



आयुर्वेदामृतम्

AYURVEDAAMRUTAM

[Contemporary Health and Ayurveda Research Updates]



VOL. 2

ISSUE 2

July - Dec. 2013

Patron



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Editorial

Genomics and Ayurveda
Prof.A.R.V.Murthy, Dean & Suptd.



One of the recent trends in areas of Ayurvedic research is with the concept of genomes and their correlates with the bio-humours described in Ayurvedic classical texts. Genomics is defined as branch of biotechnology concerned with applying techniques of genetics & molecular biology, genetic mapping & DNA sequencing of sets of genes or complete genomes of selected organism using high speed methods.

It is difficult to have a one to one correlation between the concepts of genes, chromosomes described in modern science with the terms available in Ayurvedic texts. The terms like Beejabhaga & Beejabhagavayava have been mentioned in Ayurveda, but no elaboration on these terms as such is available. The concept of Prakriti, Doshas & more relevantly the concept of dosha prakriti is being seen as a gray area for research and research base. The concept of Ayurveda Prakriti by nature is considered more or less unalterable. This genetic composition or Prakriti has two basic elements: Psycho-somatic constitution (Deha prakriti) & Psychic-constitution (Manasa Prakriti). Psychosomatic constitution is categorized on the basis of preponderance of three biological constituents of body i.e. Vata, Pitta & Kapha, whereas psychic constitution is determined on the relative variation of three fundamental characters of mind (Manas) namely Sattva, Rajas & Tamas. Deha prakriti though is classified varyingly as dosha prakriti, bhuta prakriti and others, it is the concept of dosha prakriti on which the whole theory of genomics revolves.

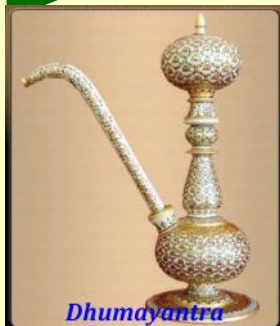
Though the word Prakriti (genetic constitution) refers to absolute equilibrium of the humours or attributes in a rigid sense, these factors being always practically unbalanced or in a state of continuum in any individual, Prakriti becomes a matter of periodical disturbance & restoration of the practical balance of all these factors. Hence a state of equilibrium of humours is accepted in spite of minimal variations in the ratio of humours or attributes. This variation can not produce a disease, but certainly reflects into the psycho somatic make up & creates susceptibility to specific categories of diseases & influences the approaches to tackle them. Further the "concept of acquisition" seems to have an influence on the genetic constitution as such. Factors like Species (Jati), Family tree (Kula), Territory (Desha), Season (Kala), Age (Vaya) - all have a role to play in determination of the concept of genetic composition (Prakriti). Thus the determination of genetic constitution of an individual helps us to identify the susceptibility to particular group of diseases and also helps us to evolve methods to prevent or tackle such diseases. It also helps us to identify biological markers in different diseases & study their correlates to genetic dispositions in the form of Vata, Pitta and Kapha as discussed in Ayurveda texts. The individual, both in health & disease exhibits the presence of doshas in normal or abnormal forms which are expressed in terms of signs and symptoms of health & disease as well. Ayurveda has linked these signs & symptoms to doshas & have discussed the approaches to tackle them by means of therapeutic measures in the form of purificatory (Shodhana) and palliative (Shamana) measures. These measures can bring the changes at cellular and sub cellular levels which can be studied in terms of genomics and proteomics.

A REVIEW OF TRADITIONAL THERAPEUTIC MODALITY - 'DHUMAPANA'

Dr. Sulakshana M. Kendre, Reader and Head,
Dept. of Swasthavritta
Dr. A.R.V. Murthy, Dean & Suptd.

Introduction:

Ayurveda has prescribed various therapeutic procedures which greatly influence the management of diseases and maintenance of human health. *Dhumapana* (smoking) is one such treatment described in Ayurveda. Smoking



being labeled a 'Taboo,' the good effects of this practice are generally ignored by the society. The present article reviews good side of the coin - "*Dhumapana*" - described in Ayurveda. *Dhumapana* in fact is not restricted to simple smoking but is applied to mean therapeutic smoking.

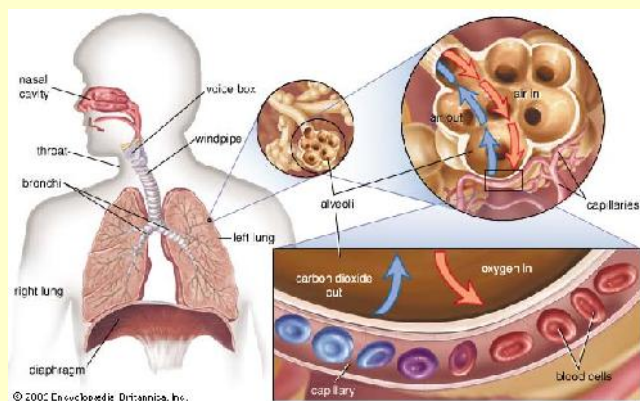
Review of Ayurvedic literature:

The word *Dhuma* refers to gaseous state of drug and *pana* refers to inhalation. *Dhumapana* is the method of drug administration described by Acharya Charaka. It is advantageously used as a part of '*Dinacharya*' (daily regimen) as well as therapeutically used in treating different diseased conditions. *Dhumapana* is indicated in the management of variety of diseases occurring in the region of head and neck commonly considered as *Jatru-Urdhwagata* Disorders in Ayurveda like - *Gaurava* (heaviness of head), *Shira shula* (headache), *Pinasa* (rhinitis), *Ardhvbhedaka* (hemisranias), *Karna shula* (otalgia), *Akshi shula* (diseases of the eye), *Danta dourbalya*, *Danta shula* (Diseases of the teeth), *Shrotra srava*, *Ghrana srava*, *Akshi srava*, *Puti Ghrana* (morbid discharge from ear, nose, and eyes) and *Kshavathu* (sneezing). It is also found to be useful in diseases of upper and lower respiratory tract, like *Kasa* (cough), *Shwasa* (COPD) *Hikka* (hiccup), *Galagraha* (obstruction in throat), *Vaiswarya* (impaired voice), *Gala shundi* (tonsillitis), *Upajivhika* (uvulitis), and conditions like *Hanugraha* (locked jaw), *Manyagraha* (torticollis), *Khalityam* (alopecia), *Pinjaratvam* (graying of hair), *Keshapatana* (hair fall), *Atitandra* (excessive drowsiness), *Buddhi moha* (loss of consciousness), and *Ati nidra* (hyper-somnia). In *Sushruta Samhita*, in addition to above indications was mentioned that *Dhumapana* results in calm, and clear senses, speech and mind, firmness of hair, teeth and mustache, pleasant smell and cleanliness of mouth.

Review of therapeutics in Conventional medicine:

Any substance can occur in any state of matter. Under standard atmospheric conditions, water exists as a liquid. But if water is boiled above 100 degree Celsius, or 212 degree Fahrenheit, it changes its state into a gas called water vapor. Changes in the state of matter are physical changes and not chemical changes. A molecule of water vapor has the same chemical composition - H₂O, just as a molecule of liquid water or a molecule of ice.

In *Dhumapana*, the drug gets converted into gaseous state and route of administration is nasal or oral. Gaseous state of drug represents only physical change without any change in chemical composition. Active drug is directly entering into upper respiratory tract, lower respiratory tract, head [through nasal pathway], stomach [through naso-pharyngeal path and oro-pharyngeal path], blood [through pulmonary circulation] and through blood into the mainstream circulation. In gaseous state drug is having weak bonding as compared to liquid and solid state, hence the drug action is very fast as compared to liquid and solid state. The drugs used for *Dhumapana* are acting



Gaseous exchange in lungs

locally in the supra-clavicular region including buccal mucosa, naso- & oropharyngeal mucosa, upper and lower respiratory tract. Therefore Acharyas have given primary indication of *Urdhvajatrugata* (supra clavicular) diseases. Drug might be directly absorbed into blood stream through gaseous exchange, hence might be having its potency to act at molecular level. There is a wide scope of research on this particular modality with emphasis on its beneficial effects in treating systemic disorders. Thus medicines can be utilized in gaseous state for achieving maximum potency and hastening the pharmacotherapeutic actions. Advanced technologies can be employed to standardize this ancient treatment modality on scientific parameters.

Precautions and untoward effects:

If *Dhumapana* is not done in proper way under the supervision of healthcare practitioners, it may cause acute or chronic untoward effects. If it is not followed in proper time and dose, it may lead to *Badharya* (Deafness), *Aandhya* (Blindness), *Mukatwa* (aphasia/dyarthria), *Raktapitta* (Bleeding disorders), *Shirograha* (headache), etc as described in Ayurveda. The modality is to be strictly observed in terms of duration, dose and time in order to avoid addiction and drug abuse.

Conclusion:

Dhumapana needs to be evaluated for its beneficial effects on the basis of scientific parameters for better efficacy and faster relief as described in Ayurveda.

References

1. Charaka Samhita Sutra sthana 5/ 27-32
2. Sushruta Samhita Chikitsa sthana 40/15-16
3. Charaka Samhita Sutra sthana 5/ 38-39

COMPUTER VISION SYNDROME – AN AYURVEDIC PERSPECTIVE

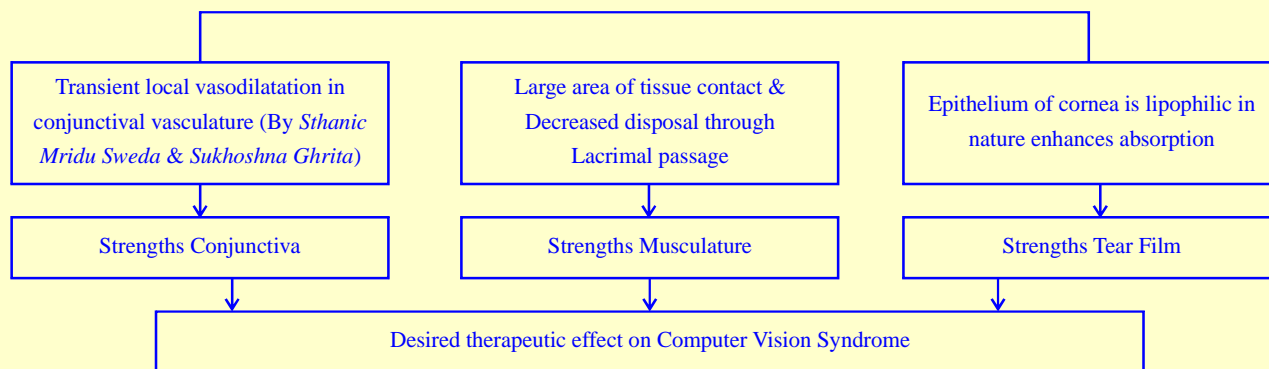
Dr. Rajesh Gadhiya*

*Lecturer in Dept. of Shalakyatantra

Introduction

The revolutionary technological advancement has made an impact in almost every aspect of our lives. Our daily tasks, office works, medical facilities, accounting, designing, database management and experimental works have all been greatly facilitated by this rapid pace of development in computer technology. Approximately 100 million people in the world are using computers now. In India about 20 million personal computers are in use. In our country the use of computer is increasing day by day. The cost of diagnosis and treatment of Computer Vision Syndrome in USA alone exceeds 2 billion dollar annually^[1] which indicates a reflection of importance to think about this new emerging medical and visual problem.

Flow Chart: Probable Mode of action of *Kriyakalpa*



Definition

According to the American Optometry Association, Computer Vision Syndrome (CVS) is the complex of eye and vision problems related to near work which are experienced during or related to computer use. CVS is characterized by visual symptoms such as eyestrain, headache, blurring of vision, dry or irritated eyes & difficulty in re-focusing the eyes^[2].

Pathophysiology

1. Decreased blinking reflex: Studies have shown that the normal blink rate in human eyes is 16-20 blinks/min. For persons working on the computer it is decreased to 6-8 blinks/minute. This leads to dry eyes.
2. Prolonged near focusing efforts: Puts strain on ciliary muscles of the eye and leads to a feeling of tiredness in the eyes.

Diagnostic tests

Tear film Break-up time (TF-BUT): Examined under slit-lamp with a red free light. Fluorescein dye is used. Normal- >10 seconds.

Schirmer Test-1: Special graduated paper strip is used. Normal value - >10mm in 5 minutes.

Rose Bengal Staining: To detect corneal and conjunctival epithelial defect in dry eyes. A positive result is highly significant for CVS.

Relationship of CVS & Ayurveda

Patients with Computer Vision Syndrome can present to clinicians with a

variety of symptoms as mentioned above which is exactly correlates with features of *Shushkakshipaka* mentioned in *Ayurvedic* texts^[3].

Management

Ayurvedic approach in disease management is holistic one, targeting the root cause of any disease rather than its manifestation only. Systemic and topical approach both are to be adopted in managing CVS, where the systemic one implies to correct the deranged body humors, replenishing the decreased body tissues and reducing the increased ones. *Vata-Pitta / Rakta* pacifying, *Rasa*(Plasma), *Rakta*(Blood), *Meda*(Fat), & *Majja* (Bone marrow) etc. enhancing systemic medications are indicated. At the local/ topical level to elevate any local damage and to support the local tissue a group of local ocular therapeutic procedures *Kriyakalpa* are indicated. These procedures include *Netra Tarpana*, *Putpaka*, *Seka*, *Ashchyotana*, *Anjana* and *Nasya* are predominantly indicated with the *Ghrita* based medicaments which have lubricating, nourishing as well as *Vata-Pitta/Rakta* pacifying qualities.

Reference:

1. Highlights of Ophthalmology Vol: 35 N: 4-2007 P: 24-28
2. Blehm C. et. Al, Computer vision syndrome: a review Dept. of Oph. and Visual Sciences, University of Texas, Houston, Texas, USA.
3. Sushruta. Sushruta Samhita Dalhana Comm. - Nibandhasangraha, Chowkhamba Orientalia Varanasi, 2002, Uttaratantra 6/3-4, 1/5-6, 9/20-24.

Achievements

Post Graduate course to be started in Sharira Rachana

GJ Patel Institute of Ayurvedic Studies and Research received Letter of Intent (LOI) from Department of AYUSH, Govt. India to start Post Graduate course in Sharira Rachana with permission for 5 PG seats, vide letter dated 26th April 2013 with Ref. No. R-14011/01/2012-EP(IM-1) and Ref. No. R-13011/01/2012-EP(IM-1).

GJPIASR Recognized by the UGC under Section 2(f) of the UGC Act, 1956.

G.J.Patel Institute of Ayurvedic Studies & Research is now recognized by the UGC under Section 2(f) of the UGC Act, 1956.

S. G. Patel Ayurveda Hospital & Maternity Home Recognized by Govt. of Gujarat for implementing Chiranjeevi Yojana

S.G.Patel Ayurveda Hospital & Maternity Home is registered under Chiranjeevi Yojana recently. Number of BPL card holders will be benefitted by this scheme for normal and complicated deliveries and also cesarean section operations.

State level Quiz competition organized by Himalaya Drug Company

A state level Ayurvedic quiz competition was held on 14th March 2013 by Himalaya Drug Company. Total 05 college teams from Vidyanagar, Lodhra, Nadiad, Ahmedabad and Surat participated in the competition. Lodhra college team secured first rank to represent Gujarat state in zonal round of the competition.

News and Events

Yoga training camp held at SG Patel Ayurveda Hospital

A twenty one days Yoga training camp was held for second year Ayurveda students under direct supervision of Dr.Sulakshana Jaybhaye, Reader and Head, Dept. of Swasthavritta.

Second Meeting of IEC conducted at Institute

Second meeting of Institutional ethical committee was held on 29th April 2013. Total 15 research projects [13 internal + 2 external from ARIBAS] have been approved for further submission to funding agencies.

Congratulations

University Rankers

1 st BAMS Jan – 2013	Dhara Deliwala	2 nd Rank
2 nd BAMS June – 2013	Vaneeta Vaishya	2 nd Rank
	Nikita Parmar	4 th Rank

College Rankers

1st BAMS Jan – 2013

Dhara Deliwala	1 st Rank
Jigna Mahida	2 nd Rank
Bharvi Sonariya	3 rd Rank

2nd BAMS June – 2013

Khyati Patel	1 st Rank
Vaneeta Vaishya	2 nd Rank
Amisha Patel	3 rd Rank

Radio talk delivered by staff

Faculty of the institute Prof. M.V.Kendre, Dr.Sulakshana Jaybhaye, Dr.Ritesh Gujarathi and Dr.Yogesh Deole delivered informative radio-talks on various Ayurvedic health topics over radio campus channel. The talks were invited by Shri Aurobindo Mission, Anand and the faculty were felicitated in a program at SP University.

Books Published

Various books authored by teaching faculty have been published by Lambert Publications, Germany.

Title of the book	Authors
Management of Sciatica [Gridhrasi]-A Research Study	Dr. M.V.Kendre
Improve Quality of Life through Ayurvedic Rasayana	Dr. Yogesh Deole
Explorative Comprehension on Kakamachi [<i>Solanaum nigrum</i>]	Dr. Dilip Jani
Post menopausal osteoporosis – minimizing bone loss through <i>Asparagus racemosus (Shatavari)</i>	Dr. Jasmine Gujarathi, Dr. Ritesh Gujarathi

CME conducted at Institute

DATE	SPEAKERS	TOPICS
05-04-2013	Dr. Menka Shah Dr. Anand Pol	Recent Advances in Diagnostic Test Clinical Methods In Ayurveda

Internal Seminars conducted at Institute

LIST OF SEMINARS	PRESENTERS
A comprehensive study of the origin and development of Srotas Sharir in reference to the science of evolution	Dr S. P. Tiwari
Hridrog – from the perspective of Basic principles Dept.	Dr Ritesh Gujarathi
Amashaya Gatavata	Dr Rahul Magare
Hridroga –from the perspective of Agadtantra Dept.	Dr Kishor Chaudhari
Acute dysphagia & odynophagia; Arma –Pterygium	Dr S. P. Navadia
Effect of vaitaran basti,Kati basti & Anchana (traction) in the management of katishula W.S.R. to Spondylolisthesis	Dr Sulakshana Kendre
Concept of Rasayana in Ayurveda	Dr A. R. V. Murthy
Kerala Specialty in Panchakarma; Amavata (Nirama Avastha)	Dr Rajkala Ramteke
Case presentation – Akshepaka	Dr Sagar Bhide
Sthoulya/Obesity – from the perspective of Anatomy Dept.	Dr S. P. Tiwari
Kesh Masi Anjana – A new approach in the management of Shushkakshipaka (Dry Eye Syndrome)”	Dr Rajesh Gadhiya
Nidanatmak study of 'Kleda' in context of “Mutrasya Kledavahanam” with reference to Prameha	Dr Anand Pol
Scorpion sting	Dr Kishor Chaudhari
A Case study on Chronic & Acute Dacryocystitis	Dr Rajesh Gadhiya
Charaka Samhita Seminar – Sutra Sthana Chapter 10 th to Chapter 11 th	Weekly Presentations

Annual Day Celebrations – Shishir 2013 Photos

