATION OF CONTRACEPTIVE EFFECT OF A TRADITIONAL MEDICINE ON ALBINO RATS

Revan Siddappa Sarashetti¹, R.S. Wali², Allamprabhu Gudda¹ and B.A. Sasnur²

Abstract: Increasing population leads to an unstable equilibrium in the biosphere. To control this, an effective, safe and economic contraceptive is the demand of the time. The contraceptive activity of tālisapatra (*Taxus buccata*) + Gairika (red ochre) with water referred to in Yogaratnākara was subjected for experimental study on albino rats. The study showed significant result.

Introduction

United Nations has estimated the growth of population at a rate of 176/minute, 10564/hr, 253542/day. At this rate the population will reach seven billion by 2022. Such a population explosion leads to adverse affects such as malnourishment and unemployment. Since 1960, various types of contraceptive methods were tried on women such as IUDS, Tube ligation, parental and oral contraceptives, but none of them have proved to be safe and produce adverse effects like pain, weight-gain, nausea, headache and CA of cervix. Safe, reliable and effective contraceptives have been used by traditional practitioners for many centuries. Yogaratnākara describes the contraceptive effects of a herbo-mineral combination [tālisapatra (*Taxus buccata*) and gairika (red ochre)]. So an experimental study on albino rats was undertaken to: (i) evaluate contraceptive activity of tālisapatra and gairika, (ii) asses the

probable mechanism of action and (iii) look for a safe and economic oral contraceptive to the main stream of national health programme.

Materials and method

Animal: - Wisterstrain healthy albino rats (27 female and 48 male) and 45 litters were collected from the central animal house of Ayurveda Mahavidyalya. All the rats were maintained at standard laboratory condition and fed with balanced diet as per CFTRI formulae and water ad-libitum at a room temperature of 28+2°C with a lighting scheduled of 12 hrs light and 12 hrs darkness; and they were caged separately under different groups of experiment.

Drugs:- i) Study drug: Tālisapatra (90mg) + gairika (90mg) 180mg per 200gm body weight of animal and ii) Standard drug: Beta estradiol - 500ug per kg body weight of animal. Both were obtained from AVS's College Pharmacy.

Dose fixation: - As per fundamental of

1. PG cum Research Centre, Ayurveda Mahavidyalaya, Bijapur.

2. Shri. B.M. Patil. Medical College, Bijapur

experimental pharmacology - Ghosh, M.N., Human dose (mgms) x 0.018/ 200gms body weight.

Experimental design/protocol: - i) screening for vaginal opening, ii) screening for vaginal cornification, iii) uterine weight assay, iv) ovarian weight assay, v) screening for anti-implantation activity and vi) histological study on isolated rat ovary.

Sample size

- 1) Screening for vaginal opening (n=5)
- 2) Screening for vaginal cornification (n=5)
- 3) Uterine and ovarian weight assay (n=5)

For all the above studies (1 to 3) animals were taken as follows:

- a) Standard drug group: - Only female albino rats of 25-30 days old weighing 45gm were administered Beta estradiol 500ug/kg subcutaneously.
- b) Study drug group:- Tālīsapatra (90mg) + gairika (90mg) pellets were given orally.
- c) Control group:- Kept on water.
- 4) Screening of anti-implantation activity (on rats of nallipara) (n=6):
 - a) Study group: - 6 female albino rats of 60-90

days age group were administered with Tālīsapatra (90mg) + gairika (90mg) pellets and subjected 12 male rats for mating.

- b) Control group: - 6 female albino rats of 60-90 days age group were administered standard pellets food (180 mg) and subjected 12 male rats for mating
- 5) Screening of anti implantation activity (on rats of multigravida) (n=6):
 - a) Study group: - 6 female albino rats of multigravida were administered Tālīsapatra (90mg) + gairika (90mg) pellets and subjected 12 male albino rats for mating.
 - b) Control group:- 6 female albino rats of multigravida were administered standard pellets food (180 mg) and subjected 12 male rats for mating.

Observation and results

Anti-implantation activity of tālīsapatra with gairika (nallipara) and (multigravida) are shown in Tables 1&2 respectively. Statistical significance of the test was as follows:

- Comparison of study-drug with control group for number of implantation:- $t=7.14$; $df = 10$; $p = 0.001$. (Significant difference at $p=0.001$)

TABLE 1
Anti-implantation activity of tālīsapatra with gairika (nallipara)

Group / Treatment	Mean No. of implanations		Mean No. of births		Mean weight of litters		Mean litters died within 2 days		Nature of sperm	MI* % of imp.
	SE (+)	SD (+)	SE (+)	SD (+)	SE (+)	SD (+)	SE (+)	SD (+)		
I. Control	9 + 0.53	9 + 1.29	7.7 + 0.48	7.7 + 1.17	6.3 + 0.048	6.3 + 1.19	2 + 0.44	2 + 1.09	Thick clumps	-
II. Tālīsapatra + gairika	3.5 + 0.56	3.5 + 1.38	3.2 + 0.48	3.2 + 1.17	5.17 + 0.28	5.17 + 0.68	1 + 0.36	1 + 0.89	Thick clumps	61.12

No. of rats without implanations = Nil
*MI % = Mean Inhibition % of implantations

- Comparison of study-drug with control group for number of births:- $t = 5.36$; $df = 10$; $p = 0.001$ (Significant difference at $p = 0.001$)

Discussion

Tālisapatra with gairika was subjected for anti-implantation activity study and was carried out in four phases: i) screening for anti-implantation activity to assess contraceptive effect, ii) screening for vaginal opening/cornification, ovary and uterine weight assay to assess probable mechanism of action, iii) histology of isolated rat ovary to assess probable mechanism of action and toxic effect and iv) screening of anti-implantation activity for second time on study drug group to assess temporary or permanent contraceptive effect.

The first method was done according to technique of Choudary and Khanna. The method involves placing of mature breeding female rats with males and then occurrence of conception was established by recording the number of implantation by performing the laparotomy. Normal incidence in the study group was then compared with control group.

In this phase, mean number of births + SEM = $7.7 + 0.48$ and $9 + 0.53$ SEM number of implant in Control group; and mean number of births + SEM = $3.2 + 0.48$ and number of implants $3.5 + 0.56$ SEM in Study group were noted. So, with these 2 parameters significant effect in anti-implantation activity was seen in the study group.

Anti-implantation activity of the drug may be postulated as follows:

Progesterone is essential in augmentation of carbonic anhydrase, an essential factor in the adhesive stage of blastocyst implantation. Progesterone is essential in all phase of pregnancy. Hence i) inhibition of progesterone synthesis or ii) blockage of receptors binding, results in the failure of blastocyst implantation and interruption of early pregnancy. So, anti-implantation activity of tālisapatra with gairika may be due to anti-progestational activity either as i) inhibition in biosynthesis or ii) as a blocker in receptor binding.

Except in standard group, significant increase in uterine and ovary weight was not found in control and test groups. Based on this

TABLE 2
Anti-implantation activity of tālisapatra with gairika (multigravida)

Group / Treatment	Mean No. of implanations		Mean No. of births		Mean weight of litters		Mean litters died within 2 days		Nature of sperm	MI* % of imp.
	SE (+)	SD (+)	SE (+)	SD (+)	SE (+)	SD (+)	SE (+)	SD (+)		
I. Control	6.3 + 1.042	6.3 + 1.03	5.5 + 2.2	5.5 + 0.55	4.4 + 0.20	4.4 + 0.49	1.33 + 0.44	2 + 0.21	Mild clumps	-
II. Tālisapatra + gairika	-	-	-	-	-	-	-	-	2-3**	100

No. of rats without implanations:- Control = Nil; Tālisapatra+gairika = 6

*MI % = Mean Inhibition % of implantations

** Only 2-3 scattered sperms

estrogenic activity of the test drug cannot be postulated. Test drug has got no impact on vaginal opening and vaginal cornification. It was observed that the test drug has no permanent contraceptive activity. But 100% mean inhibition of implantations was observed on multigravida (albino rats).

For histological study, slides were analyzed for mature, immature, graffian, follicle, corpus luteum and corpus albicans. The cyto-architecture of the slide has shown suppression of the maturation of graffian follicle.

Conclusion:

- Herbo-mineral combination of tālispatra+ gairika showed significant anti-implantation activity with single dose.
- In the test drug group, suppression of the maturation of graffian follicles was noted in the cyto-architecture of the ovary.
- Previous study conducted on tālispatra (leaves) shown 40% of anti-implantation activity with aqueous extract; whereas, addition of gairika to talispatra increased the anti-implantation activity of tālispatra.

References:

1. Arora B. B. Sabharwal, *Animal reproduction modern ABC of biology*, II: pp 636-638, (C.B.S.E.), Modern publisher, New Delhi, 1991.
2. Choudhary, R.R. *et al*, *Anti-fertility screening of plants*, Ind. Jour. Med. Res., 57(5), pp 893-898, 1969.
3. Dhanashekharan S. Suresh *et al*, *Anti-fertility activity of Ailanthus excelsa in female albino rats*, Ind. Jour. Exp. Res., 1st Edn., pp 384-385, 1993.
4. Khanna. V. and Garg, S.K. *et al*, *Anti-fertility screening of plants*, Ind. Jour. of Med. Res., 5th Edn., II: P 237.1969.
5. Madhusudan Reddy, *Effect of Hibiscus rosa on estrous cycle and ovarian activity*, Ph.D. Thesis, GUG, 1997.
6. Patil, S.V. and Appaswamy Rao, M., *Effect of baribitirates on ovarian growth and pregnancy in albino rats*, Ph.D. Thesis, KUD, pp 6-10, 1975.
7. Ramakrishna Murthy *et al*, *Effect of Benzene extract Hibiscus rosa in estrous cycle and ovary*, Biopharma Bull, 20th Edn., 7: pp 756-758, 1997.
8. Sardul S. Guraya *et al*, *Mechanism of ovulation an overview*, Ind Jour of Exp. Biol., 30: pp 958,967, 1992.
9. Shivalingappa, H. B., *Anti implantation activity of alcoholic ext. of Riveahyporerateri formis*, Ind. Jour, Phar. Sci., 6: X: P 309, 1999.
10. Shrilaxmipati Shastri, *Yogaratanakar* (Yoni Rogadhikar), 3rd Edn., pp 408-410, Chaukhamba Sanskrit Sansthan, Varanasi, 1983.
11. Shrikantha Murthy, K.R., *Ashtangahridaya* (Dravyaguna Vignaniya Adhyaya), XXIV: 53, 3rd Edn., Krishnadasa Academy, Varanasi, 1996.

EFFECT OF NASYAKARMA IN THE TREATMENT OF PĪNĀSA (SINUSITIS) - A PILOT STUDY

T. Borah, S.N. Murthy, B.K. Bharali and D. Baruah*

Abstract: Sinusitis is a troublesome health problem associated with symptoms like headache, nasal obstruction, nasal discharge, etc. It can be related with allergies also. Inhalation of various allergens like dust, smoke and pollens, which leads to inflammatory changes of para nasal sinuses superimposed by bacterial infection, result in symptoms like pain, obstruction, sneezing, discharge, etc. In āyurveda, it is described as pīnasa roga caused by vitiated vāta and kapha. A preliminary short-term clinical study was conducted on 25 cases with nasyakarma along with āyurvedic drugs. The result was very encouraging.

Introduction

According to āyurveda, pīnasa roga is considered as ūrdhajatrugata roga. According to Yogaratnākara, that which having symptoms like nasāśoṣa, hīna-gandha-rasāñjāna and nasāśrāva is called pīnasaroga. As it is a disease of ūrdhajatrugata region, Yogaratnākara indicates nasyakarma for its management.

Nasyakarma is considered as the best procedure for diseases of head. According to Vāgbhaṭa (Ah.Su. 20/1), drugs which are introduced through the nasal passage spread throughout the head and all the connected parts and destroy the vitiated doṣa. In view of this, the procedure was adopted for the treatment of pīnasaroga.

Materials and method

Selection of patient: - 25 patients of different

age group of both sexes selected from the OPD of the Institute.

Drugs and dose: - i. Kāñcanāraguggulu - 500 mg thrice daily; ii. Lakṣmivilāsarasa - 125mg thrice daily; iii. Ṣaḍbindutaila for nasyakarma.

Duration of treatment: - 15 days

Diagnosis: - The cases were diagnosed on the basis of clinical symptomatology and physical examination.

Criteria for selection: - i. Age between 10 to 60 years; ii. presenting signs and symptoms of sinusitis.

Criteria for exclusion: - i. Age below 10 years and above 60 years; ii. Hypertension

Assessment of cases: - Patient was assessed on the basis of subjective and clinical improvement.

Assessment of response:- i. Relieved - 60% to

*Regional Research Institute (Ayurveda), Guwahati - 28, Assam

70% improvement in the clinical sign and symptoms; ii. Partially relieved - 50% improvement, and iii. Not relieved - 25% improvement in the clinical sign and symptoms.

Observation and result

Out of 25 patients 60% were female and 40% were male. It was seen that the disease is prevalent in lower age group (Table 1). Regarding clinical features, 80% of total patients were having headache, 60% nasal obstruction and sneezing, 48% nasal discharge and 72% pain in sinuses (Table 2).

Majority of the cases responded well to the treatment. There was considerable improvement in the symptoms i.e. headache (65%) nasal

TABLE 1
Distribution of cases according to age and sex

Age group (in year)	Number of patients			
	Male		Female	
	No.	%	No.	%
10-20	5	20	5	20
21-30	3	12	5	20
31-40	2	8	3	12
41-50	-	-	1	4
51-60	-	-	1	4
Total	10	40	15	60

TABLE 2
Clinical features

Description	No. of patients	Percentage
1 Headache	20	80
2 Nasal obstruction	15	60
3 Nasal discharge	12	48
4 Sneezing	15	60
5 Pain in sinuses	18	72
6 Loss of smell	12	48
7 Body ache	5	20
8 Fever	3	12

obstruction (55%) nasal discharge (83.3%) and body ache and fever (100%) (Table 3). The overall response of the treatment found very effective (Table 4).

Discussion and conclusion

Nasyakarma plays an important role in quick relief of symptoms like headache, nasal discharge, sneezing and heaviness of head. The aim of the study was to drainage the obstructed channel which was caused due to accumulation of natural secretion in the sinuses. *Ṣaḍbindu-taila*, which was used for nasya, makes irritation when enter into the nasal passage and helps to drains the exudates of sinus as well as eliminate the accumulated substances. *Kāñcanāra guggulu* and *Lakṣmīvilāsarasa* also established as effective in relieving the sign and symptoms of sinusitis by virtue of its anti-inflammatory

TABLE 3
Response of therapy in clinical symptoms

Clinical features	Relieved	Partly relieved	Not relieved
Headache	13 (65%)	5 (25%)	2 (10%)
Nasal obstruction	11 (55%)	2 (10%)	2 (10%)
Nasal discharge	10 (83.3)	2 (10%)	-
Sneezing	12 (60%)	3 (15%)	-
Pain in sinuses	12 (60%)	3 (15%)	3 (15%)
Loss of smell	6 (30%)	4 (20%)	2 (10%)
Body ache	5 (100%)	-	-
Fever	3 (100%)	-	-

TABLE 4
Over all response of therapy in sinusitis

Response	No of cases	Percentage
Relieved	16	64%
Partially relieved	6	24%
Not relieved	3	12%

and analgesic effect. The drugs did not show any side-effect during the study.

It can be concluded that administration of classical drugs along with nasyakarma has good effect in the management of sinusitis.

Acknowledgement

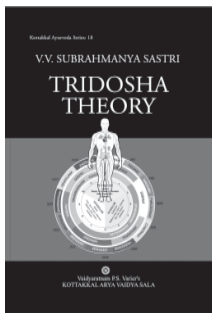
The authors are thankful to the Director, CCRAS, New Delhi for providing the facilities at the Institute. All staffs of the OPD and Panchakarma Section are gratefully acknowledged for their co-operation.

References:

1. Pt. Kashinath Pandey and Gorakhnath Chaturvedi, *Carakasamhita* (Hindi commentary), 1998.
2. Atridev Gupta, *Astangahrdayam* (Hindi commentary), 2000.
3. Shastri Ambikadutta, *Susrutasamhita* (Hindi Commentary), 1972
4. Sanjoy Sikhdeorao Thakal, Comparative Study of Vamana & Nasya Karma in the management of Sinusitis, JRAS, 2008.
5. Singh, R.H., *Pancakarma Therapy*, 2002.
6. Haslett Hunter, Boon and Chilvers, Davidson's Principal and Practice of Medicine, 8th Edition, 2000.

1. Pt. Kashinath Pandey and Gorakhnath

Kottakkal Ayurveda Series: 18



TRIDOSHA THEORY

**A study on the
Fundamental Principles of Ayurveda**

Dr. V.V. Subrahmanya Sastri

Price: Rs. 220/-

The theory of *tridosha* forms the foundation of ayurveda. In this text the learned author scientifically explains the physiology of human body through the principles of *vata*, *pitta* and *kapha* keeping in view some of the processes as explained by modern science without detriment to the main concept postulated in ayurveda.

The author, late Sri. V.V. Subrahmanya Sastri, is well known in the world of ayurveda. He was Professor of Ayurveda, Deputy Director and Research Officer under CCRAS. He was also a successful practitioner, an erudite scholar and an eminent pundit deeply immersed in the study of classical texts.

Dr. P.K. Warriar in his preface to the new edition

MANAGEMENT OF SIDE EFFECTS OF CHEMOTHERAPY AND RADIOTHERAPY BY ĀYURVEDA

S. P. Sardeshmukh, Arvind Kulkarni and Ms. Vineeta V. Deshmukh*

Abstract: Chemotherapy drugs and radiotherapy produce toxicity; they hamper the digestive power (jatharāgni) and increase heat (uṣṇa) in the body. They also cause the symptoms of annavaha srotas (digestive system) like nausea, loss of appetite, vomiting and abdominal pain. In this context, a clinical study was conducted to evaluate the efficacy of an āyurvedic combination viz. Mauktikyukta kāmādudha and Pravāl piṣṭi. Statistically, clinically and pathologically, the results were found to be effective mainly in side effects on annavaha srotas and on myelo-suppression.

Introduction

Cancer is a grave disease for which no definite cure has been found. Conventional treatment available in modern science includes chemotherapy, radiotherapy and surgery, either alone or in combinations. Beneficial action of chemotherapeutic agents is seen in the prevention of cancer cells from multiplying, invading and metastasizing. But, at the same time, their harmful actions destroy normal cells and hamper their multiplication and produce toxic effects on them especially on the cells of the bone marrow and mucus membrane. In major sections of patients the side effects of chemotherapy or radiation often override the symptoms of the original disease making the condition of the patient miserable and can lead to death. In patients with moderate to poor general health or depressed bone marrow activity, these treatments are not advised on account of the side effects.

Common toxicities of chemotherapy drugs are shown in Table (1). Common side effects of radiotherapy are: i) sthānika dāha (local burning), ii) sthānika kaṇḍu (local itching) and iii) rakta pravṛtti (bleeding).

Aim and objective: - Management of side effects of chemotherapy and radiotherapy with an āyurvedic combination viz. Mauktikyukta kamadudha and Pravāl piṣṭi vaṭi.

Materials and method

Mauktikyukta kamadudha 250 mg + 1 Praval piṣṭi vaṭi¹ (250 mg) with milk (dugdha) as anupāna was prescribed in the morning and evening during and after chemotherapy and radiotherapy for a period of a minimum of 3 months.

29 patients were included in the study (7 males and 22 females). (Table 2)

Inclusion criteria: - Patients of any type of cancer undergoing chemotherapy or radiotherapy were selected irrespective of age and sex.

*Ayurved Hospital & Research Centre, Wagholi, Pune, M.S., India

Exclusion criteria: - Patients who discontinued the treatment before 3 months.

Patients included in the study received the following chemotherapy drugs, in different dosage and combinations:

- Adriamycin
- Bleomycin
- 5 fluorouracil
- Carboplatin
- Cisplatin
- Gemcitabine
- Epirubicin
- Daunorubicin
- Cyclophosphamide

Assessment and follow up: - Follow up was maintained regularly during treatment (after 14, 21 or 28 days). Common Toxicity Criteria (CTC) derived by Cancer Therapy Evaluation Program (CTEP) was used for assessment. In this program each adverse event (side effect) of chemotherapy was graded from 0 to 5². Gradation of each

symptom was noted before and after the treatment (Table 3). Assessment of patients was done considering gradation of side effects before and after the treatment and haemogram.

Observation and result

Good relief was observed in symptoms of digestive system (annavaha srotas), excretory system (puriṣavaha srotas) and other symptoms (Table 4). Haematological assessment is shown in Table 5. 16 patients (55.18%) showed relief in all symptoms, 8 patients (27.58%) showed relief in 50% of symptoms and 5 patients (17.24%) showed relief in <50% of symptoms.

Statistical analysis: - The treatment was highly significant for all patients using 't test'. (P < 0.001) (Observed t = 8.58. Table value at 28 (n-1) d. f. is 3.67. Observed value is greater than table value.). Also, it was highly significant for symptoms observed in patients using 'Z test' (P < 0.001). (Observed 'Z' value = 6.35 'Z' value for two tailed test at 1% level of significance is 3.29; observed 'Z' value > 'Z' value from table.)

TABLE 1

Common toxicities of chemotherapy drugs	
1	Myelo suppression with leucopenia, thrombocytopenia and anemia
2	Hṛllāsa (nausea)
3	Chardi (vomiting)
4	Aruci (loss of taste)
5	Amlapitta (hyperacidity)
6	Udaraśūla (abdominal pain)
7	Atisāra (diarrhoea)
8	Malavibandha (constipation)
9	Arśas (hemorrhoids)
10	Gudadāha (burning of anal region)
11	Jvara (fever)
12	Mukhapāka (stomatitis)
13	Piṇḍikodveṣṭana (leg cramps)
14	Khalitya (alopecia)

TABLE 2

Description	Patients	
	No.	%
A. Sex		
- Male	7	24.14
- Female	22	75.86
B. Age group (years)		
- 21 to 30	2	6.89
- 31 to 40	4	13.79
- 41 to 50	3	10.34
- 51 to 60	11	37.93
- 61 to 70	9	31.05
C. Treatment		
- Chemotherapy	15	51.74
- Radiotherapy	6	20.68
- Chemotherapy + Radiotherapy	8	27.58

TABLE 3
Gradation of Symptoms

Symptoms	Grade	Symptoms	Grade
A. Nausea:		- Mild (not interfering with function)	1
- Loss of appetite without alteration in eating habits	1	- Moderate; pain or analgesic interfering with function (not with ADL)	2
- Oral intake decreased without significant weight loss, dehydration or malnutrition; (IV fluids indicated <24hrs)	2	- Severe; pain or analgesic interfering with ADL	3
- Inadequate oral caloric or fluid intake; IV fluids, tube feedings, or TPN indicated > 24 hrs.	3	- Disabling	4
- Life threatening consequences	4	F. Burning in chest:	
- Death	5	- Mild	1
B. Anorexia:		- Moderate	2
- Loss of appetite without alteration in eating habits	1	- Severe	3
- Oral intake altered without significant weight loss or malnutrition; oral nutritional supplements indicated	2	G. Fever:	
- Associated with significant weight loss or malnutrition (e.g., inadequate oral caloric and/or fluid intake); IV fluids, tube feedings or TPN indicated	3	- 38.00 - 39.00°C (100.40 - 102.20°F)	1
- Life threatening consequences	4	- >39.00 - 40.00°C (102.30 - 104.00°F)	2
- Death	5	- > 40.00°C (>104.00°F) for < 24 hrs	3
C. Vomiting:		- > 40.00°C (>104.00°F) for >24 hrs	4
- 1 episode in 24 hrs	1	- Death	5
- 2 - 5 episodes in 24 hrs; IV fluids indicated < 24 hrs	2	H. Insomnia:	
- > 6 episodes in 24 hrs; IV fluids or TPN indicated > 24 hrs	3	- Occasional difficulty in sleeping, not interfering with function	1
- Life threatening consequences	4	- Difficulty in sleeping, interfering with function but not with ADL	2
- Death	5	- Frequent difficulty in sleeping, interfering with ADL	3
D. Stomatitis:		- Disabling	4
- Erythema of mucosa	1	I. Diarrhoea:	
- Patchy ulceration / pseudo membrane	2	- Increase of <4 stools per day over baseline; mild increase in ostomy output compared to baseline	1
- Confluent ulcerations and bleeding on micro trauma	3	- Increase of 4 - 6 stools per day over baseline; IV fluids indicated < 24hrs; moderate increase in ostomy output compared to baseline; not with ADL	2
- Tissue necrosis with obvious bleeding	4	- Increase of >=7 stools per day over baseline; incontinence; IV fluids >=24 hrs; hospitalization; severe increase in ostomy output compared to baseline; interfering with ADL	3
- Death	5	- Life-threatening consequences (e.g. Hemodynamic collapse)	4
E. Pain in abdomen:		- Death	5

Contd...

Gradation of Symptoms

Symptoms	Grade	Symptoms	Grade
J. Constipation:		- 50,000-25,000/mm ³ ;50.0-25.0x10 ⁹ /L	3
- Occasional or intermittent, relieves with stool softeners or dietary modifications	1	- < 25,000/mm ³ , < 25.0 x 10 ⁹ /L	4
- Persistent symptoms, regular use of laxatives indicated	2	- Death	5
- Symptoms interfering with ADL, manual evacuation indicated	3	M. Hemoglobin	
- Symptoms with life threatening consequences like intestinal obstruction	4	- <LLN-10.0gm/dl <LLN- 6.2 mmol/L <LLN -100 g/L	1
- Death	5	- 10.0 - 8.0 gm/dl < 6.2 - 4.9 mmol/L <100 – 80 g/L	2
K. Hand and foot syndrome:		- 8.0-6.5gm/dl, 4.9-4.0mmol/L, 80-65g/L	3
- Minimal skin changes or dermatitis (e.g. erythema) without pain	1	- < 6.5 gm/dl, < 4.0 mmol/L, < 65 g/L	4
- Skin changes (e.g. peeling, blisters, bleeding, edema) or pain, not interfering with function	2	- Death	5
- Ulcerative dermatitis or skin changes with pain interfering with function	3	N. WBC Counts:	
L. Platelets		- <LLN-800/mm ³ <LLN- 0.8 x 10 ⁹ /L	1
- <LLN-75,000/mm ³ <LLN-75.0x10 ⁹ /L	1	- <800-500/mm ³ ; 1.5- 0.8-0.5x10 ⁹ /L	2
- 75,000 - 50,000/mm ³ ; 1.5 - 75.0 - 50.0 x 10 ⁹ /L	2	- <500 – 200/mm ³ ; 0.5 – 0.2 x 10 ⁹ /L	3
		- <200/mm ³ ; < 0.2 x 10 ⁹ /L	4
		- Death	5
		O. Neutrophil Counts:	
		- <LLN-1500/mm ³ , <LLN-1.5x10 ⁹ /L	1
		- <1500-1000/mm ³ ; 1.5-1.0x10 ⁹ /L	2
		- <1000-500/mm ³ ; 1.0-0.5x10 ⁹ /L	3
		- <500/mm ³ <0.5x10 ⁹ /L	4
		- Death	5

Discussion

Mauktikyukta kamadudha contains: i) mauktik bhasma, ii) pravāḷ bhasma, iii) kapardik bhasma, iv) ṣauktik bhasma, v) śāṅkha bhasma, vi) suvarṇagairika and vii) guḍūci satva. Each ingredient was taken in equal quantity. Pravāḷ piṣṭī is performed by giving trituration of rose water to purified pravāḷ in moonlight.

Mode of action of the compound: - The symptoms caused by chemotherapy drugs and radiotherapy are controlled by dīpana (digestive) and pācana (carminative) actions of Mauktik-

yukta kamadudha. Diarrhoea could be treated by stambhana action of gairika and pācana action of pravāḷ pañcāmṛt which are the main contents of the compound. Fever could be managed by guḍūci satva which has jvaraghna action; vomiting, burning sensation in chest, palms and soles, cracking of soles, burning micturation is a set of symptoms which is mainly caused due to vitiation of uṣṇaguṇa of pittadoṣa. In these conditions pravāḷ piṣṭi is the treatment of choice due to its śītavīrya (cold potency), pitta-śamaka and raktaprasādana action. During the

TABLE 4
Relief in symptoms

Symptoms	Relief		No relief		Total	
	No.	%	No.	%	No.	%
I. Symptoms of digestive system (Annavaḥa srotas)						
- Hṛllās (nausea)	14	93.33	1	6.67	15	100
- Aruci (anorexia)	2	66.66	1	33.34	3	100
- Agnimāndya (loss of appetite)	5	100	0	0	5	100
- Chardi (vomiting)	5	100	0	0	5	100
- Mukhapāka (stomatitis)	10	100	0	0	10	100
- Udaraśūla (abdominal pain)	3	100	0	0	3	100
- Uro-udara dāha (burning in chest and abdomen)	3	100	0	0	3	100
II. Symptoms of excretory system (Puriṣavaha srotas)						
- Atisāra (diarrhoea)	6	85.72	1	14.28	7	100
- Malavibandha (constipation)	7	100	0	0	7	100
III. Other symptoms						
- Jvara (fever)	2	66.66	1	33.34	3	100
- Nidrānāśa (insomnia)	3	60.00	2	40.00	5	100
- Sadāha mūtra pravṛtti (burning micturation)	3	100	0	0.00	3	100
Hand and foot syndrome						
- Hasta pāda tala dāha (burning of palms and soles)	3	100	0	0.00	3	100
- Hasta pāda tala śūla (pain in palms and soles) (Same gradation as hand and foot syndrome)	4	80.00	1	20.00	5	100
- Pāda tvak sphuṭana (cracking of soles)	3	100	0	0	3	100

TABLE 5
Haematological Assessment

Investigation	Within normal range		Less than normal range		Total	
	No.	%	No.	%	No.	%
Haemoglobin	13	86.66	2	13.34	15	100
WBC	14	93.33	1	6.67	15	100
Neutrophils	14	93.33	1	6.67	15	100
Platelet count	15	100.00	0	0.00	15	100

course of chemotherapy and radiotherapy insomnia occurs due to aggravation of pitta. Mauktikyukta kamadudha and Pravāl piṣṭī are found to be effective in this condition due to their pittaśamaka action. Most of the contents of this combination are pṛthvi and jala mahā-bhūta dominant; thus they reduce the heat (uṣṇa guṇa) in the body.

Conclusion

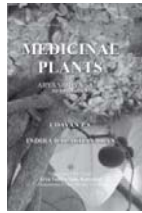
This combination is found to be effective mainly in symptoms of digestive system like aruci (anorexia), agnimāndya (loss of appetite), amlapitta (hyperacidity) and chardi (vomiting). It is also effective in mukhapāka (stomatitis)

which is common toxicity of chemotherapy drugs. Atisāra (diarrhoea) and malavibandha (constipation) are also well controlled with āyurvedic treatment. Myelo suppression leading to anemia, leucopenia, neutropenia and reduction in platelet count are common toxicities of chemotherapy which are well managed with āyurvedic treatment.

References:

1. Vaidya Pandit Hariprapanna Sharma, *Rasayoga Sagar*, Nirnaysagar Publication, Mumbai
2. <http://ctep.cancer.gov/>

Kottakkal Ayurveda Series: 72



MEDICINAL PLANTS OF ARYA VAIDYA SALA HERB GARDEN

Udayan P.S. and Indira Balachandran

Price: Rs. 200

This comprehensive handbook provides detailed information on the 1025 medicinal plant species names in different languages, places where they grow naturally, parts used in medicines and important uses for the benefit of professionals, students, herb collectors, farmers, etc. The handbook lists the plants alphabetically by their Latin names; information on groups of plants such as naksatra vana (plants representing 27 stars), dasamula (ten roots), dasapushpa (ten flowers) triphala (three myrobalans), trikatu (three acrids), etc. is also included in the book. Indices of common names, glossary of medicinal terms and list of reference are also provided.

Clinical observation

MEGACOLON – A CLINICAL EXPERIENCE

P.K. Warriar*

Megacolon is a gross distention (enlargement) of the colon, usually accompanied by severe and chronic constipation.

It is an abnormal dilatation of the colon that is not caused by mechanical obstruction. The dilatation is often accompanied by a paralysis of peristaltic movement of bowels. Congenital Megacolon is a rare disorder (1:5000) rarer in females. In this, the destruction of the autonomic nervous system and enervation of the colon leads to loss of the normal smooth muscle tone of the wall and subsequent gradual dilation. Its general signs and symptoms are: i) constipation of very long duration, ii) abdominal bloating, iii) abdominal tenderness and tympani, iv) abdominal pain and v) palpation of hard faecal masses.

In children, the main causes of megacolon are anal fissures, Hirschsprung's disease and psychological factors that may have arisen during toilet-training. In elderly people, causes include the long term use of strong laxative drugs. People suffering from chronic depression or schizophrenia often have megacolon. Other rare causes include hypothyroidism, spinal injury and drugs such as morphine and codeine.

Megacolon causes constipation and abdominal bloating. Associated loss of appetite may lead to weight loss. Diarrhoea may result if semi-liquid faeces leak around the obstructing hard faeces. Diagnosis is made by proctoscopy, barium X-ray examination.

Case history

A seven year old girl diagnosed as 'megacolon' had come here for treatment. Distention of the abdomen, stomach disorder, chronic constipation and stomachache were the major symptoms. She had undergone āyurvedic treatment from various hospitals. Even though constipation was temporarily relieved, all other complaints persisted; she passed black stools.

Prescription

The following medicines were prescribed for a month with advise of diet regulation:

- 1) *Musthabhaya tablets* - 2 Nos. in the morning
- 2) *Hinguvacadi churnam* - 4 gm with warm water thrice daily before food.

On review, she had regular motion but for the hard faeces. Stomachache and distention of abdomen still persisted.

Kalaskadi kashayam, Pathyadi churnam, Dasamoola panchakoladi kashayam, Ashtachurnam and Rajanyadi churnam were advised accordingly; but could not found considerable relief. Frequent attacks of headache and fever were also reported. Expecting a rūkṣa (roughness) condition, we thought of recommending the usage of gḥrtam.

Revised prescription: - 1) *Indukantam kashayam* 10ml + 40 ml boiled and cooled water + *Mukkamukkatuvadi gulika* - 1 twice daily - 6. a.m. and 6. p.m.; 2) *Indukantaghrtam* ½ tsp + 3gm *Ashtachurnam* during lunch - the first helping; 3) 15 ml of *Madhookasavam* - twice daily after food (morning and night).

This went on for two months. No complaints of fever and stomachache were reported. Distention of abdomen and hard stools persisted. So, *Changeryadi gḥrtam* was replaced *Indukantaghrtam*.

A month later

The foresaid complaints, for the time being, were partially relieved. The distention of abdomen was noticed only while having food. This prescription was followed for nearly three months. She suffered frequent attacks of sore throat, joint pain and fatigue for which timely advice were given. On one such occasion she had stopped the use of *Changeryadi gḥrtam* for the time being. Recurrence of stomachache and abdominal distention were observed then. But the complaints were controlled. She showed much relief when she came here after 3 years. She had normalised bowel movements and had occasional abdominal bloating.

The new prescription runs like this: 1) *Gandharvahastadi kashayam* 10 ml + 40 ml boiled and cooled water + *Musthabhaya gulika* 2 - once daily at 6.00 a.m.; 2) *Indukantam kashayam* 10 ml + 40 ml boiled and cooled water + *Mukkamukkatuvadi gulika* 1 - once daily at 6 p.m.; 3) *Abhayarishtam* 15 ml - twice daily; 4) *Changeryadi gḥrtam* 2 tsp - at night. *Cheriyā Antrakutharam gulika* was advised for stomachache and *Vettumaran gulika* for fever.

This prescription was followed for nearly 1 year and 3 months. She showed good improvement but for loss of appetite. *Abhayarishtam* was replaced by *Mustharishtam* 15 ml twice daily. Her appetite was regained and health improved. So the prescription was revised. The evening kasayam was stopped. Recurrence of fever, sore throat and joint pain were reported on ceasing the use of *Indukantam kashayam*. So this was again introduced in the prescription. She felt better after a month's usage.

Since no other complaints were reported, the same prescription was advised.

Discussion

Her ascending colon was the affected area. The colon consists of 4 layers: a tough outer membrane, a layer of muscles that contract and relax to move the contents along; a submucous coat containing blood vessels that absorb water and salts; and finally an innermost layer that produces mucus to lubricate the passage of material. Smooth muscle is a type of non striated muscle, found in arteries and veins, the bladder, uterus, male and female reproductive tract, GI tract, respiratory tract, the ciliary muscle and iris of the eye. The glomeruli of the kidneys also contain a smooth muscle like cell called mesangial cell. The smooth muscle contractions are mediated by cellular concentration of calcium.

Changeryadi ghrtam

.....त्रिदोषजित् ।
अर्शोऽतिसारग्रहणिपाण्डुरोगज्वरारुचौ ॥
मूत्रकृच्छ्रे गुदभ्रंशे वस्त्यानाहे प्रवाहणे ।
पिच्छास्रावेऽर्शां शूले देयं तत्परमौषधम् ॥

Comprehension: - Colon, bladder, uterus, male and female reproductive organs, etc. are made up of layer of smooth muscles. This drugs corrects the dysfunction of these muscles; besides curing many other abdominal disorders. Hence this result.

Cāngeri (*Oxalis corniculata*) is the main ingredient in *Changeryadi ghrtam*. This has been found very effective in grahaṇi, piles and dysentery.

अम्लोऽग्निदीप्तिकृत् स्निग्धो हृद्यः पाचनरोचनः ।
उष्णवीर्यो हिमस्पर्शः प्रीणनः कळेदनो लघुः ॥
करोति कफपित्तास्रं मूढवातानुलोमनः ।

The predominance of amḷarasa (sour taste) in this drug aids in smooth defecation. The obstructed vāyu also gets its normal course. The properties of ghee and sour taste enhance agnidīpti (digestive capacity) making the absorption of calcium, etc. easier. The ghr̥ta-amḷa rasa combination checks and regularises the functioning of rasa and leaves a lasting influence so that the potency of the drug gradually enters the blood stream.

Grahaṇi

ज्ञात्वा तु परिपक्वामं मारुतग्रहणीगतम् ।
दीपनीययुतं सर्पिः पाययेतल्पशो भिषक् ॥ (च. चि. १५/७७)

This supports the minimal intake of *Changeryadi ghritam*. The full manifestation (samprāpti) of megacolon is similar to that of udāvartta condition.

.....वायुस्वस्थाने कुपितो बलि
अधोवाहिनि स्रोतांसि संरुध्याधः प्रशोषयन्
पुरीषं वातविण्मूत्रसंगं कुर्वीत दारुणम् ।

Gandharvahastadi kashayam was given to cure vātaviṇmūtrasaṅgam (obstruction to the flatus, faeces and urine). The indication of this drug is very relevant here. (पवनस्य शन्त्येः वह्नेर्बलाय रुचये मलशोधनाय ।) Here, paralysis of peristaltic movement of bowels is seen. *Gandharvahastadi kashayam* enhances the bowel movements. Sakṛtyavāta (black stools) is another symptom of the vāta disorder. It is referred to in bleeding piles in Aṣṭāṅgahr̥dayam. Again, *Changeryadi ghrtam* is recommended for piles. *Indukantam kashayam* was given for the dhātu stimulation. The line of treatment adopted here is based on those of grahaṇi, piles, dysentery and udāvarttam.

**EFFECT OF HERBO-MINERAL FORMULATIONS
IN THE MANAGEMENT OF HYPERTENSION
- A CLINICAL STUDY**

B.N. Sridhar and G. Venkateshwarlu*

Abstract: A single blind clinical study was conducted on 43 patients of vyānabala vaiṣāmya (hypertension) to evaluate the effect of herbo-mineral formulations viz. Candraprabhavaṭi, Śvetaparpaṭi and Punarnavāmaṇḍūr. Statistical analysis showed that the trial drug is significantly effective in improving the clinical symptomatology and in reduction of systolic and diastolic blood pressure ($P < 0.0001$).

Introduction

Hypertension is defined arbitrarily at levels above what is generally specified for the age of patients. The Joint National Committee (JNC VI) of United States on detection, evaluation and treatment of high blood pressure, defined as Systolic Blood pressure of 140 mm Hg or more and Diastolic Blood Pressure of 90 mm Hg or more. Maintenance of normal blood pressure is dependent on the balance between the cardiac output and peripheral vascular resistance. It is becoming more prevalent in the society mainly due to increased incidence of stress and strain in their day-to-day life. Hypertension is one of the major risk factor for development of cardiovascular disease. In more than 95% of cases a specific underlying cause for hypertension is not found; such cases are said to have essential or primary hypertension. Factors influencing hypertension include faulty dietary habits, altered lifestyles, genetic, socio-

economic factors, hormones and neuro transmitters. In India, the reported prevalence rate varies from 2-15%. In secondary hypertension, a specific structural or organic gene effect is responsible. Many vital organs are involved in the regulation of arterial pressure. The factors responsible for the development of hypertension are hyperactivity of the sympathetic nervous system, increased sodium blood due to excessive intake of dietary salt, alteration of vascular smooth muscle, high plasma concentration of renin which causes the production of Angiotensin are also considered to be possible mechanisms of hypertension. The untreated condition of this silent killer may lead to many complications like coronary artery disease, congestive cardiac failure, strokes, renal failure and hypertensive retinopathy.

In āyurveda, there is no direct description of hypertension as a disease identity, but based on the presenting symptomatology it can be

*Regional Research Institute (Ay.), Jayanagar, Bangalore-11

correlated as vyānabalavaiṣamya. Vyānavāyu, one among the five types of vāta, is seated in hṛdaya and circulates the blood all over the body. If it gets vitiated, it may cause systemic disorders (Su. Ni.1/25). Keeping this concept in view, the term vyānabalavaiṣamya has been coined, which means that hypertension may be manifested due to derangement of vyānavāta. The normal blood pressure and its maintenance depend upon the physiological limits of the vyānavāta and prānavāta. Any abnormality in vyāna and prāṇa vātas will reflect on its functions, which leads to srotovaiguṇya in dhamanis (increased peripheral resistance) leading to obstruction of rasadhātu which in turn initiate the pathogenesis. And also, if there is any defect in excretion of kleda (sodium and water) by the vṛkka (kidney), leads to kleda-sañcaya (water and sodium retention) in the body, and causes volume overload and increased cardiac output.

There are many effective anti hypertensive drugs in modern medicine, but they also have many side effects on continuous use, besides their high cost. In the recent past trials on several

herbal/herbo-mineral formulations viz aśvagandha, śatāvāri, jyotiṣmati, Arjuna kṣīrapaka, Arjuna tvak vaṭi, Sarpagandha vaṭi, Prabhākara vaṭi, Brahmi vaṭi, Tagara-jaṭamāmsi-arjuna cūrṇa, and Uṣīrādiyoga have been studied for their effectiveness upon vyānabala vaiṣamya (hypertension) by the C.C.R.A.S. Among these, Sarpagandha vaṭi, Brahmi vaṭi, and Tagarādi yoga have been reported to be significantly effective in most of the cases. The present study is taken up to evaluate the clinical efficacy of Candraprabhāvaṭi, Śvetaparpaṭi and Punarnavāmaṇḍūr in the management of vyānabala vaiṣamya.

Material and Methods

After detailed clinical examination, a total of 43 patients were enrolled and studied. The results were assessed according to the assessment criteria. Subjective parameters were assessed by scoring method (zero to three scales) for the purpose of statistical analysis.

Inclusion criteria: - i) Hypertensive patients of either sex within the age group of 35 to 70 years, ii) having no known complications of this disease, iii) having blood pressure of 140/90

TABLE 1
Statistical analysis of changes in systolic and diastolic BP, body weight and pulse rate (n=43)

Description	Mean ± S.D		S.E.M		S.E.D	Difference		‘t’ value	‘p’ value
	BT	AT	BT	AT		BT	AT		
1. Systolic BP	160.35 ± 12.55	138.60 ± 11.80	1.91	1.80	1.656	42	42	13.133	<0.0001
2. Diastolic BP	101.42 ± 5.13	91.60 ± 4.14	0.78	0.63	0.815	42	42	12.037	<0.0001
3. Body weight	73.58 ± 12.58	68.90 ± 10.60		1.92	0.675	42	42	6.887	<0.0001
4. Pulse rate	82.70 ± 6.01	76.74 ± 4.62	0.92	0.70	0.64	42	42	9.13	<0.0001

mmHg and above and iv) duration of the disease less than 15 years.

Exclusion criteria:- i) Patients having systemic/serious complication of cardiovascular system, cerebro vascular system and renal system, ii) hypertensive retinopathy, iii) malignancy, iv) history of liver disease in the recent past, v) patients labelled as malignant hypertensive, vi) those responded with salt restricted diet avoiding mental and physical strain.

Assessment criteria: - The assessment of results has been done on the basis of reduction of blood pressure and improvement in clinical parameters at a 15-day interval during the trial.

1. Good response: a) Normalcy in the systolic and diastolic blood pressure as per criteria laid down, b) free from presenting symptoms and c) improvement in general well being of the patient.
2. Fair response: a) Considerable reduction of blood pressure (systolic & diastolic), b) improvement in clinical symptoms and c) not much improvement in general well being of the patient.
3. Poor response:- When there is mild improvement in clinical symptoms and well being of the patient but blood pressure remains unchanged.
4. No Response: No response in the symptoms and blood pressure remains unchanged or increased.

TABLE 2
Distribution of age & sex

Age	Male	%	Female	%	Total (%)
35 - 40	03	06.98	06	13.95	09 (20.93)
41 - 50	12	27.91	11	25.58	23 (53.49)
51 - 60	07	16.28	01	02.32	08 (18.60)
61 - 70	02	04.65	01	02.32	03 (6.98)

Type of the study: - O.P.D; single blind trial.

Administration of the drug and follow up: - The trial drugs consisting of herbo-mineral compound formulations of Candraprabhāvaṭi 500mg, Śvetaparpaṭi 500mg, Punarnavāmandūr 500mg, mixed together, was administered thrice daily. Specific āhāra and vihāra includes low fat and salt restricted diet that does not aggravate vāta and kapha and life style modification were given for six weeks.

Observations and results

Results were analysed on the basis of subjective and objective parameters viz. siraśśūla, bhrama, kṣubdata, anidra, śrama, daurbalya and systolic and diastolic blood pressure respectively. After the treatment significant reduction of systolic and diastolic pressure was observed ($P<0.0001$) (Table 1)

Of the 43 cases studied, 24 (55.8%) were males and 19 (44.2%) were females. In both the sexes, more number of patients belonged to 41-50 years of age group (Table 2). More number of patients had history of less than 1-year duration; 25 patients (58.14%) were pitta-kaphaja prakṛti followed by vāta-kaphaja (23.26%). It was found that excessive intake of dietary salt, non vegetarian diet, emotional stress, irregular bowel habits and smoking were the predisposing factors for hypertension (Table 3).

Obesity is one among the causative factors of hypertension and 55.81% cases were over weight in this study (Table 3); Results showed significant reduction in body weight and highly significant reduction in pulse rate ($P<0.0001$) (Table 1).

As far as clinical findings are concerned, maximum number cases were having siraśśūla

(headache) followed by bhrama (dizziness), kṣubdata (irritability) and anidra (insomnia) before treatment and after the treatment improved significantly (Table 4). The overall treatment responses are shown in Table 5.

Discussion and conclusion

The overall results showed that the trial drugs Candraprabhā vaṭi, Śvetaparpaṭi and Punarnavā maṇḍūr are effective in relieving the clinical symptoms and significant reduction in systolic and diastolic blood pressure.

Candraprabhā vaṭi is mainly composed of gomūtra (cow's urine), śilājatu (bitumen), guggulu (*Commiphora wightii*), Lohabhasma, vaca (*Acorus calamus*), which are cardiotoxic, diuretic and hypolipidemic in action. They also

have digestive and rejuvenative properties and pacify vāta and kapha doṣas. The other component, Punarnavā maṇḍūr mainly contains root of punarnava (*Boerhavia diffusa*) and Maṇḍūrabhasma. Punarnavā is described as bitter, astringent, cooling, tridoṣaśamaka, diuretic, śoṭha hara, lekhana and cardiotoxic. It has also been evaluated for anti hypertensive effect based on inhibition of angiotensin converting enzyme (Hansen, K. *et al* 1995), diuretic activity (Singh R.P., *et al* 1992 & Haravey S.K., 1966). Maṇḍūrabhasma has been described in āyurvedic literature as dīpana, vṛṣya, śīṭala, pitta śamaka, haematonic, and is used in the treatment of anaemia, jaundice and oedema,

Śvetaparpaṭi is a combination of surakṣāra (Potassium nitrate), sphaṭika (alum) and navasadar (Ammonium chloride) in the ratio of 40:5:2 respectively. It is having the properties of diuretic and vātaśamaka. The pharmacological

TABLE 3

Distribution of patients according to duration of illness, śarīraprakṛti and personal history

Description	No	%
1. Duration of illness (in days)		
- Up to 100	16	37.21
- 100 - 300	09	20.93
- 300 - 500	09	20.93
- 500 - 700	08	18.60
- 700 and above	01	02.33
2. Śarīra prakṛti		
- Vāta-pitta	08	18.60
- Vāta-kapha	10	23.26
- Pitta-kapha	25	58.14
3. Personal history		
- Smoking	18	41.86
- Vegetarian	12	27.91
- Non-vegetarian	31	72.09
- Alcoholic	17	39.53
- Salt intake	30	69.77
- Emotional stress	25	58.14
- Obesity	24	55.81
- Regular bowel habits	17	39.53
- Irregular bowel habits	26	60.46

TABLE 4

Distribution of various clinical findings before and after the treatment

Clinical findings	No. of patients		Improved (%)
	BT	AT	
Śiraśśūla	42	18	24 (57.14)
Bhrama	37	17	20 (54)
Kṣubdhata	33	14	19 (57.57)
Śrama	28	10	18 (64.28)
Anidra	31	12	19 (61.29)
Daurbalya	22	09	13 (59.1)

TABLE 5

Overall treatment response of the study

Response	No. of patients	Percentage
1 Good	14	32.56
2 Fair	18	41.86
3 Poor	08	18.60
4 No	03	06.98

properties of Śvetaparpati correct the excretion of kleda (sodium and water) and prevent water and sodium retention in the body. The diuretic and rejuvenate effects have worked in synergy. Besides, the trial drugs possess cardiotoxic, hypolipidemic and diuretic properties thus enhance sodium excretion in the urine, thereby reducing the extra cellular fluid volume.

Acknowledgement:

The authors are thankful to the Director, CCRAS, New Delhi, for providing necessary facilities for this study; and to Dr. H. Pushpalatha, R.O. (Ay.), for the technical assistance.

References:

1. Kashinath Shastri, *Carakasamhita* (edited by Gangasahay Pandey), 2nd Edn., Chaukhambha Sanskrit Samsthan, Varanasi, 1983.
2. Yadavji Trikamji, *Susrutasamhita*, 6th Edn., Chaukhambha Orientalia, Varanasi, 1997.
3. Atridev Gupta, *Astangahrdaya*, Chaukhambha Sanskrit Samsthan, Varanasi, 1993.
4. Srikantha Murthy, K.R., *Madava nidanam*, 1st Edn., Chaukhambha orientalia, Varanasi, 1986.
5. Stanley Davidson, *Principles and Practice of Medicine*, Churchill Livingstone, Edinberg, London, 2002.
6. Sharma, P.V., *Dravyaguna Vignana*, Vol. I & II, Chaukhambha Bharati Academy, Varanasi, 1999.
7. Ramasundar Rao, M., *Sharirakriya Vignana*, Madhava Surya Opticals, Suryarao Peta, Vijayawada, 1989.
8. Ambikadatta Shastri, *Bhaishajyaratnavali*, 15th Edn., Chaukhambha Sanskrit Sansthan, Varanasi, 2002.
10. Vaidya Nagin Das, *Bharata Bhaishajya Ratnakara*, B. Jain Chhagan Lal Shah Publishers (P) Ltd., Delhi, 1995
11. Mahajan, B.K., *Methods in bio-statistics*, Jaypee Brothers Medical Publishers, New Delhi, 1999.
12. Sadananda Sharma, *Rasatarangini*, 11th Edn., Chaukhambha Sanskrit Bhavan, Varanasi. 1994
13. Yadavji Trikamji, *Sidhayoga Sangraha*, Sri Baidyanath Ayurveda Bhawan Pvt. Ltd, Nagpur, 1976
14. Bhavamishra, *Bhavaprakasha*, Chaukhambha Sanskrit Sansthan, Varanasi, 1969
15. Sharma, P.C., Yelne, M.B. and Denis, T.J., *Database on Medicinal plants used in Ayurveda*, Vol. I-V, C.C.R.A.S., New Delhi.

TRIDOṢA THEORY AND ITS APPLICATION IN MODERN THERAPEUTICS - A CLINICAL APPROACH

Sujeet Kumar, B.K. Dwivedy and N.P.Rai*

Abstract: The study was carried out to assess the effect of vāta, pitta and kapha on human physiology. Total 60 patients of nānātmaja vikāras (20 patients each of nānātmaja vata, pitta and kapha vikāras) were recruited in three experimental groups. Each group was treated with an established treatment of modern medicine symptomatically i.e. patients of nānātmaja vātavikāra by anti-anxiety drugs, patients of pittavikāra by lactulose and patients of kaphavikāra received anabolic steroids. It was found that respiratory rate and pulse rate were increased to some extent in nānātmaja vikāra of all doṣas. Different results were observed in subjective parameters.

Introduction

Tridoṣa is said to be responsible for maintenance of homeostasis in the body, and health is nothing but a state of equilibrium of vāta, pitta and kapha¹. All diseases occur due to disturbance in the equilibrium between these three doṣas². The present study is designed based on the study of tridoṣa, applicable in modern science. As we know, for some disease, the way of defining differs in ancient and modern science, because they are based on different basic principles. Tridoṣa theory is one among these basic principles of āyurveda. In present time, we are almost dependant on some tools and techniques which are gifted by modern science during clinical examination viz Manometer, Thermometer etc. Here it is our aim to know the effect of tridoṣa on our body by using modern biomedical tools and techniques.

Nānātmaja vikāra:- The endogenous diseases

of specific type (nānātmaja = na + anātmaja = ātmaja) are caused specifically by only one of the three doṣa, without being combined with any other doṣas^{3,4}. After careful study we found that these 80 types of vāta vikāras, 40 types of pitta vikāras and 20 types of kapha vikāras are actually symptoms/complaints of a patient and not really of diseases, so they provide a way of quick diagnosis. The ratio of vāta, pitta, kapha is 4:2:1 in case of nānātmajavikāras respectively. One unit of vāta can produce 4 vikāras due to āsu (quick) and cala (mobile) guṇas (properties), one unit pitta can produce 2 vikāras due to its tīkṣṇa (acute) and sara (laxative) guṇas. The manda (slow) and sthira (stable) guṇas of kapha produces only one vikāra.

Materials and method

60 patients were selected randomly from the Kāyachikitsa OPD, IMS, BHU, Varanasi. They were interviewed and examined using a specific

*Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi, UP

proforma to obtain information about the disease and clinical features, and were divided into three groups each containing 20 patients of a nānātmaja vikāra i.e. Group-I asvapna nānātmaja vikāra of vāta, Group-II haridratva nānātmaja vikāra of pitta and Group-III balakṣaya nānātmaja vikāra¹¹ of kapha.

All the three groups were treated by using established treatment mentioned in modern medicine viz:

1. Asvapna (nānātmaja vāta vikāra):- Sleep onset insomnia is often psychophysiological⁵, an anxious preoccupation with the perceived inability to sleep adequately. Hence the patients of this group were treated with antianxiety drugs⁶.
2. Haridratva (nānātmaja pitta vikāra):- Patients of this group were treated with lactulose⁷.
3. Balakṣaya (nānātmaja kapha vikāra):- Patients of this group were treated with anabolic steroids⁸

Only those patients were recruited for studies who improved/cured after treatment. So, changes in the clinical features observed were used for making data. Only nānātmaja vikāra of different doṣa were considered for this study. Only one nānātmaja vikāra of one doṣa was subjected to study.

Inclusion criteria: - Patients of both the sexes in all the age group.

Exclusion criteria: - Patients suffering from chronic diseases were not included for the study of kapha doṣa and those suffering from obstructive jaundice were excluded for haridratva.

Assessment criteria: - The assessment of the effect of established treatment mentioned in modern medicine; on these nānātmaja vikāra was based on the objective (pulse rate, respira-

tory rate) and subjective (bowel habit and bladder habit) parameters. Standard method was used for measurement of pulse rate and respiratory rate. Guideline for measurement was of pulse and respiratory rates.^{12A,B}

Bowel and bladder habit: - Bowel habit of patient was studied for its three features: i) frequency, ii) consistency (hard or loose stool) and iii) amount. Each of these 3 features were divided into 2 categories - increased or decreased. The bladder habit of patient was studied for its two features viz. frequency and amount. The gradation for increased/decreased frequency, consistency and amount is shown in Table (1).

Observation and results

Objective parameters: - Decrease in mean pulse rate was observed to 8.70, 6.60 and 12.70 respectively in Group I, Group II and Group III. The results were highly significant in Group I and Group III while only significant in group II (Table 2). Mean respiratory rate was decreased to 2.00, 3.55 and 4.05 respectively in Group I, Group II, and Group III. The results were highly significant in group II and Group III while significant in Group I. (Table 3).

Subjective parameter:- Chi-square test was done

TABLE 2
Statistical analysis of pulse rate in patients of Nānātmaja vikāra

Group (n=20)	Pulse rate (mean+SD)		Difference (paired 't' test)
	BT	AT	BT - AT
I	95.60 + 10.61	86.90 + 8.84	8.70 + 8.78 (HS) t = 4.43; p <0.001
II	89.50 + 12.41	82.90 + 6.63	6.60 + 11.77 (S <0.05) t = 2.50; p <0.21
III	97.40 + 8.46	84.70 + 6.84	12.70 + 3.69 (NS) t = 15.40; p <0.00

TABLE 1
Bowel and bladder habit features - gradation

Description	Gradation
A. Bowel habit	
i. Frequency (increased)	
1-2 times/day (normal)	0
3-4 times/day	1
> 4 times/day	2
Frequency (decreased)	
Normal	0
Stool passing alternate days	1
Stool passing after 2-3 days	2
ii. Consistency (increased)	
Normal	0
Hard stool:	
- without difficulty in defecation	1
- with difficulty in defecation	2
Consistency (decreased)	
Normal stool	0
Watery but formed stool	1
Watery stool unformed	2
iii. Amount (increased)	
Normal amount	0
Increased up to 20% of normal	1
Increased > 20% of normal	2
Amount (decreased)	
Normal	0
Decreased up to 20% of normal	1
Decreased > 20% of normal	2
B. Bladder habit	
i. Amount (increased)	
Normal amount	0
Increased up to 20% of normal	1
Increased > 20% normal	2
Amount (decreased)	
Normal amount	0
Decreased up to 20% of normal	1
Decreased > 20% of normal	2
ii. Frequency (increased)	
Normal (5-7 times/24 hr.)	0
8-10 times/24 hr.	1
>11 times/24 hr.	2
Frequency (decreased)	
Normal (5-7 times/24 hr.)	0
3-4 times/24 hr.	1
>2 times/24 hr.	2

for subjective parameters. These parameters were bowel habit and bladder habit.

Bowel habit (frequency):- In Group I, 7 patients were in increased frequency group and after treatment 2 patients were recorded. The chi-square value (BT vs AT) was 3.58 (non-significant). In Group III, in place of 12 patients, 1 patient was recorded for increased bowel frequency. Chi-square value was 13.88 (significant).

In Group I, 7 patients were recorded in decreased bowel frequency group and after treatment no patient was in this group. Value of chi-square was 8.45 (significant). Due to the sum of expected frequencies were less than 5, increased bowel frequency in Group II and decreased bowel frequency in Group II and Group III was not applicable for chi-square test.

Bowel habit amount: - In Group I, 15 patients were in decreased frequency category and after treatment, 2 patients were recorded; the chi-square (BT vs AT) value was 17.29 (highly significant). In group II and Group III, 9 and 12 patients were in decreased frequency group respectively, and after treatment, 2 patients were in group II and 2 patients in group III for decreased frequency category respectively.

TABLE 3
Statistical analysis of respiratory rate in patients of Nānātmaja vikāra

Group (n=20)	Respiratory rate (mean+SD)		Difference (paired 't' test)
	BT	AT	BT - AT
I	20.15 + 3.51	18.15 + 1.84	2.00 + 3.36 (S < 0.02) t = 2.83; p < .011
II	23.80 + 2.78	20.25 + 1.97	3.55 + 2.28 (HS) t = 6.96; p < 0.01
III	25.30 + 3.61	21.25 + 2.05	4.05 + 3.33 (HS) t = 5.44; p < 0.01

Both results were significant. Due to sum of expected frequencies were less than 5, so increased bowel frequency in all the three groups was not applicable chi-square.

Bowel habit (consistency):- Initially 14, 9 and 5 patients were in hard stool category in group I, II, III respectively; and after treatment only 1 patient recorded in group I passing hard stool. Chi-square value (BT vs AT) was 18.20, 11.61 and 5.71 in Group I, II and III respectively. The data showed highly significant in Group I and Group II and significant in Group III. Initially 5, 6 and 10 patients were in loose stool category in Group I, II and III respectively; and after treatment no patient recorded passing loose stool. Chi-square value (BT vs AT) was 5.71, 7.06 and 13.35 in Group I, II and III respectively. The data were highly significant in Group II and Group III and significant in Group I.

Bladder habit (frequency):- Initially 10, 2 and 13 patients were in increased frequency of bladder habit category in group I, II and III respectively; and after treatment only 1 patient recorded in group I. Chi-square value (BT vs AT) was 10.24, 2.10 and 16.41 in Group I, Group II and Group III respectively. It was highly significant for group I and III and non significant for group II. Due to the sum of expected frequencies were less than 5, data was not applicable for chi-square value in all the three groups.

Bladder habit (amount):- Due to the sum expected frequencies were less than 5, data was not applicable for chi-square in all the three groups for bladder habit amount category. As mentioned earlier, bowel habit and bladder habit were assessed subjectively and chi-square test was done.

Discussion

Tridoṣa in normal state support the body like

the pillars of a house, this is why tridoṣa is known as tristhūṇ. Just as they support the body, they will also damage its functions when they become vitiated by any cause.

Qualities of vāta¹³:- Vāta is amṛta (formless), asamghāta (diffuse, all pervasive), adṛṣṭa (invisible the naked eye), dṛṣṭakarma (initiates functions being perceivable), karmānumeya (its presence to be understood by its functions), it possesses qualities such as rūkṣa (dryness), śīta (cold), khara (roughness), sūkṣma (subtleness, capacity of entering minutely), laghu (light in weight), cala (self mobile, unsteady), and visada (nonsticky).

Āśu and cala guṇas of vāta can precipitate its specific pathogenesis ceṣṭha¹⁴ (motivation). In nānātmaja vātavikāra, asvapana (sleeplessness) may be due to ceṣṭa (motivation) in midbrain ascending reticular formation (which maintains wakefulness) and limbic system (responsible for emotions and thinking). Benzodiazepines (drugs) act preferentially on midbrain ascending reticular formation and on limbic system. They act by enhancing pre synaptic/ post synaptic inhibition through a specific BZD receptor which is an integral part of GABA_A receptor channel complex^{15A}. So action of anti-anxiety drugs, suppress ceṣṭa and alleviates vāta. Further, during slow wave sleep, sympathetic activity decreases while parasympathetic activity increases. Therefore a restful sleep ensues-arterial blood pressure fall, pulse rate decreases, skin vessels dilates, and over all basal metabolic rate of the body falls by 10 to 30 percent.^{15B} So increase in respiratory rate and pulse rate in asvapana nānātmaja vikāra, explains increased sympathetic activity in vāta vikāras.

For all forty types of paittika vikāras, qualities and characters of pitta is only responsible¹⁶. It

signifies importance of qualities and disturbed functions of pitta in pathogenesis of pattika vikāra.

Qualities of pitta: - Pitta is drava (liquid), pīta (yellow in colour) and possesses qualities such as sasneha (unctuousness), tīkṣṇa (penetrating deep), uṣṇa (hot, heat producing), laghu (light in weight), visra (fetid odors) and sara (mobile, fluid)¹⁷. Pitta causes haridratva by its some specific disease-causing actions viz: capacity of producing all colours except red and white. Bilirubin is a pigment formed by haem after dissociation of haemoglobin. When bilirubin metabolism disturbed, yellowish dis-colouration of mucous membrane, urine and sclera occurs known as jaundice. It has been found that lactulose decrease intestinal transit of bile¹⁸. Metabolism of bilirubin still not fully understood but it seems that intestinal phase where lactulose works is cause behind decrease in serum bilirubin after administration of lactulose. It has been mentioned in āyurvedic literature that, virecana (purgation) is the best method of treatment in kāmala (a condition in which serum bilirubin increases). Probably virechana interferes in intestinal phase of bilirubin metabolism.

Quality of kapha:- It is sthira (static, stable), mṛtsna (slimy), ślakṣṇa (smooth), guru (heavy), possessing qualities such as śīta (cold), snigdha (moist, unctuous), manda (slow, sluggish) and śveta (white colour)¹⁹.

The heavy and sluggish quality of kapha can precipitate bandhana (integrity), a specific pathogenesis of kapha.²⁰ Balasaka is considered as kaphakṣayāvastha. So, in this nānātmaja kapha vikāra, integrity of dhātu decreases. With advancement of age, kapha regularly decreases

in body and vāta increases. So there is steady loss in muscle mass occurs from middle age onwards. This results in a progressive and substantial loss of strength, even in the absence of symptomatic or diagnosed disease. People aged 65-89 year show difference in strength consistent with loss of strength at some 1-2 percent per year.²¹ In pathological condition decrease in strength (general debility), results in steady loss of muscle mass, can be understood as balasaka. Anabolic steroids are synthetic androgens with supposedly higher anabolic and lower androgenic activity. Its mechanism of action is similar to testosterone. Testosterone can largely be regarded as the circulating pro-hormone. In most target cells, the 4-5 double-bond is reduced- dihydro-testosterone, which binds more avidly with the cytoplasmic receptor and this complex is more active than testosterone receptor complex in combining with DNA. After such combination DNA transcription is enhanced and effects are expressed through modification of protein synthesis.²²

In this way, heavy or high molecular weight compounds (protein) synthesised, which increase kapha due to similar properties. Protein also repairs body tissues and augment growth in body. Debility is defined as weakness of tonicity in function or organs of the body, which is probable explanation for results in present study.

Conclusion

- Bowel habit - decreased frequency in Group I and increased frequency in Group III
- Stool - decreased amount in all the three Groups; increased / decreased consistency in patients of all the three groups.
- Bladder habit - increased frequency in patients of group I and group III.

- Improvement in objective parameters included: 1. Decrease in pulse rate (mean decrease in group I 8.70, in group II 6.60, in group III 12.70) in patients of all the three groups; 2. Decrease in respiratory rate (mean decrease in group I 2.00, in group II 3.55, in group III 4.05) in patients of all the three groups.

Acknowledgement

The authors are thankful to Prof. R.H. Singh, Professor Emeritus, I.M.S., B.H.U.

References:

1. *Susrutasamhita, Sutrasthana*, 15:2 (Dalhana Comm.) Nibandhasangraha, Chaukhamba Orientalia, Varanasi, 2002.
2. Sharma, R.K. and Bhagawandash, *Carakasamhita* (comm. Chakrapanidatta), *Sutrasthana* 1:57, Chaukhamba Sanskrit Series, Varanasi, 1984
3. Anthony S. Fauci, *et al*, *Harrisons Principles of Internal medicine*; 14th Edn., P 1073, Companion hand book/editors, Mc Graw. Hill, 1998.
4. Tripathi, K.D., *Essentials of medical pharmacology*, 4th Edn., P 303, Jaypee Brothers Medical Publishers (P) Ltd., 2001.
5. Thortan, J.R. Heatonkw, *Effect of lactulose on bile, BMJ.*, Vol. 282, pp 1018-1020, 1981.
6. Sharma, R.K. and Bhagawandash, *Carakasamhita* (comm. Chakrapanidatta), *Sutrasthana* 1:57, Chaukhamba Sanskrit Series, Varanasi, 1984.
7. Ibid, 20:11
8. Ibid, 20:13
9. Ibid, 20:14
10. Ibid, 20:17
- 12^A. Mahapatra, A.B.S., *Essentials of medical physiology*, 1st Edn., P 244, Current Books International, 1998.
- 12^B. Ibid, P 106
13. Sharma, R.K. and Bhagawandash, *Carakasamhita* (comm. Chakrapanidatta), *Sutrasthana* 1:58, Chaukhamba Sanskrit Series, Varanasi, 1984.
14. Ibid, 20:12
- 15A. Tripathi, K.D., *Essentials of Medical Pharmacology*, 4th Edn., P 373, Jaypee Brothers Medical Publishers (P) Ltd., 2001
- 15B. Gyton and Hall, *Text book medical physiology*, 9th Edn., P 763
16. Sharma, R.K. and Bhagawandash, *Carakasamhita* (comm. Chakrapanidatta), *Sutrasthana* 20:16, Chaukhamba Sanskrit Series, Varanasi, 1984.
17. *Susrutasamhita*, (Dalhana Comm. Nibandhasangraha), *Sutrasthana* 21:10, Chaukhamba Orientalia, Varanasi, 2002.
18. Thortan J.R. and Heatonkw, *Effect of lactulose on bile, BMI.*, 282: pp 1018-1020, 1981.
19. *Astangahridaya* (Sarvanga Sundari comm. Arundatta), *Sutrasthana* 1:12, Chaukhamba Krisna Das Academy, Varanasi, 2000.
20. Sharma, R.K. and Bhagawandash, *Carakasamhita* (comm. Chakrapanidatta), *Sutrasthana* 20:18, Chaukhamba Sanskrit Series, Varanasi, 1984.
21. Harridge, S.D.R. and Young, A, *Skeltal muscle, In pathy msj* (ed); John wiley, *Principles and Practice of Geriatric Medicine*, 3rd Edn., London, 1997.
22. Tripathi, K.D., *Essentials of medical pharmacology*, 4th Edn., P 302, Jaypee Brothers Medical Publishers (P) Ltd., 2001.

EFFICACY OF PICCHĀVASTI IN ULCERATIVE COLITIS

Bal Govind Tiwari*

Abstract: Inflammatory bowel disease (IBD) is an idiopathic and chronic intestinal inflammation. It includes two disease i) Crohn's disease which can affect any part of GI tract and ii) ulcerative colitis which affect only large bowel. The main medical therapy for ulcerative colitis is Sulfasalazine. Although it is more effective at higher doses, patients experience allergic reaction or intolerable side effects. The symptoms of ulcerative colitis are similar to raktajātisāra in āyurveda and picchāvasti is one of the most important treatments. The drugs used in this vasti not only give relief from the symptoms but also play an important role to overcome from inflammation.

Introduction

Ulcerative colitis is an idiopathic form of acute and chronic ulcero-inflammatory colitis. It chiefly affects the mucosa and sub mucosa of rectum and descending colon, and in later stage, may involve the entire length of large bowel. The exact aetiology of Inflammatory Bowel Disease (IBD) remains unknown. Few hypotheses have been given. These include infectious mechanism, immunological mechanisms, genetic factor, racial factor, food allergies and psychological factor.

The major symptoms are diarrhoea, rectal bleeding, tenesmus, passage of mucus, crampy abdominal pain, anorexia, nausea, vomiting, fever and weight loss. Ulcerative colitis primarily affects the bowel but may have systemic involvement in form of poly arthritis, uveitis, ankylosing spondylitis, skin lesion and hepatic

involvement. This occurs at any age but is more common in 2nd and 3rd decades of life. Females are affected slightly more. According to symptoms, ulcerative colitis is divided into mild, moderate and severe form.

Objective: - To assess the efficacy of picchāvasti in ulcerative colitis.

Material and method

Total 25 patients were selected, of which, 20 cases turned up for complete follow up.

Inclusion criteria: - Patient suffering from mild and moderate ulcerative colitis in the age group of 20-60 years.

Exclusion criteria: - Patients below 20 and above 60 years, those having systemic involvement, those suffering from complications, requiring surgery and those of severe group were excluded from the study.

*Deptt. of Kayachikitsa, Jammu Institute of Ayurveda & Research, Jammu,

Assessment criteria: - Assessment was done based on clinical, biochemical and endoscopic appearance of colonic tissue. Full medical history along with gastrointestinal examination obtained to assess the condition of patients. Modern assessment of severity of disease is shown in Table 1.

Treatment: - Vasti was administered for 15 days; all the patients were strictly followed pathyā-pathya. Vastidravya was prepared with the following drugs after kṣīrapāka. All these drugs are having madhura, kaṣāya, tikta rasas; śīta-vīrya and snigdha, pichīla, mṛdu guṇas, hence all these possess pittanāśaka, stambhaka, uplapaka, vraṇaropana properties.

Yavāsa	<i>Alhagi camelorum</i> - root
Kāśa	<i>Saccurum spontaneum</i> - root
Vaṭānkura	<i>Ficus bengalensis</i>
Aśvatha	<i>Ficus religiosa</i>
Lajjālu	<i>Mimosa pudica</i>
Nilolpala	<i>Nymphaea stellata</i>

TABLE 1
Modern assessment of severity of disease

Symptoms	Mild	Moderate	Severe
Bowel movement	<4/day	4-6/day	>6/day
Blood in stool	Small	Moderate	Severe
Fever	None	<37.5°C	>37.5°C
Tachycardia	None	<90 mean +	>90 mean +
Anemia	Mild	<75%	>75%
Endoscopic:			
Mild	: Erythema ↓ vascular pattern, fine granularity.		
Moderate	: Marked erythema, coarse granular, Absence vascular marking, contact bleeding, non-ulceration.		
Severe	: Spontaneous bleeding ulcerative		

Priyaṅgu	<i>Callicarpa macrophylla</i>
Kuśa	<i>Desmostachya bipinnata</i> - root
Mocarasa	<i>Bomax ceiba</i> - bark exudes
Udumbara	<i>Ficus racemosa</i> - leaf
Sālmali	<i>Bomax ceiba</i> - fruits
Rakta-candanam	<i>Pterocarpus santalinus</i>
Kuṭaja	<i>Holarrhena pubescens</i> - seed
Kamala	<i>Nelumbo nucifera</i>

Observation

The result was very significant in the symptoms of ulcerative colitis as well as raktajātisara (Table 2).

Discussion

The symptoms of ulcerative colitis are similar to that of raktajātisara in āyurveda. Modern science of medicine used SASA agent, Glucocorticoid, Cylosporine and Methotrexate by anal as well as oral root but the list of side effect in these medicine are long. The property of picchāvasti is opposite to the property of pitta and rakta.

TABLE 2
Modern assessment of severity of disease

Symptoms	No. of patient	
	BT	AT
Stool colour -		
Black-white	12	0
Red-white	08	0
Meat washed water	12	0
Warm stool	20	1
Fowl stool	08	0
Forceful frequent stool	20	0
Thirst	08	1
Burning sensation in whole body	0	0
Sweating	0	0
Fainting	0	0
Abdominal pain	12	1
Burning sensation in anal region	05	1
Fever	0	0

Picchāvasti is more appropriate treatment for ulcerative colitis because pathology is present in anal region, so most appropriate and near route for drug administration is anal route. There is little or no metabolic change in the composition of drug by giving this route and it take less time for the action. It can be used for more periods without any side effect depending on patient's condition and relief.

References:

1. Shastri, K. N. and Chaturvedi, G. N., *Caraksamhita* (with Vidyotini Hindi Commentary), Chaukhambha Bharati Academy, Varanasi, 1984.
2. Athavola, A. D., *Astangasangraha*, Srimod Atreya Prakasanam, Nandanadam, Pune, 1980.
3. Gupta, A., *Astangahridaya* (with Vidyotini Hindi Commentary), Chaukhambha Sanskrit Sansthan, Varanasi, 1982.
4. Shastri, S., *Madhavanidana* (with Vidyotini Hindi Commentary), Chaukhambha Sanskrit Sansthan, Varanasi.
5. Shastri, A. D., *Susrutasamhita* (with Ayurvedatvatvasandipika Hindi commentary), Chaukhambha Sanskrit Sansthan, Varanasi, 1953-1959.
6. Mishra, B. S., *Bhavaprakasa* (with Hindi Commentary), Chaukhambha Sanskrit Sansthan, Varanasi, 1980.
7. *Harrison's Principles of Internal Medicine*, Vol. II & I, 16th Ed., Mc. Graw Hill Book Company, 2005.
8. Sharma, P.V., *Dravyagunavijnana*, Vol. I-V, Chaukhambha Sanskrit Sansthan, Varanasi, India, 1954-1981.

Kottakkal Ayurveda Series: 74



SNEHASVEDANGAL

SEMINAR PAPERS - 2008

Price:50/-

Pūrvakarmas are the preparatory procedures required to be undertaken before pañcakarma therapy. The process, which produces sneha, viṣyandana, mṛdūta and kṣēdana in the body is called snehana. The process, which relieves stiffness, heaviness, coldness and induces sweating is called svedana. This book contains papers presented at the 45th Ayurveda Seminar held at Ernakulam on October 2008.

**IDENTIFICATION OF CERTAIN CLINICAL CONDITIONS IN
GERIATRIC WOMEN ATTENDING ĀYURVEDIC
GYNAECOLOGY CLINIC IN SRI LANKA - A SURVEY**

Kaumadi Karunagoda¹, Kamayani Shukla², Dayani Siriwardhene¹ and L.P. Dei²

Abstract: According to WHO, more than half of the world's women aged 60 years and above are living in developing countries. Thus, it becomes essential to pay more attention towards the ageing women, to identify their problems and to work on management of those diseases. This study was carried out in 100 female patients of age group from 55 to 80 years, who attended the Department of Kaumārābhṛtya & Prasūtitantra, Institute of Indigenous Medicine, University of Colombo, Sri Lanka with various complaints.

Introduction

Effective management of the disorders, which are commonly affecting to the aged women, is the need of the hour as it plays a major role in the main stream of health sciences; because the number of aged females is increasing in the world. According to WHO, "currently, more than half of the world's women aged 60 years and above are living in developing countries, 198 million compared with 135 million in the developed countries. And the percentage of older women living in developing countries will grow dramatically in the future, since two-thirds of the women in the age group 45-59 years currently live in developing countries as compared with only one third in the developed countries."

Objectives: i) To search out the common disorders prevalent in the women of above 55

years who attend gynaecological clinics, ii) to get the idea about the level at which āyurvedic gynaecologists successfully treated these disorders in the present scenario and iii) to define the points on which research is needed for the welfare of women above 55 years by making out the disorders which are still a question for the physicians.

Materials and methods

The survey was carried out on about 400 females of different age group who attended the O.P.D. of Strīroga & Prasūtitantra, IIM, University of Colombo, Sri Lanka. Out of these, 100 women above 55 years of age were surveyed for their chief complaints from February to April 2006 and were investigated to diagnose the main cause behind their presenting complaint.

Observations

The prevalence of menopause/malignancy,

1. Dept. of Kaumarbhṛtya and Prassutitantra, IIM, Uni. of Colombo, Sri Lanka. (Dept. of Streeroga & Prasutitantra, I.P.G.T. & R.A., Gujarat Ayurveda University, Jamnagar)

2. Dept. of Streeroga & Prasutitantra, I.P.G.T. & R.A., Gujarat Ayurveda University, Jamnagar

other chief complaints, gynaecological and non-gynaecological disorders, treatable and non-treatable disorders in āyurvedic clinics are shown in Tables (1-4)

Discussion

1. Importance of ruling out malignancy in menstruation:-

Menopause, which is a crucial stage of a woman, is essential to take into consideration while treating this age-group of women. 12 patients had established menopause, among them 83% had natural menopause. 17% patients who were not having menopause were found suffering from malignancy. Thus, it becomes essential to rule out malignancy in all the patients who have bleeding till the age of 55 years.

2. Commonest diseases of the women above 55 years; prevalence and presentations:-

Per-vaginal bleeding was found as a very important gynaecological complaint in 28% of patients because of the diseases like malignancy, fibroid, adenomyosis, etc. Apart from these some uneven causes of bleeding were also diagnosed. One patient was having high bleeding for missed intra uterine contraceptive device which was inserted 15 years back, while another patient was taking conjugated estrogen

after menopause for some other reason. Diabetes mellitus (DM) was diagnosed as the underlying reason other than dryness and infection in the patients who came with the complaint of itching vulva. It denotes that even itching only can be the symptom in the patients of DM. Senile vaginitis was found as the most prevalent cause in 21 persons with complaint of vaginal discharge. 2 patients of malignancy also came with the same presenting feature. Senile vaginitis found as a very prevalent disease in the women of this age group while DM is again proved as prevalent as it is known for. Other than increased frequency of urine, burning micturition was also a presenting symptom in the patients of DM. It was because of recurrent urethritis and vaginitis. Neurological causes for incontinence and urgency of urine were also found.

Dryness of vagina was the most common cause for dyspareunia, as women of this age group generally suffer from estrogen deficiency but PID and prolapse like other factors also emerged as the cause of this presentation. Thus, internal examination is the must for all the patients of dyspareunia and it should not be taken as the result of dryness of vagina only in this age. Loss of libido was more psychological than due to dryness and reduced secretion from vagina, but it was found very prevalent in this age group as 27% women were suffering from this problem. 6% patients had recurrent boils on private part and most of them were the patients of DM. As a consequence of menopausal syndrome, mood swings were very common in this age group (76%), but it should not be concluded as the result of menopausal changes in each and every person as 07.89% patients were suffered from psychoneurosis. Sleep disturbances were found

TABLE 1
Prevalence of menopause / malignancy
in women above 55 years

Conditions	No. of patients	Percentage
1. Non-menopausal	12	12
2. Menopausal		
- Natural	64	64
- Surgical	14	14
3. Malignancy	02	17
4. Healthy	10	83

TABLE 2
Chief complaints (in women above 55 years) and the underlying pathology

Clinical presentations	%	Diagnosis	No. of patients	%
01. P/V Bleeding	28	Malignancy	05	17.85
		Adenomyosis	09	32.14
		Fibroadenoma	04	14.28
		Vaginitis	04	14.28
		Urinary tract bleeding	03	10.71
		IUCD	01	03.57
		HRT	01	03.57
		Trauma	01	03.57
02. Itching vulva	22	DM	09	40.90
		Dryness	04	18.18
		Urogenital infection	07	31.81
		Psychoneurosis	02	09.09
03. Per vaginal discharge	33	Senile vaginitis	21	63.63
		Malignancy	02	06.06
		DM	03	09.09
		Uterine prolapse	03	09.09
		Cervical erosion	01	03.03
		STDs	01	03.03
		Polyps	02	06.06
		04. Urinary problems	37	
a. Burning micturition	18	Urethritis	11	61.11
		Vulvitis	04	22.23
		DM	02	11.10
		Urinary stone	01	05.56
b. Incontinence of urine	09	Cystocele	07	77.78
		Neurological	02	22.23
c. Urgency of urine	07	Neurological	04	57.14
		Urinary stone	03	42.85
d. Frequency of urine	03	DM	01	33.33
		Urethritis	01	33.33
		Urinary calculi	01	33.33
05. Dyspareunia	13	Dryness of vagina	05	38.46
		PID	03	23.07
		Uterine prolapse	04	30.76
		Acute retroverted uterus	01	07.69
06. Loss of libido	27	Psychological	19	70.37
		Dryness of vagina	08	29.62
07. Recurrent boils on vulval region	06	DM	04	66.67
		Vaginitis	02	33.33

Contd...

Contd...

Clinical presentations	%	Diagnosis	No. of patients	%
08. Mood swings	76	Perimenopausal syndrome	70	92.10
		Psychoneurosis	06	07.89
09. Sleep disturbances	47	Perimenopausal syndrome	27	57.44
		Hypertension	11	23.40
		Stress	09	19.14
10. Backaches	62	Osteoporosis	52	83.87
		Uterine prolapse	04	06.45
		Acute retroverted uterus	03	04.84
		Spinal disorders	03	04.84
11. Joint pains	50	Osteoporosis	21	42.00
		Osteoarthritis	17	34.00
		Rheumatoid arthritis	09	18.00
		Gout	03	06.00
12. Recurrent fractures	02	Osteoporosis	02	100
13. Numbness in limbs and other parts of body	23	Nutritional deficiency	13	56.52
		DM	07	30.43
		Stress	03	13.04
14. Headache	33	Tension headache	11	33.33
		Hypertension	07	21.21
		Refractive disorder	06	18.18
		Anaemia	05	15.15
		Cervical spondylosis	03	09.09
		Chronic sinusitis	01	03.03

another presentation of menopausal syndrome (47%); hypertension (11 patients) was also an underlying cause in this group. 9 patients were suffering from stress due to some social or familial reason.

Osteoporosis emerged as one of the most common diseases in this age group of women with several presentations but backache was the most common among them followed by joint pain, but recurrent fractures were also found (62%). Calcium deficiency and loss of bone was found as prevalent in this age group as it is known for. But backache cannot be taken always as a result of calcium deficiency as acute retroversion of uterus and uterine prolapse like

gynaecological causes were also the reason for this in 3 and 4 cases respectively. Arthritis was very common in the women who presented with joint pain but degenerative type of arthritis was more common than inflammatory type. This again denotes the degeneration of bones as a very common problem in this age group.

In 7 cases DM was presented with numbness in limbs and other body parts but nutritional deficiency was the commonest factor. It underscores that nutritional deficiency in women of developing countries are high who never care for their own health. Tension and headache was found in 11 patients as this age group is generally stress oriented, but

hypertension and refractive disorders were also the causative factors of headache which was found in 7 and 6 patients respectively.

3. Non-gynaecological disorders prevalent in women above 55 years:-

In the survey, Diabetes mellitus, hypertension and osteoporosis emerged as the most prevalent non-gynaecological disorders among this age group. It denotes how fast these life style disorders are increasing in today's era. It also indicates that the āyurvedic gynaecologists

should be very careful for such disorders and should take proper care not to miss them for their non-gynaecological nature of pathogenesis. Another most common disorders found in this age group were related to orthopaedics. It proves that still in developing countries several ladies visit gynaecologists for their problems even if these are non- gynaecological. So it becomes the duty of a gynaecologist to put a keen vision on each and every complaint of the patient.

4. Gynaecological disorders prevalent in women above 55 years:-

Analyzing the gynaecological disorders prevalent in this age group, it was observed that menopausal syndrome was quite common in this age group and the most common presentation of this problem was psychological. It is that an area where āyurveda has a wide range of medhya drugs and therapies like śirodhāra, nasya, etc. Modern medicine is still far behind to treat the psychological problems without causing side effects and addiction. Āyurvedic drugs which are used for such problems not only manage the psychological aspect of women but also provides her total well being by providing rasāyana effect, as all the medhya drugs are rasāyana. Another very common problem in this age group of women is infection of urogenital origin. These diseases can be managed by āyurvedic therapies like yonīprakṣāḷana, yonī avagāha, yonī pichu, etc. Several drugs like Candraprabhā vaṭi and Triphala guggulu also work well on these disorders. Dryness of vagina which leads to recurrent vaginitis and problems in intercourse also can be researched to treat with ayurvedic drugs as several āyurvedic drugs contain the phytoestrogens.

TABLE 3
Gynaecological and non-gynaecological disorders found in 100 cases

1. Gynaecological disorders:
- Perimenopausal syndrome
- Malignancy
- Adenomyosis
- Fibroadenoma
- Vaginitis
- Cystocele
- Prolapse
- Dryness of vagina
- Pelvic inflammatory disease
- Hormone Replacement Therapy
- Acute retroverted uterus
- Missed Intrauterine contraceptive device
2. Non-gynaecological disorders:
- Diabetes mellitus
- Osteoporosis
- Uro-Genital infections
- Hypertension
- Trauma
- Aneamia
- Orthopedic diseases
- Nutritional deficiencies
- Spinal Disorders
- Rheumatoid Arthritis
- Gout
- Refractive Disorders
- Stress headache
- Cervical spondylosis
- Chronic sinusitis

5. Gynaecological disorders of women above 55 year not having successful āyurvedic treatment:-

Discussing on the gynaecological problems, the reality was found very disappointing, as most of these diseases are still far away from the approach of ancient system of medicine. All the medical sciences are struggling to get the answer of the question of malignancy, so it is not a demerit if āyurveda do not have answer to it. But ayurvedic physicians can not get rid of their duty to research and to find the ways for the welfare of the ageing society. It is very despairing that no significant work or research is being done in āyurvedic institutes to initiate the contribution to treat the malignancy, which has become the unsolved question in front of medical sciences. The fact which is more disappointing is that in most of the āyurvedic clinics, malignancy is not even being ruled out sincerely.

Other than malignancy, adenomyosis and fibroadenoma are also very prevalent diseases

TABLE 4

Treatable and non-treatable in āyurvedic clinics

1. Treatable:
- Perimenopausal syndrome
- Dryness of vagina
- Cystocele
- Vaginitis
- Vulvitis
- Hormone replacement therapy
2. Non-treatable:
- Adenomyosis
- Fibroid
- Cystocele
- Prolapse
- Pelvic Inflammatory Disease
- Malignancy

in this age group which are not treated by āyurveda. In modern medicine also these diseases are not totally treated or cured but they have surgical management for these diseases. In āyurveda, there is neither the medical nor the surgical management available for these diseases. Condition worsens because very few or better to say negligible works are going on in ayurvedic institutes to find the solution of these common problems of this age group of women. Same as these diseases, prolapse and cystocele are also the unsolved problems for ayurvedic gynaecologists. Though these are quite common, āyurveda do not have surgical treatment nor possess the alternative of surgical management. Pelvic inflammatory disease was another common finding among this age group and unluckily it is also not a disease with reliable and successful āyurvedic management. Though the patients were treated with the preparations like Candraprabhā vaṭi², Triphala guggulu³, Daśamūla kvātha⁴ it is a known fact that still āyurveda do not have alternative of modern antibiotics.

6. Discussion on the reasons for no evidence of successful āyurvedic treatment for these disorders:-

It emerged as a reality of āyurvedic gynaecological clinics that most of the problems of this age group of women are far away from our hands. No reliable and successful evidence based management is available for the most common and prevalent diseases of this age group of women. There are several reasons, but the most important one includes: 1) All the sciences possess a tendency and focus of research which is decided by time and changes time to time too. Therapeutic sciences are no exception to it. Geriatric health has come in focus

very recently. Previously it was not only out of focus but was out of mind too. This is the most important reason why āyurvedic gynaecologists do not possess reliable and evidence based management for most of these problems. 2) Another very important reason is that infertility has remained the area of interest for āyurvedic gynaecologists. Most of the research works are carried out on infertility keeping in vision the women of reproductive age. Tendency to work on infertility is that much deep in the minds of āyurvedic gynaecologists that they never give attention to another big population of women. 3) The last but not the least factor behind this ignorance, it has emerged as a fact by the survey that most of the gynaecological diseases of this age group of women are neglected by āyurvedic gynaecologists for being the surgical.

Conclusion

Though this study contains the data from only 100 patients and its outcome can not be taken as ultimate, it can be concluded that most of the women above 55 years attending āyurvedic clinics come under a short range of diseases, out of which several are non-gynaecological. Another fact is that, the āyurvedic gynaecologists are not up to the satisfactory level to treat most of these disorders. So, very sincere researches and efforts are needed to contribute for the welfare of elderly women and to make

contribution of āyurveda more remarkable in health sector to achieve the needed objectives and the first aim must be to discover the treatment modalities already described in ayurvedic classics. There are a number of therapies and drugs which are not used practically in āyurvedic clinics. Such type of drugs and therapies must be researched to treat these diseases. On the other hand, research should be carried out to discover the new treatment modalities also. The diseases which are considered surgical must be researched to get some alternative for their management by using drugs. As surgery in āyurveda is as ancient as āyurveda itself is, the surgery should not be out of the purview of āyurvedic field. If surgery is that much untouched and neglected by āyurvedic persons, a great number of diseases will always remain out of the reach of āyurveda.

References:

1. www.WHOwomen,aging&health.mht (retrieved on 27August 2009)
2. Tra. Himasagara Chandra Murthy, *Śārṅga-dharasamhita*, Madhyamakhaṇḍa 7/40-49, Chaukhamba Sanskrit Series, Varanasi, 2001
3. Ibid, Madhyamakhaṇḍa 7/82-83
4. Govindsing (Edited by S.N. Mishra), *Bhaiṣajyaratnāvali*, Kāsarogādhikāra/13-15 Chaukhamba Surbharati Prakashan Varanasi, 2005.

EFFECT OF MĀÑIBHADRA VAṬAKA IN THE MANAGEMENT OF EKAKUṢṬHA (PSORIASIS) - A CLINICAL STUDY

B. S. Praveen and T. B. Tripathy*

Abstract: Virecanakarma (purgative therapy) is one of the prime treatments in the management of pittaja and raktapradoṣaja disorders. Māñibhadra vaṭaka is a choice of virecana yoga in the management of ekakuṣṭha (psoriasis). This study was undertaken to analyse the fact and the outcome of the therapy in relation to the virecanaśuddhi. Virecanakarma performed with Māñibhadra vaṭaka showed statistically significant improvement on the signs and symptoms of psoriasis.

Introduction

Virecanakarma (therapeutic purgation) is one of the prime modality of śodhana therapies in the management of bahu-doṣa-avastha (state of one/two doṣas)¹ especially in pittaja, rakta-pradoṣaja and sannipātaja vikāras. Though the virecana auśadhis (purgative medicaments) are prescribed based on different factors like guṇa (physical properties) and tīkṣṇata (intensity of action) of the formulation, exact dosage and outcome of the virecanakarma with specific virecanayoga in a particular kuṣṭha has not been studied till date. Suśruta recommends repeated śodhana (eliminatory therapy) in kuṣṭha roga (skin diseases) as it is a bahudoṣa condition and kḷeda-pradhāna-vikāra³. It has been claimed that Māñibhadra vaṭaka, one of the virecana yoga indicated in the management of kuṣṭha⁴, if consumed for one month, cures kuṣṭha⁵.

Psoriasis is a common, chronic and non-infectious skin disease characterised by well-

defined, slightly raised, dry erythematous macules with silvery scales and typical extensor distribution⁶. Due to its remission and exacerbation, the treatment is a challenge. Ekakuṣṭha is considered as psoriasis, because the description and characteristic features like asvedanam (lesions of this disease are dry and rough due to non-sweating), mahāvastum (lesions are found all over the body), matsya-śakalopama⁷ (well defined, erythematous, macules, papules and plaques found which are covered with silvery scales) are coinciding with the description of psoriasis.

Objectives: - To evaluate the efficacy of Māñibhadra vaṭaka as virecanayoga and the effect of virecanakarma in the management of ekakuṣṭha (psoriasis).

Materials and methods

Selection of the patients: - Patients were selected from the OP and IP Department of Kāyacikitsa and Pañcakarma, S.D.M. College of Ayurveda

*Department of PG Studies in Panchakarma, SDM College of Ayurveda, Hassan, 573 201, Karnataka, India.

and Hospital, Hassan, Karnataka, India and SDM Ayurveda hospital, Chikmagalur, Karnataka, India.

Diagnostic criteria: - The clinical features of ekakuṣṭha supplemented by the features of psoriasis were the primary criteria for diagnosis. This was supported by the following clinical tests: i) candlegreaze sign, ii) auspitz sign and iii) Koebner's phenomenon.

Inclusion criteria: - 1) Diagnosed patients of ekakuṣṭha of either sex between the age group of 17 to 60 years having madhyama koṣṭha and 2) chronicity of the disease less than 5 years.

Exclusion criteria: - Patients with other skin diseases like leprosy and major systemic illness, and those in whom virecanakarma is contra-indicated were excluded.

Treatment procedures

Selected 15 patients of ekakuṣṭha (psoriasis) were subjected for virecana. The patients were given Pañcakolacūrṇa (3g twice daily) with lukewarm water before food till appearance of samyakpacanalakṣaṇas (symptoms of proper digestion)⁸; and were administered medicated ghee⁹ in increasing dosage for 3 to 7 days till the appearance of samyaksnigdhalakṣaṇas (symptoms of properly performed internal oleation)¹⁰. After the achievement of samyaksnigdhalakṣaṇa, three days of rest period was given during which sarvāṅga abhyaṅga (whole body inunction) with medicated oil followed by bāṣpasveda (steam bath) was prescribed. During this period light diet was advised.

On fourth day, after snehapāna, Māṇibhadra vaṭaka was administered as virecana yoga (purgative medicament) in the dosage of 50 gm orally in the morning on empty stomach after sarvāṅga abhyaṅga (whole body inunction) and bāṣpasveda (steam bath). After proper virecana,

the patients were kept on samsarjanakrama (diet regimen) according to the type of śuddhi achieved.

Māṇibhadra vaṭaka

Māṇibhadra vaṭaka contains each one part of viḍaṅgasāra (*Embelia ribes*), harītaki (*Terminalia chebula*), āmalaki (*Emblia officinalis*) three parts of ṭṛvṛtmūla (root of *Merremia turpethum*) and twelve parts of guḍa (jaggery).

Preparation: - The kvātha (decoction) is prepared with powders of viḍaṅgasāra, harītaki and āmalaki (each one part) added with three parts of ṭṛvṛtmūla. Guḍa (twelve parts) was added to the kvātha (decoction) and cooked in mandāgni (mild fire) till appearance of samyakguḍapāka lakṣaṇa (symptoms of proper preparation), and cooled.

Ethical clearance: - Ethical clearance was obtained from the Ethical Committee of the Institution.

Assessment criteria

Virecanakarma was assessed based on vaigikiśuddhi (number of purgation), antikiśuddhi (content eliminated at the end of purgation) and laiṅgikiśuddhi (signs and symptoms). Vital signs and symptoms like pulse, etc. were observed before, during and after the treatment. After snehapāna, virecana, and samsarjana karmas (diet regimen after elimination therapy), the patients were assessed on the signs and symptoms of ekakuṣṭha which were clinically graded (Table 1).

Statistical analysis:- Clinical outcomes were tabulated and statistically analysed using the student 't' test and $p < 0.05$ was considered as statistically significant.

Observations and results

Of 15 patients, maximum belonged to 31-40 and 51-60 years of age group and were males having mixed diet habit (Table 2). The causative factors

TABLE 1
Assessment criteria used in the clinical study

Signs and symptoms	Score
1 Matsyaśakala:	
Present	2
Improvement	1
Absent	0
2 Maṅḍala:	
Normal skin	0
Faint or near to normal	1
Blanching + red colour	2
No blanching + red colour	3
Red colour + subcutaneous	4
3 Asvedanam:	
Normal	0
Improvement	1
Present	2
4 Rūkṣata:	
No line on scratching with nail	0
Faint line on scratching by nails	1
Lining and even words can be written on scratching by nail	2
Rūkṣata leading to crack formation	3
5 Kaṇḍu:	
No itching	0
Mild / occasional itching	1
Severe itching frequently not disturbing sleep and other activities	2
Very severe itching disturbing sleep and other activities	3
6 Dāha:	
Present	2
Improvement	1
Absent	0
7 Candlegrease sign:	
Present	2
Improvement	1
Absent	0
8 Auspitz sign:	
Present	2
Improvement	1
Absent	0
9 Koebner's phenomenon:	
Present	2
Improvement	1
Absent	0

of ekakustha noted in this study were cigarette smoking, alcohol consumption, amla and kaṭu rasa (sour and spicy taste) dominant diet, unwholesome diet and life style, etc. (Table 3) Limbs and trunk were found as the most frequent parts affected (40% each). Maximum number of patients had plaque and scaly lesions (93.3%) and all the patients were having positive candlegreaze sign.

Snehapāna: - Mean quantity of medicated ghee required to attain the symptom of properly performed internal oleation (samyaksnigdha lakṣaṇa) was 384 ml. An average duration of 4 days was required to achieve samyaksnigdha lakṣaṇa in the patients possessing madhyama koṣṭha. On the last day of the snehapāna,

TABLE 2
Distribution of patients on various parameters (total number of patients 15)

Description	%
1. Male	93.33
2. Mixed diet habit	66.6
3. Employee class	46.7
4. Vāta-pitta prakṛti	46.7
5. Rājasika prakṛti	66.66

TABLE 3
Causative factors of ekakuṣṭha

Causative factors	% of patients
1. Cigarette smoking	40
2. Alcohol consumption	40
3. Diet habit / life style	
- Amla and kaṭu rasa dominant diet	80
- Unwholesome diet and life style	80
- Contradictory actions (mithya vihāra)	80
4. Psychological causes	
- Mānasika nidānas / stress	73.3
5. Positive (family) history	20
6. Season aggravating the symptoms	
- Winter	80

patients consumed average quantity of 160 ml as the maximum dosage to bring out samyak snigdhalakṣaṇa.

Māñibhadra vaṭaka induced first vega (purgation) within average time duration of 43 minutes after administration. Thereafter vegas occurred till an average duration of 356 minutes (Table 4). Regarding vaigikiśuddhi (number of purgation), maximum patients had virecana vega ranging from 11-15; and in antiki śudhhi (last product of purgation), maximum patients had pittānta virecana followed by malānta and kaphanta virecana (Table 5).

All the patients had signs and symptoms of proper purgation (Table 6). One patient (6.7%) had the complication (vyāpat) of vomiting (ūrdhvapravṛtti) of the doṣa and one patient had the complication of tiredness without excretion (kṛama). Rest 86.6% of the patients were devoid of any vyāpat. All the patients had normal range

TABLE 4
Virecana auśadhikārya samaya

TAD* (am)	First vega	TIV* (in min)	Last vega	DAD* (in min)
9.15	09.45	30	3.30	345
9.00	09.30	30	3.00	330
8.50	09.30	40	3.15	345
9.00	10.15	75	3.30	315
9.00	09.20	20	4.10	410
9.35	10.30	55	2.00	210
9.30	10.15	45	4.30	375
9.15	09.45	30	3.10	325
9.10	10.10	60	3.45	335
9.00	09.50	50	4.25	395
9.30	10.30	60	3.30	300
9.05	09.45	40	5.30	465
9.20	09.50	30	4.45	415
9.30	10.15	45	5.30	435
8.45	09.15	30	2.45	330

* TAD - Time of administration of drug; TIV - Time taken to induce 1st vega; DAD - Duration of action of dravya

of blood pressure and pulse and respiratory rate during and after the procedure. Virecana with Māñibhadra vaṭaka produced significant improvement in almost all the signs and symptoms of ekakuṣṭha irrespective of the chronicity (Table 7).

TABLE 5
Vaigiki and antiki śudhis

Descriptions	No. of patients	Percentage
I. Vaigiki śudhi		
No. of vega		
1-5	0	0
6-10	2	13.3
11-15	6	40
16-20	4	26.7
21-25	3	20
II. Antiki śudhi		
Malānta	5	33.3
Pittānta	7	46.7
Kaphānta	3	20
Vātānta	0	0

TABLE 6
Samyak virecana lakṣaṇas

Lakṣaṇas	Total patients	
	No.	%
Śrotoviśuddhi	15	100
Indriya prasāda	15	100
Buddhindriya and mana:śśudhi	14	93.3
Laghuta	15	100
Agnivṛdhi	14	93.3
Anāmayatva	0	0
Vit-pitta-kapha-vāta krameṇa prāpti	6	40
Vātanulomana	13	86.7
Absence of ayoga lakṣaṇa	14	93.3
Mana:prasāda	7	46.7
Daurbalya	6	40
Glāni	0	0
Aruci	0	0
Hṛdaya-varṇa viśudhi	5	33.3
Kṣudha/tṛṣṇa	11	73.3
Vegapravartanam in proper time	10	66.7

Overall effect:- Maximum of 66.7% patients showed marked improvement, 20% patients had moderate improvement and 13.3% patients had mild improvement (Table 8).

Discussion

Virecana is one of the prime modality of treatment for the vitiated pitta as well as kapha. All skin disorders involve bhrajaka pitta, which is situated in the tvaca (skin) and rakta (blood); and it is a dūṣya in ekakuṣṭha. It was observed that the maximum number of patients were indulging in unwholesome diet and life style, which are correlated to that of dūṣiṣa. The relief provided by virecana is due to the removal of dūṣiṣa.

Psoriasis is a vāta dominant disease having rūkṣa (dryness), paruṣa and thick lesions due to uncontrolled growth of epidermis. Therefore, snehana (oleation), having opposite properties to these is considered as the best pacifier of vāta. Most of the drugs in Māñibhadra vaṭaka, possess laghu (lightness), rūkṣa (dry) properties and uṣṇavīrya (hot in potency) and kaṭuvipāka (acrid in post digestive taste), which enables it to act over tridoṣa especially on kapha, which is

TABLE 8
Overall result of the treatment

Description	No. of patients	%
Complete remission	0	0
Marked improvement	10	66.7
Moderate improvement	3	20
Mild improvement	2	13.3
No improvement	0	0

the main culprit in ekakuṣṭha. The drugs like harītaki, tṛvṛt are considered as the adbhaghahara (purgatives) whereas viḍaṅga considered as good krimighna (anti helminthic) and also act as adbhaghahara (purgative) by its prabhāva (special property).

As this study was carried out on madhyama koṣṭha patients, samyaknigdhalakṣaṇas was achieved in the stipulated time mentioned in the āyurvedic classics i.e. four days. From this, it can be concluded that madhyama koṣṭha person having the kuṣṭha disorder gets samyaknigdhalakṣaṇas with an average duration of 4 days and average dosage of 160 ml on the last day of snehapāna.

It is evident from the present study that Māñibhadra vaṭaka is quick enough to initiate

TABLE 7
Effect of virecana with Māñibhadra vaṭaka on signs and symptoms of ekakuṣṭha (psoriasis)

Signs & Symptoms	Mean		Change (%) (↓)	SD (+)	SE (+)	t*	p
	BT	AT					
Matsyaśakala	2	1	50	0.38	0.09	10.24	<0.001
Maṅḍala	2	1.53	23.3	0.74	0.19	2.43	<0.05
Asvedanam	1.87	1.73	7.14	0.51	0.13	3.06	<0.01
Rūkṣata	1.87	0.87	53.6	0.53	0.14	7.25	<0.001
Candlegreek sign	2	0.93	53.53	0.59	0.15	6.96	<0.001
Auspitz sign	1.47	0.93	36.36	0.64	0.17	3.23	<0.01
Koebner phenomenon	0.13	0.07	50	0.26	0.07	1	>0.10
Kaṇḍu	1.73	0.93	46.15	0.77	0.19	4	<0.01
Dāha	0.53	0.4	25	0.13	0.03	4.01	<0.01

* In comparison to BT; ↓ - decrease; (BT-Before Treatment) (AT-After treatment) (n=15)

and potent enough to produce virecanavega for longer duration in the madhyama koṣṭha persons. It can also be concluded that this formulation in the dosage of 50 gm can produce average of 10-20 vega in persons possessing madhyama koṣṭha. Maximum symptoms of samyakovirecana (proper purgation) were observed in this study. One patient had complication of ūrdhvapravṛtti (vomiting) of doṣa as he had kapha-dominant psoriasis, in which vamaṇa (therapeutic emesis) would have been better choice as the pūrvakarma (prerequisite) of virecana. Due to excessive virecanavega (25 times) one patient had the complication of kḷama (tiredness without excretion). Rest of the patients (86.6%) were devoid of any complications. Majority of the patients had pittānta śuddhi so it can be concluded that in order to get the prāvara śuddhi in persons possessing madhyama-koṣṭha the dosage of Māṇibhadra vaṭaka has to be increased.

Conclusion

- Māṇibhadra vaṭaka in the dosage of 50 gm can produce 10-20 vega on an average in the patients possessing madhyamakoṣṭha with maximum laiṅgikilakṣaṇa and pittānta in majority of the patients.
- Virechanakarma has provided statistically significant improvement in the symptoms such as matsyaśakala (silvery scales), asvedanam (non-sweating), rūkṣata (roughness) and Koebner's phenomenon.
- 66.7% patients showed marked improvement, 20% patients had moderate improvement and 13.3% patients had mild improvement on the signs and symptoms.

Acknowledgement

The authors are thankful to Dr. Prasanna N Rao,

Principal, SDM College of Ayurveda and Hospital, Hassan, Karnataka, India.

References:

1. *Charakasamhita* (with Ayurveda Deepika commentary by Chakrapani Datta), Sutrasthana 16/16, 4th Edn., Chaukhamba Samskrita Samsthana Varanasi, 1994.
2. *Ibid*, Chikitsasthana 7/39
3. *Susrutasamhita* (with Nibhanadha Samgraha and Nyayachandrika Teeka), Chikitsasthana 9/43, 8th Edn., Chaukhamba Orientalia, Varanasi, 2005.
4. *Ashtangasamgraha* (with Hindi commentary by Atrideva Gupta & Shrinandakishora Sharma), Chikitsasthana 21/9, Krishnadas Academy, Varanasi.
5. *Ashtangahrdaya* (with Vidyotini bhasha teeka by Atrideva Gupta and Yadunandan Upadhyaya), Chikitsasthana 19/31-32, 13th Edn., Chaukhamba Samskrit Samsthan, Varanasi, 2000.
6. Behl, P.N., Agarwal, A. and Govinda Shrivastava, *Practice of Dermatology*, 9th Edn., CBS Publishers and Distributors, 2002.
7. *Charakasamhita* (with Ayurveda Deepika commentary by Chakrapani Datta) Chikitsasthana 7/21, 4th Edn., Chaukhamba Samskrita Samsthana, Varanasi, 1994.
8. *Ibid*, Sutrasthana 22/34-35
9. *Bhishjyarnavali* (with Hindi commentary by Ambika dutta Shastri), 5/1285, Chaukhamba Samskrita Samsthana, Varanasi
10. *Charakasamhita*, (with Ayurveda Deepika commentary by Chakrapani Datta), Sutrasthana 13/58, 4th Edn., Chaukhamba Samskrita Samsthana Varanasi, 1994,

FIGHTING MENOPAUSE - A WAY BACK TO LIFE

Vaidya Nisha Gupta*

Abstract: Menopause is the ending of a woman's monthly menstrual periods and ovulation. It also brings about other changes to the body as well as to the mind because of cessation of estrogen production by ovaries. This is not a disease but a natural transformation in a woman's life. Frequency and severity of symptoms depends upon the positive or negative attitude to this change. Although menopause is one of the important phase in a woman's life, most of the women lack proper knowledge about the changes taking place in the body and their management. Simple lifestyle changes with a proper diet full of nutritional supplements and regular exercise can minimise the unpleasant events of the menopause to a greater extent thus making it more relaxing and graceful event of life.

Introduction

The word 'menopause' is derived from two Greek terms *menos* (monthly) and *pause* (halt) indicating complete cessation of menstrual periods and therefore the end of reproductive phase of a woman's life. In āyurveda this is referred to as the end of menstruation in the age of 50 and may be termed as rajonivṛtti. This is a physiological phenomenon naturally occurring to the body and definitely is not a disease. This is primarily related to the changes in the ovaries and secondarily to the uterus when production of estrogens is diminished gradually ultimately leading to end of periods and therefore fertility. Menopause generally occurs between the ages of 45-55. If the last period occurs before the age of 40, it is termed as premature menopause, and if it is between the age of 55-60 then it is known as late menopause. A woman is supposed to

reach menopause when she does not have periods for regular twelve months without any other cause. This transition is associated with physical as well as psychological sufferings in some women while others pass through the process very naturally.

Hormonal changes cause the physical symptoms but the false beliefs about this transition like loss of femininity and sexuality, getting old and approaching to end of life and many more worsen psychological disturbances, making this a complicated phenomenon difficult to manage. Proper understanding of menopause helps in the easy management by simple lifestyle adjustment.

Causes of menopause

In the beginning of ageing, along with other degenerative changes in the body, functioning of ovaries is also decreased resulting in less

*Department of Basic principles, National Institute of Ayurveda, Jaipur

production of hormones i.e. estrogen and progesterone gradually leading to end of menstruation and therefore ability to conceive. This generally progresses in two phases: i) perimenopause and ii) postmenopause.

Perimenopause is a period of four to five years before setting of full menopause. In this stage a woman starts experiencing symptoms of menopause like hot flashes and irregular periods. Post-menopause is a period when twelve months are passed without menstruation and ovaries are producing very small amount of hormones unable to ovulate and therefore making a woman pregnant.

Symptoms

Estrogen affects many parts of the body, including the blood vessels, heart, bone, breasts, uterus, urinary system, skin and brain. Loss of estrogen is believed to be the cause of many of the symptoms associated with menopause. At the time of menopause, the ovaries also decrease their production of testosterone - a hormone involved in the libido, or sexual drive. (Fig. I)

Changes in periods: - At the onset of menopause there is general variation in the menstruation e.g. shorter or longer periods, heavy or scanty bleeding, longer or shorter intervening period between two cycles.

Hot flashes: - This is the most common symptom of menopause found in as many as 75% of perimenopausal women. Feeling of sudden warmth in the face, neck and chest is known as hot flash. Commonly, the hot flash may begin with a feeling of nausea or a headache followed by a wave of heat, flushed skin, and palpitations (feeling a strong heartbeat). Hot flashes often increase skin temperature and pulse, and they

often cause insomnia or sleeplessness. This can last from 30 seconds to several minutes and frequency can be as often once in an hour.

Night sweats: - This is quite similar to hot flashes, but disturb during night severely disrupting the sleep. Women report waking up from a deep sleep to find their night clothes and bedding soaked with sweat.

Urinary problems: - Women generally suffer from pain or burning sensation during urination. All of a sudden, leaking while sneezing, coughing, or laughing can add to the embarrassment in public places at any moment. Urinary frequency is also increased

Vaginal changes: Because estrogen affects the elasticity of genital tract including vaginal lining, perimenopausal women may also have pain during intercourse and may note a change in vaginal discharge associated with dryness and itching. Susceptibility to inflammations and infections in the genitor-urinary tract is also increased.

Changes in the skin /soft tissue: - Estrogen deficiency results in loss of elasticity and therefore thinning of skin and soft tissues. As a result wrinkles are produced on the face signaling the old age along with flabbiness of all the soft tissues in the body especially change in the shape of breasts is seen.

Osteoporosis: - Loss in the density of bones is termed as osteoporosis and the speed is accelerated during perimenopausal years. In general peak bone density is reached in most women during the age of 25-30 years. After that, bone loss averages 0.13% per year. During perimenopause, bone loss increases to about a 3% loss per year. Later, it drops off to about a 2% loss per year. No pain is usually associated

with bone loss. However, bone loss increases the risk of bone fractures especially of wrist, spine and hips due to brittleness of bones. These fractures can be intensely painful and can interfere with daily life. They also can increase the risk of death.

Cholesterol: - Significant changes in cholesterol profile are seen at the time of menopause. There is increase in the values of Total cholesterol and LDL (bad) cholesterol that predisposes to heart disease.

CVS disease: - Cardiovascular disease means disease of the heart and the blood vessels or the arteries and the veins in the body. The risk

of cardiovascular disease is considerably higher in women after menopause and heart disease is the leading cause of death in women.

Weight gain: - A 3-year study of healthy women nearing menopause found an average gain of 5 pounds during the 3 years. Hormonal changes and decreased BMR are both possible factors in this weight gain.

Psychological disturbances: - Unpredictable mood swings, irritability in temperament, fatigue without apparent cause, loss of memory, difficulty in concentration over some subject, depression or anxiety are the major sufferings disturbing the mind during menopause.

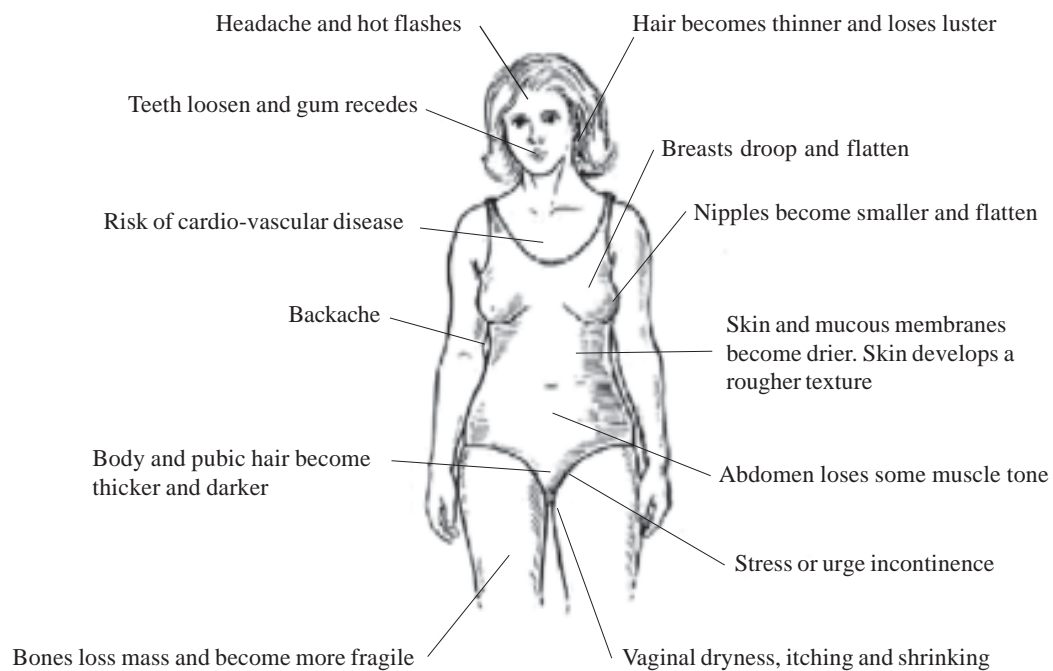


Fig. I
Changes during menopause

Sexual disturbances: - Desire to sex is reduced in majority of women. If persists this is always associated with painful intercourse, a condition known as dyspareunia. This may be because of vaginal dryness and atrophy of the vaginal muscles thus resulting in lost elasticity.

Āyurvedic perspective

According to āyurveda menopause or rajonivṛtti is a phase of transition from pitta to vāta phase of life. If a woman already has an imbalance of pitta or vāta in earlier years, things are going to worsen in menopause. Improperness of agni is an equally important cause for the production of āma, that on accumulation in the body and thereby obstructing the channels causes various types of diseases. Misuse or overuse of senses and mind plays a significant role in menopausal syndrome. The women who are greatly in stressful conditions or are extremely emotional by nature, suffer the most during menopause.

Management

Diseases described above occur with a higher risk during menopause and can be prevented or their severity can be reduced by following certain guidelines in the earlier stages as well as during menopause. These conditions include osteoporosis, cardiovascular disease and depression as serious health concerns along with many others as secondary diseases.

Nutrition for general health:-

- Take plenty of fresh vegetables, fruits, cereals and whole grains
- Drink 6-8 glasses of water daily
- Avoid caffeine in any of the forms (tea, coffee, cola, chocolates)
- Limit the use and dose of alcohol
- Take calcium rich, low fat, dairy foods

- Add soy to diet
- Calories should be reduced in view of low BMR.
- Quit smoking

For osteoporosis:-

1. Bone mineral density: - BMD testing is recommended for osteoporosis prevention. All women should have a special scan called dual-energy X-ray absorptiometry or a BMD test which measures bone mineral density.
2. Calcium: - All postmenopausal women should aim for 1500 mg of calcium each day. This can be in the form of three servings of dairy foods per day
3. Vitamin D: - Helps the body absorb calcium and incorporate calcium into bone. Postmenopausal women under the age of 70 years should get at least 400 IU of vitamin D each day either through diet or with vitamin supplement. Women over 70 years should take 800 IU of vitamin D.
4. Exercise: - Regular exercise makes bones stronger and inactivity increases the rate of postmenopausal bone loss. Weight-bearing exercises are best for building strong bones and slowing bone loss; these include activities such as walking, jogging, skipping rope, skiing, and tennis, but does not include bicycling or swimming.

For Cardiovascular disease:-

- Maintain a normal weight
- For high blood pressure get regular checkups are recommended
- Avoid cigarette smoking as well as second hand smoke exposure.
- Stick to a low fat diet and talk to healthcare professional about other things that can prevent or lower cholesterol level

- Get plenty of exercise, at least 30 minutes on most days of the week.

For psychological disturbances:- The following suggestions could help to improve the feeling of wellbeing:

1. Getting enough sleep and be physically active
2. Trying relaxation exercises like meditation and yoga or other techniques to reduce stress
3. Scheduling pleasant events into day
4. Keeping a diary of one's thoughts and feelings
5. Talking to friends or attending a support group for women who are experiencing similar problems
6. Undergoing psychotherapy or taking an antidepressant

For hot flashes:-

- Avoiding hot and spicy foods, alcohol, caffeine
- Dressing in layers
- Keeping a fan in your home or work place.
- Taking anti depressants.
- Doing aerobic exercises.

For vaginal dryness:-

- Vaginal lubricants could be tried over the counter.
- Topical use of estrogen replacement creams in vagina.

For sleeping problems:-

- 30 minutes physical activity must be done daily
- Avoid caffeine or large meals right before bed time
- Have some hot drink, herbal tea or milk before bedtime
- Try to go to bed and get up at a fixed time daily

- Try relaxation exercises like meditation before bed time

Hormone replacement therapy (HRT)

HRT is the best treatment for overcoming estrogen deficiency and associated disorders. In this therapy estrogen is administered in different forms e.g. oral tablets, injectables, patches, gels and creams. HRT should be practiced strictly under medical supervision. If not taken properly adverse effects like weight gain, irregular bleeding, nausea, vomiting, chest pain etc. can add to the grievances. Estrogen alone increases risk to abnormal growths and cancers of the endometrium. The women who have not a hysterectomy must take hormone therapy i.e. combination drugs of estrogen and progesterone. This is contraindicated in heart disease.

Phytoestrogens

Phytoestrogens are derived from plant sources and are being studied extensively nowadays for these bind the estrogen receptors and produce the same effects like natural or synthetic estrogens. These are known to strengthen bones and heart, improve sleep and memory, reduce hot flashes, increases sex drive, and makes skin naturally glowing. These are found in various herbs as well as in different types of food (Table 1&2)

Specific ayurveda therapies:

Although much has not been mentioned in āyurveda about menopause and related symptoms, these can be categorised in different doṣa groups according to the manifesting characteristic and then by managing it through holistic approach and life style guidelines. Regulation of diet, sleep, senses, mind and exercise all are the key elements of menopausal care.

Pañcakarma is the first line of treatment that

comprises of five purification procedures namely, vamana, virecana, āsthāpanavasti, anuvāsanavasti and nasya. These thoroughly cleanse the physical impurities from the body and bring about the homologation of doṣas, dhātus and malas. Abhyaṅga increase circulation and rejuvenate skin and therefore is very good in hot flashes. Yāpanavasti is given to build up the diminishing strength of the vital parts of body. Uttaravasti is very good in the regulation of apānavāyu and thus reduces the severity of genito-urinary problems.

Pañckarma is followed by regular administration of rasāyana drugs to revitalise the body. For

example, drugs of jīvanīya group, balya, bṛmhaṅīya, vyasthāpana, etc. Drugs of dāhapraśamana group are very much effective in hot flashes. In the similar way, other single drug or combinations can be formulated in menopausal patients.

Conclusion

So there is a long journey of sufferings all over the phase affecting the inner strengths of a woman and disabling her even for routine activities. This grave situation can be avoided if the forthcoming event is planned earlier with a vision of safety and prevention under the guidelines of a supreme system like āyurveda

TABLE 1
Drugs containing phytoestrogens

Name of drug	Effects on reproductive system	Effects on reproductive system
<i>Saraca asoca</i>	Stimulating effect on endometrium and ovarian tissues thus producing estrogen like effect in strengthening and toning up of uterus.	
<i>Asparagus racemosus</i>	Roots are used to treat debility, infertility, impotence, menopause, stomach ulcers, indigestion and dehydration. It provides strength to uterus and acts as general tonic.	
<i>Symplocos racemosa</i>	Controls uterine swelling by increasing the contraction of uterine muscles and arrests excessive uterine bleeding.	
<i>Aloe vera</i>	Improves blood circulation to uterus	
<i>Terminalia chebula</i>	Powerful adaptogen	Anti-stress agent
<i>Cedrus deodara</i>	Strong analgesic used in alleviation of painful condition in menopause.	
<i>Glycyrrhiza glabra</i>	Anti inflammatory, anti arthritic	Brain tonic and Rejuvenator.
<i>Centella asiatica</i>		Strong brain tonic, anti depressant and mood elevator
Ginseng (<i>Panax ginseng</i>)	Anti fatigue	Anti stress

TABLE 2
Foods containing phytoestrogens

Soy products	Legumes	Green vegetables	Fruits	Others
Beans Milk Yogurt Soy-flour	Chicken peas Lentils Mung beans	Spinach, broccoli, cabbage, cauliflower, brussel sprouts, Green beans, sweet- potato, garlic, carrot, turmeric	Pears, plums Strawberries	Flax seeds Sunflower seeds

where only life style guidelines are sufficient to show marvelous results. Although HRT is the best remedy for menopausal symptoms yet the holistic approach of this ancient system supersedes all other therapies. Aim is to strengthen the body as well as mind simultaneously to cope up with the event related symptoms. Positive attitude to different stages of life and particularly to menopause, a stage of degenerative changes in the body signaling ageing is the key segment of this management that ultimately leads to a happy, satisfactory and progressive life in a women's life because actual life has to come in future that is full of enthusiasm and liveliness.

References:

- 1 Ayurveda Dipika vyakhya, Chakrapani commentary on *Charakasamhita*.
- 2 Nibandhsamgraha by Dalhana on *Susruta-samhita*.
- 3 Sasilekha Vyakhya by Indu on *Astanga-samgraha*.
- 4 Shaw, R.W., Soutter and Stanton, *Gynaecology*, 3rd Edn., 2003.
- 5 Dutta, D.C., *Text book of Gynecology*, 22nd Edn., New Central Book Agency, 1994
- 6 Gracia, C.R., Samuel, M.D. and Freeman E. W., Defining menopause status: Creation of a new definition to identify the early changes of the menopausal transition, *Menopause*, 12, pp 128-135, 2005.. [Evidence Level B]
- 7 Dennerstein, L., Dudley, E.C., Hopper, J.L., Guthrie, J.R. and Burger, H.G., A prospective population-based study of menopausal symptoms, *Obstet Gynecol.* 96, pp 351-358, 2000 [Evidence Level B]
- 8 Nelson, H.D., Haney, E., Humphrey, L., Management of menopause-related symptoms, *Evid Rep Technol Assess (Summ)*, 2005;120:1-6. [Evidence Level B]

EXCERPTS FROM CIKITSĀMAÑJARI - LXII

P. Unnikrishnan*

Abstract: The causative factors of different types of karṇaroga (ear diseases) and their various treatments are continued.

Tinnitus and deafness are to be treated in the same lines as that of ear ache due to vitiation of vāta (vatika karṇasūla). When śleşma is also responsible for the diseases emesis, etc. are the first line of treatment. Deafness in children, aged and debilitated are difficult to cure. Deafness in slim persons and those who suffer from cough and asthma also hardly respond to the treatment. Chronic deafness is incurable. Except the above conditions, deafness is to be treated with internal and external use of oils, sudation, nasal medication, sirovasti, etc, based on the deranged doṣa.

Medicated oil (1 part) prepared from the expressed juice of the following as liquid components, and fine powders of yaṣṭyāhva (*Glycyrrhiza glabra*) and kṣīrakākoli (*Fritillaria roylei*) as solid components, relieves tinnitus, deafness and pain. The oil can be used for external application, filling of the ear canal or as nasal medication.

Eraṇḍa	<i>Ricinus communis</i>
Śigru	<i>Moringa oleifera</i>
Varuṇa	<i>Cretaeva magna</i>

Kadaḷimūla	<i>Musa paradisiaca</i>	1 part each
Kṣīram	Milk	4 parts

Application of Kṣīrabala is prescribed for relief of tinnitus and deafness. Medicated oil prepared from the decoction of ciṭṭamṛtu (*Tinospora cordifolia*) and kuṇuntoṭṭi (*Sida rhombifolia* ssp. *retusa*) and milk as liquid component, and paste of kuṇuntoṭṭi as solid component, relieves the diseases cited. Triphalādi tailam is also good.

Kapha dries up in the auditory canal by the excessive vitiation of vāta resulting in pain and heaviness of the auditory canal. This condition termed pratīnāha is treated by moisturising nasal cavity after which suitable oils are instilled in the cavity. Sudation is done to soften the adhesion. Ear is then filled with oils that have the capacity to clean the ear (Karṇasodhanaka taila). Here, sesame oil is mixed with śukta (medicated vinegar), rock salt, honey and juice of mātuḷuṅga (*Citrus medica*). The same treatment is done when audition is impaired by wax; itching of the canal is also relieved by this.

Otitis externa, a condition where the auditory

*"Sivam" Vaidyaratnam Road, Nayadippara, Kottakkal-676 503

canal is inflamed (karṇaśopha) is treated by nasya and external application of oils having pungent and hot properties, such as mustard oil. The same line of treatment may be followed in pūtikarma (pus with foul smell from the ear) and kṛmikarṇa (maggots from the ear). Especially, mustard oil (kaṭu taila) may be filled in kṛmikarṇa, or medicated oil prepared with the juice of tulasi and paste of kārṇāpuṣpa (flower of *Gossypium herbaceum*). Filling the ear with water medicated with śrṅgivera (*Zingiber officinale*) added with honey also relieves kṛmikarṇa.

Sesame oil, medicated with the juices of the following as liquid component, on instillation, relieves foul smell of the ear.

Nirguṇḍī	<i>Vitex negundo</i>
Jāti	<i>Jasminum grandiflorum</i>
Ravi	<i>Calotropis gigantea</i>
Bhṛṅga	<i>Eclipta prostrata</i>
Rasona	<i>Allium sativum</i>
Rambha	<i>Musa paradisiaca</i>
Vārttāka	<i>Solanum melongena</i>
Śigru	<i>Moringa oleifera</i>
Ādraka	<i>Zingiber officinale</i>
Kāravella	<i>Momordica charantia</i>

Sesame oil, medicated with the expressed juices of the following as liquid component and fine powders of triphala (*Terminalia chebula*, *Emblica officinalis*, *Terminalia bellirica*) and niśa (*Curcuma longa*) as solid components, on application of the head, relieves mucus discharge (pratiśyāya) from the nose within three days. This also relieves discharges from the ear. The leaf juices should be four times the quantity of oil. Application of this oil on the head for three days relieves otorrhoea, rhinitis and sinusitis permanently.

Punnāvīram	<i>Cassia auriculata</i>
Tulasi	<i>Ocimum sanctum</i>

Amṛtu	<i>Tinospora cordifolia</i>
Veṅga	<i>Pterocarpus marsupium</i>
Vilvam	<i>Aegle marmelos</i>

Make cotton wicks and clean the canal twice a day. Lit cotton wick filled with guggulu (*Commiphora mukul*) and extinguish; the fumes arising from it should be permitted to enter the canal. Fill the ear with honey afterwards. Foul smell, discharge of pus and irritation of the canal is relieved.

Medicated sesame oil prepared with the expressed juice from the tender shoots of the following as liquid component, relieves foul smell from the ear. Expressed juice from the leaves of jāti (*Jasminum grandiflorum*) also has the same medicinal effect.

Varuṇa	<i>Cretaeva magna</i>
Arka	<i>Calotropis gigantea</i>
Kapiṭha	<i>Limonia accidissima</i>
Āmra	<i>Mangifera indica</i>
Jambū	<i>Syzygium cumini</i>

Medicated sesame oil prepared from the following relieves secretions from the ear.

Tulasi	<i>Ocimum sanctum</i>
Karuka	<i>Cynodon dactylon</i>
Parpaṭam	<i>Hedyotis corymbosa</i>
Iraṭṭimadhuram	<i>Glycyrrhiza glabra</i>
Guggulu	<i>Commiphora mukul</i>
Drevatāram	<i>Cedrus deodara</i>
Paruttimoṭṭu	<i>Gossypium herbaceum</i> (buds)

Filling of the canal with kaṭutaila (mustard oil) is very effective in kṛmikarṇa. Cow's urine mixed with haritāla (orpiment) is also effective in kṛmikarṇa. The treatment prescribed for kṛmi is also effective in this stage.

The treatment of abscesses within the ear (karṇavidradi) is similar to that of abscesses,

but prior to treatment, emesis is to be done. In abscesses due to injury of auditory canal (kṣata-vidradhi), the treatment is that of pittavidradhi. In karṇārśa and karṇārbuda, treatment is similar to that of nasārśa and nāsavidradhi. Further treatments are to be based on deranged doṣa. Nasal medication and external applications (as detailed in vātika karṇasūla) are the treatments for degenerative lesion of the ear lobe (atresia); after that, sudation and rubbing the lobe with fine powder of tila (sesame seed) are also indicated.

Sesame oil medicated with the following is recommended for external application of the ear everyday.

Priyālabīja	<i>Buchanania lanzan</i> (seeds)
Yaṣṭyāhvā	<i>Glycyrrhiza glabra</i>
Hayagandha	<i>Withania somnifera</i>
Yava	<i>Hordeum vulgare</i>

Application of oils that are capable of regenerating the cartilage of the lobe is suggested. For e.g., sesame oil, medicated with fine powders of the following as solid component and milk as liquid component, on application, restores the natural size and texture of the lobe.

Śatāvri	<i>Asparagus racemosus</i>
Vājīgandha	<i>Withania somnifera</i>
Payasyā	<i>Lilium polyphyllum</i>
Eraṇḍa	<i>Ricinus communis</i>
Jivaka	<i>Malaxis acuminata</i>

Sesame oil medicated with either milk or meat soup of animals that are living in moist regions (ānūpa deśa) as liquid component, and fine powders of the following, promotes nutrition to the pinna.

Jivanti	<i>Holostemma ada-koedien</i>
Kākoḷi	<i>Fritillaria roylei</i>

Kṣīrakākoḷi	<i>Lilium polyphyllum</i>
Meda	<i>Polygonatum cirrhifolium</i>
Mahāmeda	<i>Polygonatum verticillatum</i>
Mudgaparnī	<i>Vigna pilosa</i>
Māṣaparnī	<i>Vigna radiata</i> var. <i>sublobata</i>
Jivaka	<i>Malaxis acuminata</i>
Rṣabhaka	<i>Malaxis muscifera</i>
Madhuka	<i>Glycyrrhiza glabra</i>

Fine paste prepared from the powders of eḷḷu (*Sesamum indicum*) amukkura (*Withania somnifera*) and yaṣṭi (*Glycyrrhiza glabra*) on application on pinna repeatedly, promotes its strength.

Ghee prepared from buffalo-milk's butter medicated with milk as liquid component, and fine powders of amukkura (*Withania somnifera*) and āvaṇakkinver (*Ricinus communis* - root) as solid component are to be used to prepare medicated ghee with the addition of mezhuku (bees wax). This ghee is prescribed for frequent application and gentle massage on the lobe. Application of Śatāvri vājīgandhādi medicated sesame oil (mentioned earlier) is also effective.

Medicated sesame oil, prepared from fine powders of the following as solid component and milk as liquid component, is recommended for external application.

Śatāvri	<i>Asparagus racemosus</i>
Amukkura	<i>Withania somnifera</i>
Aṭapatiyanver	<i>Holostemma ada-koedien</i> (root)
Āvaṇakkinver	<i>Ricinus communis</i> (root)
Kāṭṭuzhunnu	<i>Vigna radiata</i> var. <i>sublobata</i>
Kāṭṭupayar	<i>Vigna pilosa</i>
Irattimadhuram	<i>Glycyrrhiza glabra</i>

Butter prepared from buffalo milk can also be applied locally.

Application of leech is indicated in itching and exfoliation of the lobe. Sesame oil, medicated with expressed juices from the leaves of the following, on external application, relieves the above specified conditions.

Nālpāmara The four fig trees -
Ficus racemosa
Ficus microcarpa
Ficus religiosa
Ficus benghalensis

Daśapuṣpa:

Pūvan-
 kuruntīla *Vernonia cinerea*
 Muyalcevi *Emilia sonchifolia*
 Viṣṇukrānti *Evolvulus alsinoides*
 Dūrva *Cynodon dactylon*
 Mukkuffi *Biophytum sensitivum*
 Uzhiñja *Cardiospermum halicacabum*
 Tirutāḷi *Ipomoea sepiaria*
 Nilappana *Curculigo orchioides*
 Kaññuṇṇi *Eclipta prostrata*
 Ceṟupūḷa *Aerva lanata*

Application of oil medicated with crushed earthworms is also suggested. Application of buffalo-butter, medicated with fine powders of āvaṇakkīnver (root of *Ricinus communis*), amukkuram (*Withania somnifera*) and aṭapatiyan (*Holostemma ada-koedien*) as solid component and milk as liquid component, is prescribed to enlarge the hole in the lobe (used for wearing ornaments). Add a small quantity of bee's wax before filtering the hot oil to vessel. Treatments indicated for pālīśoṣa are also good.

Tantrika is a condition where the ear lobe becomes narrow and stiff. Here, all the treatments indicated for pālīśoṣa are effective. Tantrika and pariṣoṭa can also be treated likewise. Auricular allergic edema (utpāta) is first

treated with bloodletting by leeches. Jambvā-mrapallavādi and ghee indicated in weeping skin lesions (vīsarpa) can also be used.

Extensive painless edema of the auricular appendage (unmantha) is treated with the application of sesame oil medicated with the fat of alligator (godhā) and crab (karki). Otitis externa in children is treated by filling the ear with sesame oil medicated with black deer skin (kṛṣṇājina). Secretions from the ear of children are arrested by filling the ear with sesame oil medicated with the tail of kabārī (a type of deer) or the fat of crab (kuḷīra).

Oṭṭeruma or koṭṭeruma (a beetle of 6 to 10 mm in length) if accidentally enter the canal, filling the canal with the expressed juice of thin leaf of kaḷḷi (*Euphorbia ligularia*) mixed with sesame oil, is prescribed. Expressed juice of veṭṭīla (*Piper betel*) mixed with sesame oil or juice from the leaves of jyeṣṭha (scum of gruel / gruel), mixed with oil, can also be used. Instillation of warm salt water mixed with the expressed juice of erikkizhaṅgu (*Zingiber officinale*) is also effective in this case. Fill the canal with a mixture of water and sesame oil to get rid of any small insect trapped in the ear.

Ingression of insects in the canal should be treated by filling with warm salt water or śukta (medicated vinegar). Washing of the canal with de-moisturising liquids such as kaṣāya, etc. helps to remove the dead insect from the ear. Medicated sesame oil prepared with the juice from the buds of parutti (*Gossypium herbaceum*) and root bark juice of muriṅga (*Moringa oleifera*) as liquid component and vayampu (*Acorus calamus*), ṅjanṭu (crab), salt and rasona (*Allium sativum*) as solid components, relieves pain and discharges from the ear.

Filling the ear with sesame oil medicated with

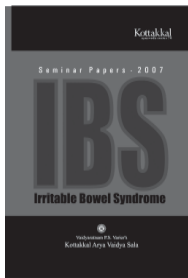
the buds of parutti is very effective to arrest ear secretions like the friendship of a fraud friend. Medicate one part of sesame oil with four parts of the expressed juices of guñja (*Abrus precatorius*), vilvadaḷa (leaf of *Aegle marmelos*), viśokadaḷa (leaf of *Saraca asoca*) and veḷlerukku (*Calotropis procera*) as liquid component and fine powders of the following (one tenth of the weight of oil) as solid component. This preparation, termed Karṇāmṛta, is nutritive for the ear.

Śrīvr̥kṣa	<i>Aegle marmelos</i>
Tvak	<i>Cinnamomum verum</i>
Ajāji	<i>Cuminum cyminum</i>
Tinduka valka	<i>Diospyros malabarica</i> (bark)

Kuḷira	Crab
Viśva	<i>Zingiber officinale</i>

Filling the ear with sesame oil medicated with the juice of ciñcaphala (fruit of *Tamarindus indica*) or jambīranīra (juice of *Citrus lemon*) relieves pain. Oil medicated with bhūnāga (earthworm) and sarja (*Veteria indica*) also has the same effect. Coconut oil medicated with the soup of tuvara (pigeon pea) as liquid components and saindhava (rock salt) and ādraka (*Zingiber officinale*) as solid components, on filling the canal or as nasal medication (nasya), kills karṇamārkoṭa (otteruma).

Kottakkal Ayurveda Series: 70



Irritable Bowel Syndrome

SEMINAR PAPERS - 2007

Price:30/-

In the current mechanical life, health of an individual is directly related to his life style. The changes in the food habit and stress and strain are the main culprits in the causation of a variety of diseases. According to the ayurvedic pathology, both the above mentioned factors have a very strong impact on the health status. This book contains papers presented at the 44th Ayurveda Seminar on IBS, held at Kannur on November 2007.

NOTE TO THE CONTRIBUTORS

Contributions to Āryavaidyan are requested to be made in the following format:

- The article should be authentic and not published earlier.
- Contributions in the form of a research paper, review article, clinical observation or a book review are welcome from the fields of Āyurveda and allied subjects, naturopathy, Siddha, Unani, Homoeopathy, Yoga, Modern medicine, drug research, pharmacognosy, botany, phytochemistry and pharmacology. Publication will be made on the basis of the recommendation of an expert body.
- The main title, indicative of the content, should be brief. An abstract, not exceeding two hundred words, be prefixed to the article. English equivalents may be provided to Sanskrit terms [e.g. vīrya (potency), guṇa (property), etc]. Correspondence address including e-mail, and affiliations, if any, of the author be attached to the text.
- Tables, minimized to the extent possible, with suitable reference to the context can be attached to the matter.
- Line drawings/pictures accompanied by descriptive legends may be submitted in original. Figures may be numbered and referred to in the text as “Fig 1” etc. (In the case of e-mail, the figures have to be attached as JPEG images)
- Reference matter may be arranged in the following order - Author, Text, Edition, Publisher, Pages and Year, etc. Example:
 1. John Bernar Hentory, *Clinical diagnosis and management by laboratory methods*, 17th Ed., WB Saunders Company, Philadelphia, pp 172-175, 1989.
- Matter can be sent by surface mail prepared in Laser Jet print or e-mail. Devanagiri scripts/diacritical marks may please be avoided in e-mail.