

SANGYAHARAN SHODH

August 2008

Volume 11, Number 2



संज्ञाहरण शोध

An Official Journal of
BHARATIYA SANGYAHARAK ASSOCIATION
(Association of Anaesthetists of Indian Medicine)

**Please encourage others to be new members
Bharatiya Sangyaharak Association (A.A.I.M.)**

Postal Address

Operation Theatre Block, Indian Medicine, S.S. Hospital, Banaras Hindu University,
Varanasi – 221 005.

Announcement

The membership of Association is available to persons who are activity engaged in the field of Sangyahan (Anaesthesia), Pain or Palliation. Membership will entitle members to attend the annual conferences and to receive the official Journal 'Sangyahan Shodh'. Please fill in enclosed form and send it with crossed cheque or D/D in favor of A.A.I.M., Varanasi.

Dr. S. Sharma
Hon. Secretary
A.A.I.M

SANGYAHARAN SHODH

Journal Subscription (For other than members)

Half yearly - Rs. 100.00 per copy
Annual - Rs. 190.00 for two copies

Please send cheque or D/D in favour of Sangyahan Shodh, A.A.I.M., Varanasi.

Address

Dr. D.N. Pande, Chief Editor, GB- 5, Lane 2, Ganeshpuri Colony, Susuwahi, Varanasi – 221 005.

Tariff for Advertisement in 'Sangyahan Shodh'

Full Page	-	Rs.	5000.00	} For insertion in one issue
Half Page	-	Rs.	2600.00	
Qr. Page	-	Rs.	1500.00	
Back Cover	-	Rs.	10000.00	
Inside Cover	-	Rs.	7500.00	
Life member – Advertiser	-	Rs.	50000.00	One time full payment

D/D or Cheque in favour of Chief Editor, Sangyahan Shodh, A.A.I.M., Varanasi.

Dr. Devendra Nath Pande
Chief Editor
Sangyahan Shodh

Office Bearers - Central Council

Patron

Dr. D.P. Puranik

Director

I.P.G.T.R.A, Tilak Ayurved College, Pune

President

Dr. D.N. Pande

Reader and Incharge Section of Sangyahan
Department of Shalya Tantra, IMS, BHU, Varanasi

Vice Presidents

Dr. K.K. Pandey

Reader, Deptt.of Shalya Tantra
IMS, BHU, Varanasi.

Dr. S. Bhat

Asstt. Prof.
S.D.M., Ayurved
College Udupi.

Dr. V.N. Shyndye

Assistant Professor
Tilak Ayurved College, Pune.

Secretary

Dr. Sanjeev Sharma

Treasurer

Dr. R. K. Jaiswal

Joint Secretaries

Dr. N.V. Borse

Dr. P.R. Mishra

Dr. A Pai

Ex-Officio Member - Dr. P.K. Sharma

Executive Members

Dr. P.K. Gulati

Dr. Ashok Dixit

Dr. C.K. Dash

Dr. Anil Dutta

Dr. D. Kalita

Dr. R.K. Gupta

Dr. Rajesh Singh

Dr. H.O. Singh

Dr. C. Medhi

B. BRAUN MEDICAL INDIA LTD.

○ **HEMOHES**

6% Hydroxy Ethyl Starch

○ **ONCOVERTIN**

Low Molecular Dextran – 40

○ **VESOFIX**

I.V. Cannula

○ **SPINOCANCE**

Spinal Needle

B. Braun Medical India Ltd.
1st Floor
177, Vidyanagari Marg
C.S.T. Road, Kalina
Santacruz (East)
Mumbai – 400 098

EDITORIAL BOARD – JOURNAL

Members Advisory Board

Chief Editor	Dr. Devendra Nath Pande, Varanasi	Dr. D.P. Puranik, Pune Dr. Ashok Dixit, Varanasi
Associate Editor	Dr. Kuldeep Kumar Pandey, Varanasi	Dr. S. Bhat, Udupi Dr. B.C. Senapati, Bolangir
Managing Editor	Dr. Sanjeev Sharma, Varanasi	Dr. C.K. Dash, Barhampur Dr. A.B. Limaye, Pune
Treasurer	Dr. R. K. Jaiswal Varanasi	Dr. P.K. Sharma, Varanasi Dr. P.S. Pandey, Varanasi Dr. S.K. Mishra, Bhadohi Dr. V.N. Shendye, Pune Dr. N.V. Borse, Pune

Sangyahan Shodh is published bi-annually and is an Official Journal of the Bharatiya Sangyaharak Association (Association of Anesthesiologists of Indian Medicine).

Subscription Rates for other than Life Members

Hfly	Rs.	100.00
Annual	Rs.	190.00
Life	Rs.	2000.00 (for 15 years)

Editorial Office

The Chief Editor, Sangyahan Shodh, GB-5, Lane-2, Ganeshpuri Colony, Susuwahi, Varanasi – 221 005.

The data, opinions, statements appearing in the papers and advertisements in this Journal are the responsibility of the Authors/Advertisers concerned. The editorial staff disclaims any responsibility whatsoever for the consequences of inaccurate or misleading data, opinion or statement published herein.

SANGYAHARAN SHODH

Volum 11, Number 2

August – 2008

CONTENTS

EDITORIAL	5
ROLE OF DASHMOOLGHANVATI IN POSTOPERATIVE PAIN MANAGEMENT – Dr. R. K. Jaiswal & Dr. D. N. Pande	7-16
ART OF SUTURING (SEEVAN KARMA) IN ANCIENT INDIA Dr. R.K. Pandey, Dr. M. Sahu & Dr. Mohan Kumar	17-32
Annual General Body Meeting - Minutes	33-34
RADIOLOGICAL INVESTIGATION OF FISTULA IN ANO Dr. S. S. Mishra	35-40
SUSHRUTA'S ENDOSCOPES PAST AND PRESENT Dr. Raman Singh & Prof. S.C.Varshney	41-45
ANAESTHESIA FOR A PATIENT WITH PARKINSONS DISEASE- A CASE REPORT - Poman Deepak, Kumar Vimal & Pandey K.K.	46-48
OBITUARY – Dr. Ratnesh Asthana	49
Membership Form	50
Notice U.P. State Branch Election	51
Invitation Sangyahan Day	52
Manas Prakriti – Psychic constitution of the body. Dr. Murlidhar Paliwal & Dr. Sunil Kumar	53-55
Role of Shigruggulu as Vedanahar (Anti-Inflammatory Analgesic)- Dr. B.N. Maurya & Dr. D.N. Pande	56-62
Peer Review Board	63
Critical Evaluation Of Ojovaha Srotas And Vyadhiksamatwa with Special Referer Immune System - Dr.P.S.Byadgi, Dr.Rajesh Kumar, Dr.Rakesh Kumar Singh, Dr.Gaurav Rathore,	65-71
Appeal for Articles – Research Papers and Case Reports	72

EDITORIAL

PRESIDENTIAL SPEECH - DURING XII NATIONAL CONFERENCE

Dear Colleagues,

This is my great privilege to address 6th time as president of AAIM at the inaugural function of 12th National Conference of AAIM at P.G. Ayurved Institute, Paparola, Baijnath- the holy city, in the lap of Himalyan range. The journey which started form “Kashi” in March 1997 never disrupted and we succeeded to organize 12th National Conference without fail. Our dedicated and devoted members of Association continuously made their best effects to advance on the path of development of Sangyahan and ultimately for upliftment of Ayurveda as whole. Central Council of Indian Medicine is also taking initiative to start P.G and P.G. Diploma Courses in Sangyahan with other Ayurvedic discipline. It is a right time to start P.G. Course in Sangyahan at R.G.G.P.G. Institute of Ayurveda, Paprola to nourish the surgical disciplines of Ayurveda. The other P.G. institute Pune and Udupi are also trying to start P.G. Course in Sangyahan at their center. I request the higher authorities of government and CCIM to give approval to these colleges in the interest of development of Ayurveda.

At this precious moment I would like to pray all of you to maintain the teaching and training standard as per CCIM directive so that we can serve the society with full efficacy and without any legal problem. The second thing which we can do is to provide training to our graduate and post graduate for disaster management so that we can draw the attention of government machineries as well as can prove our utility for the society. We should also take active role in HIV control and Polio eradication programme. At last I would like to congratulate the authorities of the R.G.G.P.G. Ayurved College, Paprola - specially to the Principal- Dr. D.K. Verma and Dr. Anil Dutt with all his colleagues for their support in holding of this conference I express my thanks to all the members of Org. body and AAIM for their help and support.

Jai Hind

Jai Ayurved

Jai Sangyahan

Devendra Nath Pande
Chief Editor

Lox **Anawin**
(Lignocaine) (Bupivacaine)

REGIONAL ANAESTHETICS

Fent **Supridol** **Riddof** **Myorelex** **Neovec** **Neocuron**
(Fentanyl) (Tramadol) (Pentazocine) (Succinyl) (Vecuronium) (Pancuronium)

ANALGESICS

MUSCLE RELAXANTS

Nex
(Naloxone)

Myostigmin
(Neostigmine)

OPIOID ANTAGONIST

REVERSAL AGENTS

Thiosol **Aneket**
(Thiopentone) (Ketamine)

Hypnothane **Sofane**
(Halothane) (Isoflurane)

INDUCTION AGENTS

INHALATION AGENTS

Mezolam **Neomit**
(Midazolam) (Ondansetron)



Tropine **Pyrolate**
(Atropine) (Glycopyrrolate)

PREMEDICANTS

NEON
Offers

ANTICHOLINERGICS

WIDER CHOICE

ROLE OF DASHMOOLGHANVATI IN POSTOPERATIVE PAIN MANAGEMENT

¹Jaiswal, R.K.

****Pande, D.N.²**

Abstract

Pain is the basic and most challenging problem for surgeons from the primitive age. The primary requirement of safe and satisfactory surgery is to abolish the pain during operation and in post-operative period.

In this clinical study, we selected Dashmoolghanvati on 100 healthy patients of A.S.A. grade I and II. The patients were divided into two groups. Each group included 50 patients with a narrow age and weight distribution. The patients of group I were pre-medicated with injection glycopyrrolate 0.2 mg I.M. 60 minutes before operation and Tab. Diclofenac sod. (50 mg) orally with an ounce of plain water 90 minutes prior to surgery. Group II were pre-medicated with injection Glycopyrrolate 0.2 mg I.M. 60 minutes before operation and Dashmoolghanvati (1000 mg) orally with one ounce of plain water 90 minutes before operation.

On the basis of observation it was concluded that the trial drug is capable to maintain the stability of pulse at all levels of the study. The drugs also do not produce any significant heart rate, blood pressure, respiratory rate and on blood sugar, blood urea and on serum creatinine. So Dashmoolghanvati is safe and anti-inflammatory analgesic and this can be used in postoperative pain management in those cases in which oral intake is allowed.

Keyword

H.S. = Highly significant

P.R.= Pulse rate

S. = Significant

Temp= Temperature

N.S = Not-significant

ETCO₂= End Tidal Carbon dioxide

VAS = Visual Analog Scale

MBP = Mean Blood Pressure

SpO₂ = Peripheral Saturation of oxygen

¹ Ph.D. Scholar, Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences, B.H.U., Varanasi

² Reader and Incharge, Section of Sangyahan, Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences, B.H.U., Varanasi

INTRODUCTION

Nowadays 'Sangyahan' deals very effectively in mitigating different painful conditions including those arising from surgery. Sangyahan is also trying to prove the efficacy of Ayurvedic principles, procedures and drugs widely accepted for betterment of mankind.

A study of literary materials reveals that people in ancient drugs were quite conversant with enough pain relieving drugs. Sushruta and Charka have mentioned the use of alcohol (sura) before operation and during the delivery to relieve pain, tension and allaying of apprehension, etc. In present research work the Dashmoolghanvati had been evaluated for its efficacy as an anti-inflammatory analgesic in post operative pain management under Lumbosacral subarachnoid blocks.

MATERIALS AND METHODS

For this research we had selected 100 patients of both sexes with in the age of 18 years to 60 years for lower abdominal surgery under lumbosacral subarachnoid block (LSAB) in two groups having 50 patients in each group. The patients of group 1st were premedicated with Tab. Dilcofenac sodium 50 mg orally at 10 P.M. in the night before surgery and 90 minute before anesthesia and injection Glycopyrrolate 0.2 mg I.M. 60 minute before anaesthesia.

The patients of group 2nd were premedicated with two vati of Dashmoolghan satva (1000 mg) orally at 10 P.M. in the night before surgery and 90 minutes before anesthesia and inj. Glycopyrrolate 0.2 mg I.M. 60 minutes before anesthesia.

SELECTION OF PATIENTS

Inclusion criteria

In the present study 100 patients of A.S.A. (American Society of Anaesthesiologists) grade I and grade II, between the age of 18 and 60 years undergoing operation of primary threading, bilateral tubal ligation, Herniorrhaphy, hysterectomy, prosectomy, haemorrhoidectomy were selected for this study from the O.P.D. and I.P.D. of the Department of Shalya Tantra, and Department of Prasuti Tantra, Faculty of Ayurveda, Institute of Medical Sciences, B.H.U.

Exclusion criteria

The patients with deformities of spinal cord, neurological and mentally disturbed, hepatic diseases, renal disorders, cardiovascular diseases, hypersensitive to local anesthetic,

those who were pregnant, those who were outside the age group 18-60 years, those who were outside the A.S.A. grade I and II were excluded.

Anaesthesia

Standard spinal technique with 25 SWG needle at L3-4/L4-5 interspaces in lateral sitting position was applied and inj. Bupivacaine 0.5% heavy 2.5 ml was given intrathecally.

Consent

For present study an informed consent was also taken for drug trial. The study was conducted after proper written consent of individual patients explaining the methodology and aim of the study.

Observation

Clinical observation was recorded on a standard proforma.

An assessment of the present clinical trial was done on the following parameters:

1. Evaluation of psycho-physiological effect on the patient after premedication.
2. Effect on the course of subsequent anaesthesia.
3. Observation during immediate post anaesthetic recovery period.
4. Requirement time of analgesic dose in postoperative period.

OBSERVATIONS AND RESULTS

1. GROUPING OF PATIENTS AND PREMEDICATION

Table 1. The number of patients and nature of premedication are as follows

Groups	No. of Patients	Premedication
Group I (Control)	50	<ol style="list-style-type: none"> 1. One Tab. of Diclofenac (50 mg) orally with an ounce of plain water on previous night at 10:00 pm and 90 minutes before surgery 2. Inj. Glycopyrrolate 0.2 mg IM 60 minutes before surgery
Group II (Trial)	50	<ol style="list-style-type: none"> 1. Two vati of Dasamoola Ghansatva (1000 mg) orally with an ounce of plain water on previous day at 10 P.M. and 90 minutes before surgery 2. Inj. Glycopyrrolate 0.2 mg IM 60 minutes before surgery

The above table shows the nature and dose of premedicants and number of patients in each group.

2. AGE AND WEIGHT

Table 2: The statistical comparison of age and weight between the groups.

Group		Age (years) Mean \pm SD	Weight (Kg) Mean \pm SD
Group I		38.42 \pm 9.35	56.04 \pm 6.41
Group II		39.72 \pm 8.11	56.04 \pm 6.41
Between the group comparison (unpaired 't' test)	t value	t = 0.74	t = 0.02
	p-value	p > 0.05	P > 0.05
Remark		NS	NS

It is obvious from the above table that means age and mean weight is identical in both the groups statistically.

3. DURATION OF ANAESTHESIA AND SURGICAL TIME

Table 3: The statistical comparison of mean of total surgical time and mean of duration of anesthesia time between the groups are as follows:

Group		Total surgical time Mean \pm S.D.	Duration of anesthesia time Mean \pm S.D.
Group I		61.5 \pm 40.6	94.02 \pm 24.07
Group II		59.6 \pm 31.32	97.50 \pm 27.98
Between group comparison (unpaired 't' test)	t value	t = 0.17	t = 0.67
	p-value	p > 0.05	p > 0.05
Remark		NS	NS

The table 3 shows that the mean total surgical time in group I and group II are 61.5 \pm 40.62 and 59.6 \pm 31.32 respectively while the duration of anesthesia in group I and II are 94.02 \pm 24.07 and 97.50 \pm 27.98 respectively.

The table 3 also shows the statistical comparison of total surgical time and duration of anesthesia time between the group are statistically not significant i.e. both the group are identical in nature.

4. REQUIREMENT OF 1st AND 2nd DOSE OF ANALGESIC

Table 4A: The statistical comparison of the mean of first analgesic dose requirement time (min.) and analgesic dose requirement time (min) between the group are as follows:

Group		First Analgesic Requirement time (min.); Mean \pm S.D.	Second Analgesic Requirement time (min.); Mean \pm S.D.
Group I		204.22 \pm 40.27	439.48 \pm 66.84
Group II		240.20 \pm 33.33	453.28 \pm 56.19
Between group comparison (unpaired 't' test)	t value	t = 4.87	t = 5.09
	p-value	p < 0.001	p < 0.001
Remark		HS	HS

Table 4B: The statistical comparison of the mean of 1st analgesic requirement time (min) and 2nd analgesic requirement time (min) within the groups (Paired 't'-test)

Within the group comparison of Analgesic Requirement time (Paired t-test)	
1 st dose vs 2 nd dose	
Group I	213.08 \pm 66.01 t=20.82 p<0.001
Remarks	HS
Group II	186.18 \pm 65.20 t=20.19 p<0.001
Remarks	HS

The table 4 shows that the 1st analgesic dose requirement time in group I is 204.22 ± 40.27 while in group II it is 240.20 ± 33.33 , whereas the 2nd analgesic doses requirement time is 439.48 ± 66.84 in group I and 453.28 ± 56.19 in group II.

The table 4A shows that the 1st and 2nd analgesic dose requirement time between the groups are statistically highly significant.

The table 4B shows that statistical comparison of analgesic requirement time within the group 1st dose vs 2nd dose is highly significant.

5. DESIRABLE AND UNDESIRABLE EFFECTS

Table 5a: Desirable effects observed in patients of group I and II.

Desirable effect	Group I		Group II		Between the groups comparison Z-test (Proportio-nal test)
	Frequency	%	Frequency	%	
Sedation	40	80	45	90	Z=1.40 p>0.05 NS
	10	20	5	10	
Lack of apprehension	35	70	40	80	Z=1.55 p>0.05 NS
	15	30	10	20	
Lack of excitment	40	80	45	90	Z=1.40 p>0.05 NS
	10	20	5	10	

The above table shows the desirable effects in patients of group I and group II after premedication as observed. Sedation is observed 80% in patients of group I and 90% in group II. Lack of apprehension is observed in 70% in group I and 80% in group II. Lack of excitement is observed 80% in group I while 90% in group II. The above table 5(a) shows desirable effect like sedation, lack of apprehension and lack of excitement between the group comparison are not significant.

Table 5b: Undesirable effects observed in patients of group I and II.

Undesirable effect	Group I		Group II		Between the groups comparison Z-test (Proportio-nal test)
	Frequency	%	Frequency	%	
Dizziness	0	0	0	0	NS
	50	100	50	100	
Vomiting	0	0	0	0	NS
	50	100	50	100	
Nausea	5	10	0	0	Z=2.29 P<0.05 S
	45	90	50	100	
Dryness of mouth	10	20	8	16	Z=0.52 p>0.05 NS
	40	80	42	84	

The above table shows the undesirable effects in patients of group I and group II after premedication as observed. Dizziness was absent in both the groups. Vomiting was also absent in both the groups. Nausea was present in 10% patient in group I while it was absent in group II. Dryness of mouth was present 20% in group I while it was present in 16% in group II. The above table 5(b) shows the undesirable effect like dizziness, vomiting and dryness of mouth between the groups comparison are not significant while nausea is significant.

6. POST ANAESTHETIC SEQUALAE

Table 6: The incidence of post anesthetic sequalae observed in group I and II

Complication	Group I		Group II	
	No	%	No	%
Headache	0	0	0	0
Backache	0	0	0	0
Convulsions	0	0	0	0
Hypersensitivity reaction	0	0	0	0
CNS involvement	0	0	0	0
Retention of urine	0	0	0	0

It is obvious from above table that none of the patients of both the groups show any post-anesthetic sequalae like headache, backache, and convulsion etc. during post-anesthetic period. Hence we can say that both the drugs are equally effective and safe even in the post operative recovery period.

CONCLUSION

1. After observation on 100 patients we concluded that the trial drug is capable to maintain the stability of pulse at all the levels of study.
2. The drugs do not produce any significant alteration in cardiovascular system during anesthesia and after recovery from anesthesia.
3. Both the drugs have no respiratory depressant action.
4. No clinical changes occur in SpO₂ & ETCO₂ during every step of study.
5. Both the drugs possess analgesic and anti-inflammatory properties but Dashmool ghanvati possess a little longer duration of action.

References:

- Abhinav Nighantu. Hindi commentary by Dutta Ram Chaube, Nirnaya Sagar Press, Bombay 1916.
- Bapa Lal (1968), Nighantu Adarsh (Hindi) by B.G. Vaidya Chow, Vidya Bhawan, Varanasi.
- Basu N.K. and Lamsal P. (1947). Investigations of Indian Medical Plants II – Hydrocotyle asiatica Quart. J. Pharma 20; 137.
- Bhav Prakash Nighantu 4th Ed. Pande, G.S. and Chunnekar, K.C. (1959). Chowk, Vidya Bhawan, Varanasi.
- Bhava Prakasha : Vidyotini Hindi Comm. by Shri Brahma Shankar, Chaukhamba Sanskrit Series Office, Varanasi 1st Part (1969) (V ed.).
- Champak Medhi, Pande D.N. (2003) Evaluation of Shigru in Sangyahan as Pre-anaesthetic agent.
- Charak Samhita : Text with English Translation and Critical Exposition based on Chakrapani. Ayurveda Deepika by R.K. Sharma and Bhagwandas: Chaukhamba Sanskrit Series, Varanasi (1990).

Chaukhamba Sanskrit Series, Varanasi (1990). Churchill Davidson. Practice of anaesthesia, 5th Edn. 1984.

Dutt A.T., Ghosh S. and Chopra R.N. Chemical investigation of gum resin from Balsamodendron mukul. Indian J. Med. Res. 1942, 30; 331.

Dutta. A. et al. Comparative clinical study of Brahmi and Ashwagandha as preanaesthetic medication 1993.

Dwivedi K.N., (1985) Effect of Dashmoola on Diabetic Neuropathy.

Pande D.N. (1986), Poorvakarama in relation to anaesthesia, M.D. (Ay.) Thesis, I.M.S., B.H.U., Varanasi.

Sah G.S. (1998): Study of Parijat in Post Operative Pain under Sub-arachnoid Block.

Sharma P.K. et al. Evaluation of Jatamansi as Pre anaesthetic medication A-biochemical study – 1997.

Sharma P.V. – Classical usage of medicinal plant 1996 Chaukhamba edition.

Sharma P.V. (1975), Dravyaguna vigyana Parts II and III. Ed. 3rd, 4th, Chowkhambha Prakashan, Varanasi.

Sushruta Samhita (1962). Hindi Commentary Ambika Dutta Shastri. Chow. Curr. Res. 7 : 361.

Sushruta Samhita commentary by Dr. Bhaskar Govinda Ghanekar and Shiv Narayan Upadhyay. Naya Sansar Press, Kashi.

Udupa, K.N. (1961) Principles of General Surgery, BHU.Press, Varanasi.

Yogaratanakar : Hindi commentary by Laxmipati Shastri, III ed. 1983, Chaukhamba Sanskrit Samsthan, Varanasi.

APPEAL

All the life members who had already paid Rs. 500.00 as Life Membership fee are requested to send a DD of Rs. 500.00 in favor of A.A.I.M. payable at Varanasi for purchase of Land of office of Association (C.C.) at Varanasi.

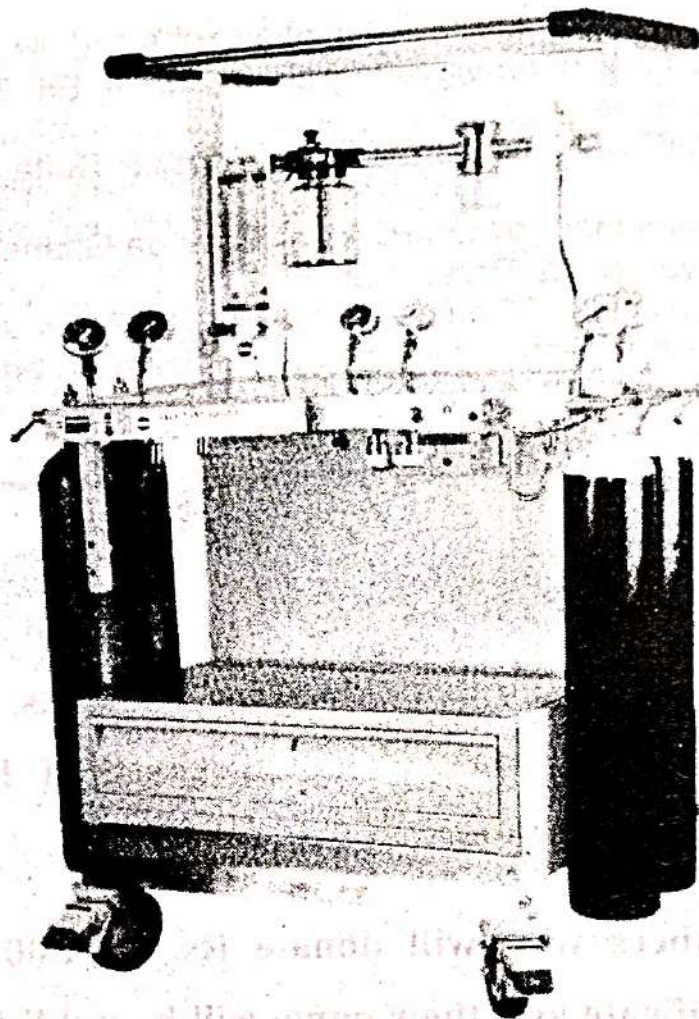
The members who will donate Rs. 1001.00 or more will be presented a certificate and their name will be published in the Journal with their Photographs.

Due to increase in Postal Charges the Journal will be send only to those members who will send Rs. 100.00 as Postal Charges by M.O./ D.D. in favor of Sangyahan Shodh.



A HOUSE OF MEDICAL APPLIANCES

Health Care Products



Major Plus Mk-IV

Authorized dealer
VARANASI SURGICAL TRADING CO. : Ritesh Kumar and Vivek Kumar
ABC Tower IInd Floor, Shop 9, Sagra, Varanasi
Tel : 2435274; Mobile : 9415204501

ART OF SUTURING (SEEVAN KARMA) IN ANCIENT INDIA

Rakesh Kumar Pandey¹, M. Sahu² and Mohan Kumar³

Abstract

The science and art of surgery had advanced by the use of raw material products for the closure of wound as early as 600BC. As a method for closing the wounds, the technique of suturing is thousands of years old. Although suture materials and aspects of the technique have changed, the goals remain the same: closing dead space, supporting and strengthening wounds until healing increases their tensile strength, approximating skin. The choice of suture technique depends on the type and anatomic location of the wound, thickness of the skin, the degree of tension, and the desired cosmetic result. Sushruta (Father of ancient Indian surgery) very well recognized Seevan Karma and its importance in surgery. From long no scientific and planned studies could be undertaken regarding its technical aspects (i.e. method of suturing, indication & contraindication of Seevana karma). They are the actual basic procedures adopted to close the traumatic/incised wound. Therefore in this study it has been proposed to describe the respective procedure i.e. Seevan Karma, their type, indication, contraindication, suturing material, method of suturing and the instruments employed to carry out the Seevan Karma. Besides this an attempt has been made to clarify how a surgeon was trained in the art of Seevan Karma before he was actually allowed to practice on human beings. In this way, the present study includes a comparative historical review of the Seevan Karma and its indication, contraindication, principles, training, material used, instruments and Paschat karma.

¹PhD Scholar, Department of Shalya Tantra, Faculty of Ayurveda, I.M.S., B.H.U., Varanasi,

² Professor, Department of Shalya Tantra, Faculty of Ayurveda, I.M.S., BHU, Varanasi and ³

Professor, Department of Pathology, I.M.S., B.H.U., Varanasi-221005.

INTRODUCTION

Surgery is essentially an art or science aimed towards alleviating the pathological conditions of the body manually and with the help of instruments. There have been many ups and downs, high and low standard of surgical practice throughout the process of its development. The modern heights of surgery have been reached through a long way of successive steps by the continuous efforts of great men with deep insight into the body process and by the incorporation of advances in other allied branches of sciences. As a method for closing the wounds, the technique of suturing is thousands of years old. Although suture materials and aspects of the technique have changed, the goals remain the same: closing dead space, supporting and strengthening wounds until healing increases their tensile strength, approximating skin. The choice of suture technique depends on the type and anatomic location of the wound, the thickness of the skin, the degree of tension, and the desired cosmetic result.

The primary function of a suture is to maintain wound closure and promote wound healing when the integrity of the wound is most vulnerable. The suture type and the amount used. The suturing technique and the degree of tension on the suture influence wound healing. In India Surgery can be traced to Rig Veda. In the Rig Veda we find that legs were amputated and replaced³ by iron substitutes, injured eyes, were plucked out and arrows shafts were extracted from the limbs of the Aryan Warriors. There are indications to believe that many difficult surgical operations were successfully performed through some of them sound almost incredible today. However, it is in Sushruta Samhita that we first come across a systematic method of arranging the surgical experiences of the older surgeons and of collecting the scattered facts of the science from the vast range of Vedic Literature.

Sushruta Samhita is the earliest book and also probably the last which exhaustively deals with the Surgical Science. Sushruta deserves the credit of bringing this art of medical science to the standard for systematic and routine training to the students. But it is a pity that after Sushruta the practitioners of Indian System of Medicine practically excluded this branch from their practice. No doubt there is mention of surgical diseases and their treatment in the

³ ऋग्वेद 1/116/15

later books of Ayurveda like Vagbhata, Madhava Nidan etc. but they appear to be only theoretical descriptions. None of the later authors seem to have actually practiced Surgery on patients. Even the commentators of Sushruta Samhita like Dalhan who has undoubtedly contributed to the surgical literature seem to be keeping aloof from the practice of Surgery.

It is with this point of view that the present work has been undertaken. The necessity and importance of such a study is obvious.

Object and Plan of Study:

In the present work an attempt has been made to evaluate the Seevan karma. Suturing or Seevana karma has been mentioned amongst the surgical procedures by all ancient authors. There is no controversy regarding its identity or methodology. This is one of the surgical procedures which have been thoroughly dealt with by Sushruta especially regarding its technical aspects (i.e. indication & contraindication of Seevana karma). They are the actual basic procedures adopted to close the traumatic/incised wound. Therefore in this study it has been proposed to describe the respective procedure i.e. Seevan Karma, their type, indication, contraindication, suturing material, method of suturing and the instruments employed to carry out the Seevan Karma. Besides this an attempt has been made to clarify how a surgeon was trained in the art of Seevan Karma before he was actually allowed to practice then on human beings. In this way, the present study includes a comparative historical review of the Seevan Karma and its indication, contraindication, principles, training, material used, instruments and Paschat karma.

HISTORY

The author of Sushruta Samhita was the disciples of Lord Dhanwantari-Divodas the King of Kasi. He has also been described as the son of Vishwamitra who is a well known figure of ancient epics Ramayana and Mahabharata. A conservative estimate by the available evidences places Sushruta "between" 500 B.C. to 1000 B.C. While rest of the world had primitive, if any, civilization at all, it is remarkable that Sushruta had written his Samhita which can match in its quality and contents any book written on the subject centuries later. Even a causal review of this book will make it evident that his teachings on the principle and

practice of surgery excel in all respects to the limited and fragmentary mention of surgery by Hippocrates and his Predecessors – Egyptians.

He not only emphasized surgery as an integral part of general art of healing, he considered it superior amongst the eight subdivisions of medicines known them. This is in contrast to the teaching in West who considered it an inferior manual art. Even in famous Hippocrates oath cutting for the stone has been specifically condemned.

He has exhaustively dealt with all aspects of surgery. The fundamental Principles enunciated by him regarding the management of wounds and fractures are the same considered best today. Even his methodology have a very distinct modern outlook will be evident in the subsequent chapter of this book.

Although he was emphatically a Surgeon he has laid great emphasis on the proper timing of the surgical intervention. Even though Surgery was not advised by him till the failure of medical management he specifically cautions against postponing surgery. Every Surgical Procedure was a well planned phased programmed of three parts – Pre-operative measures (*Purva Karma*) Operative measures (*Pradhan Karma*) and Post operative measures (*Paschat Karma*). Detailed instructions have been given regarding the management at each stage.

Before we go into the details of the surgical procedures (*Seevan Karma*) described by Sushruta. It would be appropriate to review the available Ayurvedic literature on these surgical (*Seevan karma*) procedures. Amongst the original three great books of Ayurveda namely (*Charka, Sushruta and Vagbhata*). Sushruta Samhita is the only treatise which deals exhaustively, methodically and logically with the surgical procedures i.e. *Seevan karma*. However, a review of these three books together gives a comprehensive idea showing the gradual development of surgical techniques. The later books namely *Sarangdhar, Chakradutta, Bhavaprakash, Gagnigrah, Banga Sen, Yogaratnakar* etc. are primarily medical books and do not deal with the surgical procedure in any detail, although there are passing references at some places.

Charka has not devoted a separate chapter on Sastra Karma. However he has mentioned the varieties of Sastra karma in the chapter of wounds. Although the description does not include the details about these procedures, according to him the Sastra karma are of six types namely (Patan, Vedhan, Cheedana, Lakhana, Prachhana and Seevan⁴. There nearest modern fact that Sushruta has added two more procedures to the number given by Charka, suggest that surgery was much advanced at the time of Sushruta.

Vagbhata is a very late author. He was also primarily was a physician but he has made a good collection of the ideas of Charka and Sushruta and has improved upon them at certain places. This is evident from the fact that Vagbhata has mentioned Seevan Karma in one of the surgical procedures. They are Utpatya, Patya, Sivya, Asay, Lekhya, Prachana, Kuttan, Chhedya, Bhedya, Vedhya, Manth, Grahan, and Dah. This classification of Vagbhata seems to be a combination of Charka and Sushruta's views with a few more additions.

Palkapya is an author of a book on *Hasti Ayurveda* or veterinary surgery. He has never mentioned the surgical procedures for human beings but since his book is a treatise on surgery, his views can also be considered at this place. Palkapya has divided the surgical procedures into five varieties namely Chhedya, Bhedya, Lekhya, Vishrabya and Daran. Here Dalan probably indicates Sushruta daran karma. Then most of remaining procedures of Sushruta namely Sevens, Vedhan, Ahrens and Ashen have not been described by Palkapya or in the list of surgical procedures but as functions of individual instruments. However, since Palkapya did not perform surgery on human beings, his classification of surgical procedures can not be regarded as standard.

SIVANA KARMA

The surgical procedures so far discussed are performed by making wounds either to remove the offending part itself, to drain out the collected dosa or to take out foreign bodies. However, reconstruction is an important a part of surgery as removal. The fundamental requirement in any reconstructive procedure or repair is the cooptation of broken edges and its

⁴ पाटनं व्यथनं चैव च्छेदनं लेखनं तथा।
प्रच्छेदनं सावनं चैव पडुवियं शस्त्रकर्म तत्॥ (सु०वि० 25/55)

maintenance till the healing has taken place. Reconstructive surgery has advanced to a great extent these days and has become a separate specialty but the above mentioned feature still holds good. Sushruta was well aware of the fundamental principles involved and has dealt with them at appropriate places and especially in connection with the surgical procedure of 'suturing' which is the basic method of closing all gaps in surgery. Although he has mentioned Sandhana karma collectively for all procedures meant for the purpose, Sivana karma is no doubt the most important amongst them.


Suturing or Sivana karma has been mentioned amongst the surgical procedures by all ancient authors. There is no controversy regarding its identity or methodology. This is one of the surgical procedures which have been thoroughly dealt with by Sushruta especially regarding its technical aspects (i.e. indication & contraindication of Sivana karma). He very well recognized its importance in surgery because separation of part therapeutic or accidental is a common occurrence in surgical practice and early union of the edges not only improves the cosmetic result but also avoids outside contamination and subsequent suppuration. A review of Sushruta's teaching on suturing reveals that they are very similar to those considered best today.

GENERAL PRINCIPLE FOR SIVANA (IDEAL SUTURE)

Sushruta has mentioned while suturing in the part surgeon should take care that knots of the suture should not be too far apart-neither very near because if it is too far, there will be tension and pain and if it is too near edges will get torn. Wound should be elevated (raised up slightly), placed in the usual (normal) position and then sutured, suci (needle) for suturing should be round (cylindrical/straight) and of two angula (4 cm) long for places which have less of muscles and for joint. For places which are broad, needle with three edges (triangular) and of three angula (6 cm) in lengths ideal, for suturing on vital points, scrotum and abdomen it should be curved like the bow, in this way, suturing needles are of three kinds, while using the needle.

Vagbhata has mentioned that Suturing should be done only after removing loose pieces of bones, dried clots, grass, hairs etc. by placing the torn and hanging. Pieces of muscles in their proper places, keeping the joints and bones in their normal position and after

the stoppage of bleeding, by making use of tendons (of animals) or inner fiber of bark of tree, suturing being done neither very far nor very close, holding neither very much nor very little.

 The lip (edges) of the ulcer which is not bleeding should be scraped a little to induce bleeding and sutured when the blood is flowing, for the blood is the cruse for healing of the ulcers.

TRAINING OF SEEVEN KARMA

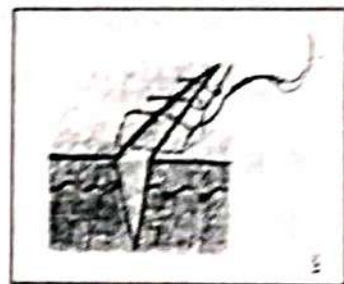
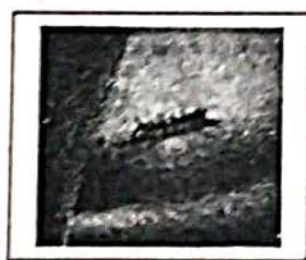
Although stitching the dresses may have been common in every household, practical training for the students was considered necessary. Pieces of cloth of varying thickness or soft leather were to be used practicing this procedure. He has especially mentioned thick and thin cloth to familiarize the students with the problem of suturing tissues of different thickness.

Various types of suturing have been mentioned by Sushruta and Vagbhata. As in modern surgery suture are classified as continuous, interrupted, inverted or averted or else according to shape as blanket suture or according to the name of the originator as Hallstead's Lamberts. Sushruta has classified them on their shape and tying of knots. Mainly four types of suture have been described.

1. Bellitak(Running suturing)
2. Gophanika(Corner suture)
3. Tunnasevani(Subcuticular suture)
4. Rijjugranthi(Interrupted suture)

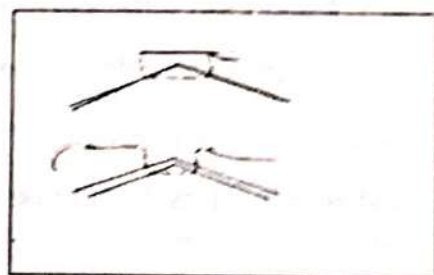
1. Bellitak:

This type of suture had the similarity to creeper plants. The spiral arrangement of the suture has



been emphasized by this similarity and it was obviously a type of continuous suture. In simple continuous suture the thread has definitely a spiral arrangement and the comparison is very appropriate.

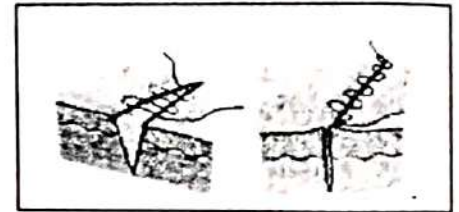
2. Gophanika: This type of suture is compared to Gophana which is a sling used for throwing stones.



Presumably in this type of suturing suture were locked at one end so that it gave the appearance of a sling on one side of the suture line. This was also a type of continuous suture in which every stitch was locked comparable to blanket suture applied these days. It is like *KAKPADVAT* by *Indu*. but *Haranchandra* commentary on *Sushruta Samhita* said that if there was trauma in the perineal region then with the help of two shalaka which are not too short nor too thick sutured with strong suturing material to overcome the doubt of tearing by *Gophanika* method. Again he emphasized that it was difficult for an inexperienced surgeon.

3. Tunnasevani:

Seevani is a familiar term in anatomy and signifies the junction of two surfaces. However, it usually

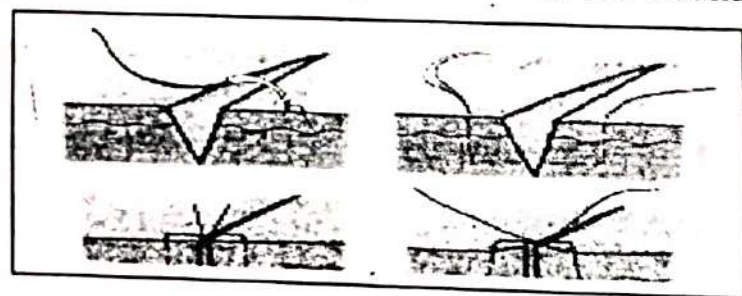


implies the median raphe of the perineum. The inference would be that 'Tunnasevani' type of suture would have the appearance of a 'raphe' in which needle punctures are not visible on the sides and only a linear scar results. This type of suture was also of continuous type possibility like Halstead's subcuticular stitch which also gives a minimal scar. Subcuticular sutures are placed totally within the dermis, so that the only possibility of suture marks is at the ends of the wound, where the suture enters and exits. The path of the needle crosses back and forth horizontally across the wound within the dermis. The needle holder can be held like a pencil, with the needle moving across the wound in a horizontal direction and the loops backtracking slightly. Usually, the more loops that are placed across the wound edges, the closer the approximation.

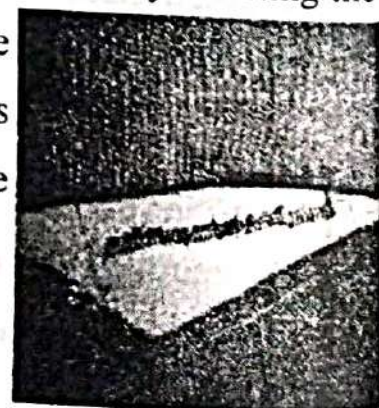
5. Rijjugranthi:

This type of suture is of interrupted variety

As the literal interpretation of the term suggests



Knots at interval. In other words knots were tied at intervals. This suture is placed by inserting the needle perpendicular to the epidermis, traversing the epidermis and the full thickness of the dermis, and exiting perpendicular to the epidermis on the opposite side of the wound. The 2 sides of the stitch should be symmetrically placed in terms of depth and width. Thus it could be interpreted as simple interrupted suture.



It may be noted that all basic type of sutures employed now days are incorporated in these four varieties.

SEEVAN KARMA

Types of Needles

1. वृत्ताङ्गुलं स्तम्भम् (Round body Straight)
2. त्र्यङ्गुलानिष्ठा (Triangular Straight)
3. धनुः (Curved)
4. निगुणपास (Traumatic)

Suture Material

Cotton Tendon

Silk Plants fibre (Asmantak, Murva, Linen
Guduchi, Shana, Atsi)

Horse tail hair

Types of Suturing

1. वेत्तितक (Continuous)
2. गोफडिका (Blanket/Retention)
3. तुन्न सेवनी (Subcuticular)
4. ऋजु ग्रन्थि (Interrupted)

Ideal Stitching

नातिदूरे निकृष्टे वा सूत्री कर्मणि पातयेत्
दूराद्गुजो व्रणोष्ठस्य सन्निकृष्टेऽवलुच्यनम

Indication

Sadhyovrana (Traumatic Wound), Disease localized in moveable joint, incised wound, non healing ulcer, badhguddodar and Udarpatan

Contraindication

Wound caused by Alkali (क्षार), fire (अग्नि), Poison (विष), Emitair from inside (मारूतवाहिनः), Groin (वडशण), Chest (कक्ष), and Less muscular wound (अल्पमासेषु)

References

S.Su. : 8/4; 25/23, 24 and 26; S.Ch. 1/45, 15/17-19, 25/20-21A.H.Su. 26/20-21, 26/41-42, 26/56A.Su. 381/38-39

Indication:

Diseases arising from fat such as tumors etc. which have been cut/incised (such as tumors etc.). Well Scraped, Sadyovrana (traumatic wound) and disease localized on moveable joints requiring suturing. (*S.Su.25/16*).

Traumatic wound which are recent and wide should be sutured immediately, so also the ulcers which are made by scraping fatty tumors. Pinna of me ears. Which are min. Ulcers located on the head, eye, sockets, nose, lips, cheeks, ear, arms, forehead, neck, scrotum, buttock, penis, rectum, abdomen etc. Which are located on important fleshy and immovable parts should be sutured. (*A.H.Su.26/49-50*)

The wounds which are caused by disorders of fatty tissues, which are gaping, the tumors, Produced by Kapha, the ear with thin or small Pinna and wounds due to assault by weapons, more situated in the head, forehead, socket of the eye, those on the ears, cheeks, lips, cricoids at the centre of the neck, arm, abdomen, buttock, rectum, general organs, Scrotum and sure other places which have no movement and which are muscular should be sutured. (*A.S.38/40*)

Contraindication:

Diseases (wounds) caused by alkali, fire and poison, those which emit air (gas) from inside, those having blood and foreign body inside should not be sutured but these should be well purified (removal of all accumulations). (*S.Su.25/17*)

- Sand, hairs, nails etc. bones (Pieces of bones) which are present and moving inside the wound, these will cause pus formation
- Greatly in the wounds and give rise too many kinds of Pain. So these should be cleared (removed) entirely. (*S.Su.25/18*)
- Wound situated in the groin, chest, axilla and places which are moving, which are less muscular, which emit gas often. Which have accumulation of blood or a foreign body inside, which are caused by poisons, fire and caustic alkalis should not be sutured. (*A. S.38/39*) Those are the groin and the axilla etc. and less muscular and

movable. Ulcers which emit air (gas), which has foreign body inside, which are produced by alkalis poisons and fire (Should not be sutured). (A.H.26/41)

Post operative Care:

- After suturing has been done properly. The wound should be sprinkled with the powder of Priyangu, anjana (Sawviranjana), Yasthi and Rodhra or fruit of Sallaki or ash of Linen cloth, and then the wound should be bandaged appropriately. And a proper diet to the patient should be given. It was emphasized that the part should be well protected in general bed rest and proper hygiene was also given due importance. (S. Su. 25/27-28)
- Having sutured the wound properly it is to be given a coating of paste of Anjana, Madhuka, Nimba, Lodhra, Priyangu, Sallakiphala ash of hemp all nicely powdered and mixed with honey and ghee, and then the wound should be bandages in the usual manner. (A. S. 38/38)
- After suturing, having comforted the patient (with encouraging words, cold water drink fanning etc.) the ulcer should be covered with cotton swab soaked in a mixture of honey malted ghee, anjana (Serotonjana) ash of flax (Ksauma), Phalini, fruit of Sallaki, Rodhra and Madhuka, then bandaging. (A.H.26/55)

INSTRUMENT

Suchi:

Several types of needles have been described by Sushruta. Sushruta has mentioned that the needles should be made strong and rounded at the end and they were flattened, grooved and pierced with an eye for the thread in another end. Three types of needles have been mentioned by Sushruta. The main importance of suchi is it unites the averted margin of the wound by the method of suturing if the wound is not infected. Acharya Palkapya also mentioned three types of needles for suturing in veterinary purpose, which are eight angula long and shaped like a) Elephant b) curved and c) triangular (trikona). Acharya Indu described a special type of needle with suture material "Nigudhapaasa", where the material is continuous with needle.

TYPES:

Vrithangula dwagam – round body straight

1. **triangular tryasra – triangular straight**
2. **Dhanurvakra – curved**
3. **Nigudhapaasa- a traumatic needle with suture material**

SIZE:

1. **Vrithangula dwayam – two angula long**
2. **Triangular tryasra- three angula long**
3. **Dhanurvakra – two and half angula long, curved**

Shape: The Suchi's are made strongly with round body having two ends, one is sharp and pointed and other end is rounded like tip of the pedicle of Jaati (Jasmine) flower and grooved with an eye for the suture material. The rounded end prevents damage to the tissue during suturing.

HIMRATAN OIL (हिम रत्न)

Indication: For local application in Shirahshool (Headache)/muscular spasm/low backache and Arthritis.

Method: Take 2-5 ml or Himratan oil and massage gently on the effected part.

हिम रत्न (आयुर्वेदिक शीतल तेल – हिमालय की जड़ी-बूटियों से निर्मित)

आयुर्वेदिक दवाओं के शास्त्रीय सिद्धान्तों का अनुसरण करते हुए, हिमालय के वनों से प्राप्त प्राकृतिक जड़ी-बूटियों का प्रयोग कर, आधुनिक वैज्ञानिक अन्वेषणों और प्रयोगों के अनुसार निर्माण कर हिमालय तेल को अनसाधारण तक पहुँचाना ही हमारा उद्देश्य है।

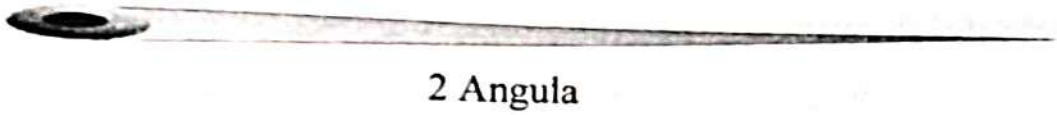
हिम रत्न शीतल तेल – इसका प्रयोग सिर दर्द दूर करता है। यह सिर को ठंडा और दिमाग को तरोजाता रखने में विशेष उपयोगी है।

इसका मधुर गंध चित्त को प्रसन्न करता है तथा साधारण तेलों की तरह इसमें कोई रासायनिक तत्व नहीं है। इस तेल को आयुर्वेदिक चिकित्सकों के परीक्षण और उपयोगी करने वालों के प्रामाणिकतानुसार वालों की विभिन्न समस्याओं में अत्यन्त उपयोगी पाया गया है। हिमरत्न शीतल तेल चिपचिपाहट रहित, भीनी-भीनी सुगन्ध वाला वालों का पोषक है। इसके नियमित इस्तेमाल से वालों का प्राकृतिक सौन्दर्य सदैव कायम रहता है। वालों की लम्बाई बढ़ती है, बाल और सिर की त्वचा स्वस्थ रहती है। रुसी और जू दूर होता है। यह वालों की जड़ों तक पहुँचकर उन्हें पुष्ट करता है जिससे वालों का झड़ना रुक जाता है। आलोपेशिया (गंजापन) दूर होता है। असमय बाल पकना रुकता है। मामूली जलने-कटने में भी यह तेल जल्द असर करता है।

Manufactured by

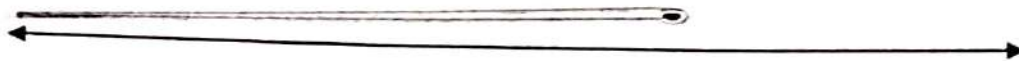
GOYAL GRAMODYOG SANSTHAN, VARANASI

A) VRITHANGULA DWAYAM



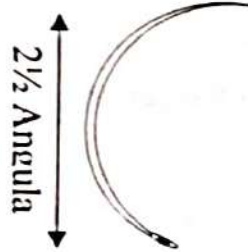
2 Angula

B) TRIANGULA TRYASRA



3 Angula

C) Dhanurvakra



2 1/2 Angula

D) Nigudhapaasa



Name of the Instrument	Suchi
Types	Four
Size	(A) Two Angula (B) Three Angula (C) Two and Half Angula
Shape	-
Indication	Seevana, Visrawana and Vyadhana
Indicated Disease	Wound Margines, Incisions on the Fleshy parts
References	S.Su.:8/4;25/23,24&26S.Ch1/45 A.H.Su. : 26/20, 21 Acharya Indu and Palkapya

Indication: Seevan, Vsrawana, Vydhana

Indicated Diseases:

- i) Wound margins or incision of the body part with little musculature. Upon the bones and joint. Suturing should be done with circular (round bodies) straight two angula needle.
- ii) Wound margins or incision on the fleshy part are sutured with three edged (triangular) straight three angula needle.
- iii) Wound margins or incision on the vital part of the body scrotum and in abdomen .i.e. abdominal soft organ are sutured with curved (Dhanurvakra) two and half angula needle.

Suture should be done neither too far nor too near of the wound margins because the former would cause does pain while the later pull out the margins.

Comparison: Suchi may be compared with different type of needle like:

- i) **Vrithangula dwagam** – straight round bodies needle
- ii) **Tringula tryasra** – straight cutting needle
- iii) **Dhanurvakra** - curved round bodies needle
- iv) **Nigudhapaasa** – a traumatic needle with sutured material.

1. Straight Needles:

In fleshy parts such as the thigh a three ribbed needle three finger long needle is advised to be used. For less fleshy part and wound the joint a similar straight needle but two fingers long needle to be employed.

2. Curved Needles:

For suturing the wound of stomach, intestine, scrotum and the vital parts of body, preference was given to a needle curved like bow. Two and half finger long and having the pointed shaped like paddy. In thickness these needle are described to be equal to the stalk of flower of match (as minum grapdiflourm). They should have fine point and good shaped.

3. Sharp Cutting Needle:

Sushruta make mentioned of a javamukhi needles (having a sharp point and shaped like barely corn) for passing a double ligature an eared with caustic ointment across the base of the tumor which is encircled and tied strongly exactly in the same way as in modern times a neavus is ligated by means of neavus needle.

USES:

Besides suturing needles were also used for the letting of blood .Charka recommended leeches, knife and needles for extracting blood from the piles. He also advised us to use the needles for pricking the patches of leprosy spots before application of leeches for extracting blood. Palkapya mentioned suchi for stitching wounds. They are eight fingers longs shaped like the tusk of an elephant and are either three ribbed or four ribbed or round smooth and strong. He reserved curved three cornered needles for the fleshy parts and round needles for skin, veins, nerves, and arteries.

Vagbhata also recommended three types of needles that are three fingers with three corners. Two fingers and two and half fingers with curved. The three fingers needles should be used in deep muscle; two finger needles should be used in superficial muscle in stomach, intestine operation or wound. Sushruta has mentioned that the needles should be used in blood letting and suturing.

NIGUDHPASHA

INDU described a special type of needle with hidden loop. Presumably there was a cavity over the eye of the needle in which thread was impacted and used to stich the borders of wound. These improvisation sutures were made to minimize the trauma while passing the thread through the tissue. It can be said that this was the precursor of a traumatic needles used these days.

In modern surgery also needles have similar classification. Straight, half curved and full curved are available in different sizes. Further more they are either round bodies or cutting to be used according to the situation .these uses are practically the same mentioned above.

Thus we can conclude that all aspect of suturing has been dealt with in Ayurveda. The type of needles, different method of suturing, suture material and hazards have been described with lucidity and precision and are still true today.

REFERENCES

1. सीष्येत सूक्ष्मेण सूत्रेण वल्केनाशमन्तकस्य वा ॥ 20 ॥
शणजक्षीमसूत्राभ्यां स्नाय्वा वालेन वा पुनः।
2. मूर्वागुडूचीतानैर्वा..... ॥ 21 ॥ S.Su. 25/20-21
3. स्नायुसूत्रवालान्यतमेन सीष्येत्।
शरणाशमन्तकमूर्वातसीनां वा वल्कैः ॥ 37 ॥
4.स्नाय्वा सूत्रेण वल्कलैः ॥ 53 ॥ A. H.26/53
5. असीष्या वङ्क्षणवक्षः कक्षादिषु प्रचलेष्वल्पमांसेषु च वायुनिर्वाभिणोडन्तर्लोहितशल्या विपाग्निकारकृताश्च व्रणाः ॥
39 ॥ A. S. Su 38/39
12. सीवनविकल्यास्तु समासेन चत्वारः। तथा गोष्फाणिका तुन्नजीवनवेल्लितकरज्जुग्रन्थि बन्धनमिति। तेषां
नामाभिरेवाकृति विभागः ॥ A. S. 38/39
22. सीव्येच्चलस्थिशुष्कास्वृणरोमापनीय तु।
प्रलम्बि मांस विच्छिन्न निवेश्य स्वनिवेशने ॥
सन्ध्यस्थि च स्थिते स्क्ते स्नाय्वा सूत्रेण वल्कलैः।
सीष्येन्न दूरे नासने गृह्णात्प न वा बहु। A. H 42
28. अज्जनक्षीमजमपीफलनीशाल्लकी फलैः।
सशोघ्रमधुकैर्दिग्धे युज्जयाद्दन्धादि पूर्ववत् ॥ 55 ॥ A. H
29. सूच्यः सीवने
30. सूची विघ्रावणे
31. व्यथने सूची च। सु०सूत्र 8/4
32. अपाकोद्धता ये च मांसस्था विवृताह्वये।
यदोक्तं सीवनं तेषु कार्यं सन्धानमेव च। सु०वि० 1/45
33. याः सूच्यस्त्रिविधाः प्रोक्ताः शस्त्राध्याये सोस्थिताः।
34. नागदन्ताकृतिर्वृत्ता त्रिकोणा चेति निच्ययात्।
35. सूच्या सीवनमिष्यते। – पालकाप्य
36. निगूढः पाशोयस्याः तस्यां पाशस्य पार्श्वयोर्मनं सूत्रं न दृश्यते। – इन्दु
(1) वृत्तागूढदृढाः पाशे
(2) सूचीस्तीक्ष्णाः सुसमहिताः।
37. कारयेन्मालतीपुष्पवृन्ताप्रपरिमण्डला। सु०सू०
38. देशोत्पमांसे सन्धौ च सूची वृत्ताऽद्भुलद्वयम्। सु०सूत्र 25/23
39. अल्पमांसास्थिसन्धिस्य व्रणानां ध्वङ्गुलायता। – अ०ह० सू० 26/21
40. आयता ज्यङ्गुलात्रया मांसले नाऽपि पूजिता। – सु०सूत्र 25/23
41. मांसलानां प्रदेशानां ज्यसा ज्यङ्गुलमायमा। – अ०ह० सूत्र 26/20
42. अनुर्वका हिता मर्मफलकोशोदरोपरि। – सु०सूत्र 25/24
43. व्रीहिवक्रं धनुर्वक्रं पक्वामाशयमर्मसु सा सार्धध्वङ्गुला – अ०ह०सूत्र 26/21
44. नातिदूरे निकृष्टे वा सूची कर्मणि पातयेत्।
दूरादृजो व्रणौष्ठस्य सन्निकृष्टेऽवलुब्धनम् – सु०सूत्र 25/26

Annual General Body Meeting - Minutes

Venue: Rajeev Gandhi Gov. P.G. Ayurved Institute, Paprola, Kangra.

XIIth National Conference

An Annual General Body Meeting of the members of A.A.I.M. was held at R.G.G.P.G.I. of Ayurved, Paprola, during 12th National Conference on 3rd Oct. 2008 at 6 P.M.

The following member attended the meeting (on separate attendance sheet) .

Agenda 1: To condole the sad demise of Dr. R. Asthana former Treasurer.

Resolution: Two minutes silence was observed by the members of A.A.I.M. to condole the sad demise of Dr. R. Asthana- the founder member and Treasurer of A.A.I.M..

Agenda 2: President's opening remarks

Resolution: The request letter of president Dr. D.N. Pande was placed on the table by the Hon Secretary Dr. S. Sharma regarding presiding the G.B. meeting by Dr. K.K. Pandey Sr. Vice president which was accepted gladly and Dr. K.K. Pandey agreed to preside the G.B. meeting and presented the Presidential opening remark on behalf of Dr. D.N. Pande-President.

Agenda 3: Confirmation of previous general Body meeting dated 17th Nov. 2007.

Resolution: The minutes of previous G.B. meeting dated 17.11.2007 were read by Dr. S. Sharma, Secretary, A.A.I.M. which were accepted unanimously. The appointment of Dr. R.K. Jaiswal as treasurer in place of Dr. R. Asthana by E.C. Members was also approved.

Agenda 4: Amendments in Bye/laws if any.

Resolution: No amendments was proposed.

Agenda 5: Annual report and accounts by Hony. Sect. AAIM.

Resolution: Annual reports of C.C.- A.A.I.M., U.P. State and Sangyahan Shodh were presented by the Hon. Secretary - Dr. S. Sharma which were accepted unanimously.

Further the accounts of C.C., A.A.I.M., Sangyahan Shodh, U.P. State Branch and workshop on C.C.P.R. were presented by Dr. R.K.Jaiswal –Treasurer, which were accepted unanimously.

Agenda 6: Consideration of venue for next conference

Resolution: The proposal of Dr. D.N. Pande, Incharge section of Sangyahan and Dr. H.O. Singh, Secretary U.P. State Branch to hold XIIIth National Conference and IInd International Conference at BHU, Varanasi was accepted unanimously.

Agenda 7: Any other matters with permission of chair

Resolution: In this agenda the following matters related to the journal and association were discussed and approved –

(A) Minutes of the Editorial Board meeting dated 27.09.08 to frame Peer Review Board for Journal was placed before the house which was accepted unanimously with a minor modification to include the name of Dr. Anil Dutt in the Peer Review Board.

(B) Further it was suggested to includes topic related to Applied Anatomy, Physiology, Pharmacology and case reports in the journal. It was also requested to every members to send articles in the journal for insertion. This was also suggested to request some eminent scholars to write some chapter for compilation of a book on Sangyahan.

(C) Member proposed to launch a website of Association and Journal.

(D) The Secretary Dr. S. Sharma informed the house that the current account of SBI, BHU in favour of AAIM C.C. and Journal Sangyahan Shodh were closed and Balance amounts were deposited in the concern Home Saving Accounts of Bank of Baroda, BHU Branch.

Agenda 8: Vote of thanks.

Resolution: Vote of thanks were proposed by Dr. S. Sharma, Secretary, A.A.I.M. to the chair person – Dr. K.K. Pandey and other members of A.A.I.M. A delicious Dinner was served to all the members and participant at the end of the meeting.

Actg. President
(Dr. K.K. Pandey)

Secretary
(Dr. S. Sharma)

RADIOLOGICAL INVESTIGATION OF FISTULA IN ANO

Dr. S. S. Mishra, Lecturer in Radiology, Department of Shalya Tantra,
Institute of Medical Sciences . Banaras Hindu University , Varanasi.

Abstract: Fistula-in-ano is defined as a track lined by granulation tissue, which opens deeply in the anal canal or rectum and superficially on skin around the anus. Fistula –in-ano is a condition which has been recognized as a difficult disease due to its recurrent nature. This is one condition for which the many medical, surgical and Para surgical management have been advised but none of these managements is complete or satisfactory. Recurrence of the disease takes place due to improper restriction of the source of origin and / or infection as well as incomplete removal of fistulous tracks and cavities. This happens due to incomplete diagnosis of the openings, tracks and cavities of Fistula-in-ano. Studies show that Radio diagnosis & Imaging is one of the most valuable and informative method of diagnosis of & Imaging methods.

Key Words: Fistula-in –ano, Fistulogram , Radio diagnosis & Imaging.

Introduction: Fistula-in-ano is defined as a track lined by granulation tissue, which opens deeply in the anal canal or rectum and superficially on skin around the anus. Anorectal abscess bursts spontaneously or drained inadequately, is the common causes of fistula- in-ano.

Types of fistula in Ano: 1- Blind external, blind internal, complete fistula. 2- low anal and high anal types. 3- inter sphincteric, trans-sphinctric, supra levator fistula. 4- sub-cutaneous , sub-mucous fistula . In Ayurvedic classics the condition is described under the name of “Bhagandara”.Bhagandara is of five varieties (Sushruta)- Shataponakavart (Vata), Ustragreeva (Pitta), Parisravi (Kapha), Shambuka (Sannipata), Unmargi (Agantuka).

Diagnosis:

----Clinical -

Digital rectal examination - internal opening can be felt as a nodule on the wall of anal canal.

Almost invariably one opening irrespective of external openings

Proctoscopy - internal opening may be revealed. A hypertrophied papilla suggests that the internal orifice lies within the crypt related to the papilla.

Probing - is painful procedure, and should be performed with utmost gentleness. It may create false passage.

- Radiological - Plain X-rays of pelvis with Hip joints, vertebrae, and chest are taken to exclude the other pathological conditions like tuberculosis of chest and T. B. and osteomyelitis of bone etc. Contrast X-rays , Radionuclide scan , USG , CT ,& MRI etc.

-Flexible endoscopy

-Histopathological studies are required to exclude malignant lesions and tuberculous track

-Status of anemia, diabetes, HIV, T.B.etc. are known by hematological examination
Montoux test.

Radio diagnosis & Imaging techniques:

X-rays, CT scan , MRI, Endorectal& Transcutaneous Perianal USG. Radionuclide scan, Fistulogram / Sinogram, Barium studies etc.

X-Rays – Plain pelvis with Hip joints, lumbosacral and chest radiographs are taken to exclude the other pathological conditions like tuberculosis of chest and T.B. and osteomyelitis of bones etc.

Contrast X-rays - Fistulogram , Barium Enema etc.

Endorectal ultrasonography- Transducer is inserted in anal canal. It gives accurate definition of muscular anatomy, suprasphincteric extension may be evaluated but internal opening likely to be missed .Hydrogen peroxide contrast U S G is more informative. It does not allow imaging of gluteal region. Difficult to perform in perianal inflammatory condition.

Transcutaneous Perianal Ultrasonography- Detects primary and secondary tracks, their course and extent even in blocked tracks which can not be evaluated by fistulography. Muscles mobility , levator ani ,and external sphincter can be evaluated . Suprasphincteric type can be identified easily. It allows good detection of perianal abscesses. It can be performed in anal stenosis and perianal inflammatory conditions.

Disadvantages- differentiation between external and internal sphincteric and intersphincteric collection are less than Endorectal USG.

CT Scan-C T is the specialized technique in which modified form of x-rays is used and organ can be viewed in different levels in the form of slices. Computed tomography (CT) may depict fistula in ano, especially if rectal and intravenous contrast material are used, and initial

reports were encouraging. However, fistula depiction is not enough; fistulas must be classified correctly, and more recent and better data suggest that CT cannot be used for this purpose with sufficient accuracy. It is inferior to MRI, and Endorectal ultrasonography and Transcutaneous Perianal USG. It may be helpful in detecting the perianal abscesses and bony involvement

Magnetic Resonance Imaging- In recent years, MR imaging has emerged as the leading contender for preoperative classification of fistula in ano. The ability of MR imaging to help not only accurately classify tracks but also identify disease that otherwise would have been missed has had a palpable effect on surgical treatment and, ultimately, patient outcome

Helps to detect out lining in primary and secondary tracks and becoming study of choice . About 80% to 90% MRI findings correlate with intra operative findings. Disadvantages- expensive, needs specialized equipments, time consuming, less feasible for follow up.

Fistulogram/sinogram : Fistulogram / sinogram is a technique in which radio-opaque contrast agent is injected in the fistulous/ sinus track and serial radiographs are taken.

The injection of Radio-opaque medium injected into the sinus and radiographs taken are seldom illuminating but the procedure is likely to causes recrudescence of inflammation. Fistulogram is able to reveal the extent or size, direction, number, situation, cavitations, location of internal opening and relative position of the fistulous track to the anal canal.

Indication of Fistulogram – Recurrent fistula, branched track fistula, fistula with multiple external opening, high rectal fistula, chronic fistula, multiple fistula, horse-shoe-fistula, origin of fistula lies elsewhere etc.

Contraindication of Fistulography – Partial occlusion of track , pyrexia, infected sinus track, idiosyncrasy to iodine and poor general condition.

Prof. Deshpande technique of Fistulography - Deshpande et. al adopted a method which is modification of technique developed by Ahlback . Ahlback used Clausen rectal catheter with a balloon and a solid rubber ball of 35 mm. diameter. Balloon is inflated within rectum by which ball is pressed against the anus and anal canal is thus defined in between. Urograffin 60% is injected into the track during fluoroscopy through a Nelaton catheter, wide enough to occlude external opening of fistula.

Full size films were taken in frontal, lateral and if necessary oblique views, Deshpande et. al used lead marker in place of rubber ball, Malecot's catheter in place of clausen catheter and condom in place of balloon,

Materials of Fistulography - Gloves, probes, artery forceps ,cotton , disposable syringe, R&L and ring lead markers, ring marker wore Malecot's catheter mounted upper end with condom firmly tied by thread and an inflator balloon of a B. P. apparatus attached at the other end , feeding tube or polythene catheter, torch, spirit , Xylocain jelly, urograffin 60% or 76%,emergency drugs e.g. bronchodilator,anti histaminics and steroids .

Procedure of Fistulography: Patient with good bowel preparation is kept in lithotomy position on the X-ray table with knee folded over the abdomen. A gentle probing is done to asses the direction of sinus track and to open or clear it. Condom mounted Malecot's catheter lubricated with xylocain jelly, gently introduced into the anal canal above the anorectal ring. The condom is inflated slowly by inflator till patient feels the urge of defaecation. The catheter is now pulled out slowly till the condom is felt to have stuck-up at the anorectal ring. Ring marker is fixed at outer anal opening. Now ring marker wore feeding tube of appropriate diameter is introduced into the fistulous track and ring marker fixed on external opening. Now legs of patient are extended. A 10 ml syringe full of contrast media is attached to the free end of feeding tube and contrast media injected into the track. X-ray films with correct marking of right and left, is exposed in AP and lateral positions. Procedure may be repeat if track visualization is not as satisfactory as to support to clinical findings. After the completion of the procedure, the condom is deflated , catheter and feeding tube with drawn , squeezed out contrast media from the track and sitz bath advised to the patient.

Advantages of Fistulogram- Fistulo/ Sinogram done by Deshpande technique is helpful in diagnosis of Fistula/Sinus in ano whereas Sinogram done by other methods is almost not helpful. This technique had helped tremendously to Kshar sutra therapy and following conditions can be assessed properly to enhance the accuracy of kshar sutra therapy.

1-Fistula/Sinus communicating to other organs.2- Fistula/Sinus with ramifications and cavitations.3- Location of internal opening.4- Pelvirectal / Supralelevator fistulae.5 - High anal fistulae. 6- Fistulae with multiple openings. 7- Blind external fistulae. 8- Fistulae extending to thigh. 9-Fistulae with gluteal extension . 10- Fistulae with deep superior and posterior

extension. 11-Anatomical relations with track can be established. 12- Direction and extents of primary and secondary track. 13- Other associated lesions of ano rectal canal. 14-External and internal opening with their related positions can be identified.

Disadvantages of sonogram/ Fistulogram - 1- Post sinogram cellulites and abscess. 2- Vascular complications resulting in portal septicemia. 3- Leakage of contrast agent during sinogram. 4- False image formation during inactive phase of sinus/fistula and in low anal fistulae. 5- Inadequate information in cases of multiple openings. 6- Radiation hazards to the operator and patient of sinogram

Prevention of fallacies during Fistulography - 1- Prevention of spillage of dye. a- By use of cotton. b- By selection of tube of appropriate diameter. c- Cleaning of contrast agent smeared over area to be exposed.

2- Separate tubes should be used for each opening in case of multiple external openings.

3- In inactive phase of disease kshar- varti may be used to clean the track.

Precaution in Fistulography - should be taken in Childs and old aged , patients of diabetes, cardiac disease, high blood pressure and Respiratory diseases

Reading of Fistulogram – Pubic symphysis indicates Levator ani and column of Morgagni . Mouth of condom identifies anorectal ring and its internal opening at Hilton’s line. In anteroposterior view, shadow of catheter indicates the anal canal position. Feeding tube insertion point indicates the external opening of the fistula. Track shows the right, left or curved position, length or extent and cavitations in comparison to catheter i.e. anal canal .In lateral view track shows the anterior or posterior position of the track in comparison to anal canal and rectum and communication of track with the pelvic bones and other organs. Internal opening and contrast spillage in anorectal canal, intercommunication of tracks and cavity may be seen in both AP and Lateral view. Always carefully study the fistulogram for communication of track to the other organs.

Conclusion: Sinogram / fistulogram is an important investigative procedure for mapping of complicated sinuses/fistulae especially in active phase of illness (air in fistulous track and increased vascularity are reliable sign of active fistula) done by technique adopted by Prof. Deshpande et al. In low anal type of fistulae/sinuses it is not very useful. In cases of multiple openings, separate tubes of appropriate size should be used for each opening. Radio diagnosis

& Imaging techniques are not very useful in inactive stage of illness; if still it has to be done it should be done with prior “kshar-varti” application. Appropriate precautions for protection of radiation should be taken. MRI and Endoanal/Transcutaneous perianal ultrasonography should be used in routine and rectify the fallacies of fistulogram for diagnosis of sinuses/fistulae in Ano. Anal endosonography is a viable alternative to MR imaging when the latter is not available

References:

- 1- Peter J. Lunniss , Peter Armstrong et al - Magnetic Resonance Imaging of Fistula-in-ano : Dis. Colon Rectum , July 1994 , Vol.37, No. 7
- 2- S. Halligan & Joap Staker – Imaging of fistula in ano , Radiology 2006 ; 239:18-33.
- 3- Sharma S. K. et al –Kshar sutra therapy in Fiatula-in-ano and other Ano rectal disorder: R. A. V. publication, New Delhi. 1995.
- 4- Dwivedi A. K. , et al. – Diagnostic modalities and problem of diagnosis in fistula-in-ano: ROTP in kshar sutra , 2008.
- 5- Sushruta Samhita- Dalhan commentary, edited by Yadav ji Trikrim ji Acharya, Chowkhambha sur Bharati Prakasan , Varanasi, 1994.
- 6- Endosonographic criteria for an internal opening of fistula –in- ano : Dis Colon and Rectum , 1999.
- 7- S. Elangovan et al- Comperative study of fistulography and anal endosonography in Fistula-in-ano. Indian Journal of Radiology & Imaging , 2002.
- 8- A C Poen et al- Hydrogen peroxide – Enhanced transanal ultrasound in the assessment of fistula –in-ano: Dis Colon and Rectum , 1998 .
- 9- I J Beckingham et al –Prospective evaluation of dynamic contrast enhanced M R I in the evaluation of fistula-in-ano.: British Journal of surgery, 1996.
- 10- Han C Kuijpers et al – Fistulography for fistul-in-ano: Dis Colon and Rectum, 1985.
- 11- S Halligan et al - Magnetic resonance imaging of fistula-in-ano: STIR or SPIR? : The British Journal of Radiology, 71(1998).
- 12- Das N P – Radiological diagnosis, Evaluation & assessment of Fistulous track: ROTP in kshar sutra, 2008.

SUSHRUTA'S ENDOSCOPES PAST AND PRESENT

*Dr. Raman Singh *Prof. S.C.Varshney

MEDICINE arose out of the primal sympathy of man with man; out of the desire to help those in sorrow, need and sickness .In other words one can say that the basis of medicine is sympathy and the desire to help others, and whatever is done with this end must be called medicine.---(1)

शारीरमानसागन्तुर्भिव्याधिभिर्विविधवेदनाभिघातोपद्रुतान्
सनाथनप्यनाथवद्विचेष्टमानन् विक्रोशतश्च
मानवानभिसमीक्ष्य मनसि नः पीडा भवति,तेषां
सुखैषिणां रोगोपशमनार्थमात्मनश्च प्राणयार्थं
प्रजाहितहेतोरायुर्वेदं श्रोतुमिच्छाम इहोपदिश्यमानम्
,अत्रायत्तमैहिकमामुष्मिकं च श्रेयः तद्भगवन्तमुपपन्नाः
स्मः शिष्यत्वेनेति। (२)

Maharshi Sushruta along with other Rishis, out of sympathetic attitude, towards the diseased persons -asked Lord Divodas Dhanwantary about the solution of their relief because they are helpless even though they are having lots of money and the relatives. Therefore it is true that the sympathy towards the sufferings drives us to think for the relief of the patients and the medicine evolves.

Lord Divodas Dhanwantary taught Ayurveda to Sushruta along with other colleagues in details, which was divided in eight, branches-ie.

- | | |
|------------------------------------|---------------------------------|
| 1. Shalya (General Surgery) | 5. Kaumar Bhritya(Pediatrics) |
| 2. Shalakya (Eye and E.N.T.) | 6. Agad Tantra(Toxicology) |
| 3. KayaChikitsa (General Medicine) | 7.Rasayan Tantra(Geriatric Med) |
| 4. Bhoot Vidya (Psychology) | 8.Vajikaran (Sexology) |

When we look upon the subject- Shalya tantra . It was fully developed in the past. Ayurvedic surgeons were conducting general surgery, plastic surgery, gynaec surgery, transplant surgery, Orthopedic surgery, Uro-surgery, Neuro-surgery, etc. with the help of 101 yantra and 20

*Ph.D. Scholar, * * Head, Deptt. Shalya Tantra, I.M.S., BHU, Varanasi.

shastras through eight surgical procedures i.e. Chhedya, bhedyā, lekhyā, vedya, esan, aharan, vishran, and seevan. They were having the opinion of –

प्रयोगस्य वैद्यस्य सिद्धिर्भवति नित्यशः तस्मात् परिचयम् कुर्यात् शस्त्राणाम् ग्रहणे सदा॥(३)

– means to get mastery in the surgery students were allowed to practice the techniques of various surgical procedures over different fruits, vegetables and animal products. Then after they were allowed on human beings under strict supervisions.

In fact, Ayurveda is serving the humanity through its eight branches since its very beginning. Ayurveda is as old as our Veda. When Ayurveda was fully developed and was a practicing medical science in India, in other parts of the earth magic and spirit was the notion which could cause or cure the disease. It was so developed that it attracted the whole universe including the father of modern medicine the Hippocrates. He was a Greek philosopher who lived from 460 BC to 377 BC. He was influenced by the principles of Doshas theory of Ayurveda and believed that balance of these doshas keep the person healthy.

.The Theory of the Four Humours was an important development in medical knowledge which originated in the works of Aristotle. The Greeks believed that the body was made up of four main components or Four Humours. These Four Humours needed to remain balanced in order for people to remain healthy.

The Four Humours were liquids within the body- blood, phlegm, yellow bile and black bile. These could be connected to the four seasons of the year: Yellow Bile with summer, black bile with autumn, phlegm with winter and blood with spring.

Hippocrates and other Greek practitioners argued that the balance of the four humours would be most effected in those particular seasons. For example, if someone has a fever they would have been thought to have had too much blood in their body. The logical cure therefore is to 'bleed' the patient.

Essentially Hippocratic Medicine allowed diseases to run their natural course, with doctors giving treatment such as herbal medicine to each pain only when absolutely necessary and after a reasonable period of observation and thought should a doctor resort to surgery: which in a world without anesthetics was not always successful.

. Ayurveda - its history being divided into 4 periods: The Vedic period; the original research and classical periods; a period of compilation of Ayurvedic methods and periods of Rasa Tantras and Sidhas -- chemist physicians; and a period of stagnation and eventually recompilation. Ayurveda was at its height during the 2nd and 3rd periods. Discussion of Ayurveda, covers the following: the science and philosophy of Ayurvedic medicine (the ancient method of study, basic elements, and the disease process); the practice of Ayurvedic medicine (preventive measures, personal and social hygiene, rejuvenating measures, and the practice of yoga) and curative measures (internal medicine and therapeutics, application of medicinal preparations externally, surgical measures, and treatment by psychosomatic measures); and the role of Ayurveda in modern medicine (review of the training curriculum, earlier efforts at integration, and proposals for integrating medical education and practice). The system of ancient Indian medicine -- Ayurveda -- was developed against the rich

background of social, cultural, and philosophical principles prevailing in India.. According to the principles of Ayurveda, the human being is a miniature imitation of the universe, and whatever properties are contained in the universe are also found in the human body and whatever are in the human body are found in the universe. Illness occurs if there is any derangement in the body humors. The internal administration of drugs plays an important part in treatment. The drugs are used primarily to eliminate causative factors. Ayurveda also prescribes a large number of medicines for external use in the form of pastes, medicated oils for massage, medicated baths, gargles, and powders. Ayurveda describes in great detail various surgical conditions and their management. The Ayurvedic physician is required to individualize therapy with regard to drug components and ingredients, dosage, diet, and rest, according to the psychosomatic condition of the individual patient and the predominance of vitiated humors in the disease process.(4)

RECOMPILATION OF AYURVEDA

In the earlier part of 20th. Century Ayurveda was a part of Sanskrit Literature. Ayurveda was taught with Sanskrit and Vedas. It could be learned either through the religious education or by the established practicing Vaidyas. For the first time its education was started in a university level by Pt. Madan Mohan Malaviya Jee. He was in favor of integration of old with new sciences. His aim was to develop Vaidya Surgeons to serve poor villagers through affordable Ayurvedic Medicines and Modern Surgery. In this way he wanted to fill up the deficiencies in Ayurveda and to modernize it as per the needs of the society. With the result the great scholars were born one of them was Dr P.J. Deshpande. In his practice he first of all think for the relief of patients either with Ayurveda or Modern formulations switching over the Ayurvedic Medicines. So his thinking was vice-versa. If he do not get the desirable relief to the patient with the modern medicine then he used to search out the remedies in Ayurveda and gave the relief to the suffering patient. The best example is the Kshar Sutra therapy for the patient of fistula- in- ano. Presently a national campaign has been started to teach both the Ayurvedic and the Modern Surgeons about the details of Kshar Sutra Therapy. In this way he gave a better non-operative successful alternative solution to the modern surgical procedure with a very painful dressings and a very high rate of recurrence rate. Simultaneously he adopted modern surgical procedures where Ayurvedic remedy has no answer. To me, it could be possible only having with full knowledge of Ayurveda and Modern sciences, with absence of prejudice mind and having the idea to impart the benefit to the patients only. He was a strong believer that one should honestly provide the remedy to their suffering patients which he prefers for his suffering son and relatives.

Prof. P.J. Deshpande developed the Shalya –shalakya and Prasuti Tantra as the clinical subjects in the Banaras Hindu University. In continuation of incorporating modern subjects in Ayurveda, the department of Shalya Tantra has included the new subject e.g. Sangya – Haran, Vikiran to support the Shalya, Shalakya and prasuti Tantra. Further he incorporated the modern tools also to revive Ayurvedic Surgery (Shalya –Tantra). Dr. Deshpande started diagnostic laparoscope and tried to explore the research works in the department by providing thesis topics on this subject as, "Sushruta's nadiyantra in the diagnosis of Gulm and uder Rogas" in 1983-1985.

नाडीयन्त्राणि-अनेकप्रकाराणि ,अनेकप्रयोजनानि ,एकतोमुखान्युभयतोमुखानि च ,तानिस्रोतोगतशल्योद्धरणार्थम् ,रोगदर्शनार्थम् ,आचूषणार्थम् ,क्रियासौकर्यार्थम्, चेति तानि स्रोतोद्धारपरिणाहानि यथायोगदीर्घाणि च । (६)

Abdomen is rightly said to be the magic box. Because of that many times, the clinical diagnosis of the intraabdominal lesion prove to be wrong when we open the abdomen. Presently the modern sciences i.e. the Physics and electronics has developed various tools which helps to come to a correct diagnosis, where only open eye examination do not give a real diagnosis. To overcome this problem Maharshi Sushruta has advised to develop various types of tubular instruments with suitable openings, length, and thickness, which helps to remove foreign materials, facilitate in surgical procedures, helps to visualize the distant lesions, helps to suck out the unwanted materials and to facilitate in various surgical procedures. Maharshi never wanted that his students would become the so-called "LAKIR KA FAKIR"-means they should be progressive and innovative.

स्वबुद्ध्या चापि विभजेद्यन्त्रकर्माणि बुद्धिमान् ।

असन्ध्येयविकल्पत्वात्छल्यानामिति निश्चयः ।सु.सू.८/१८॥

Maharshi sushruta never told that whatever he is teaching is the ultimate, and the last wordings. After describing the variety of instruments he advised the surgeons to develop new instruments according to the need of surgical techniques, or as per the choice of surgeons which are helpful to them in surgery. We see that the surgeons who are innovative by nature always find out the newer surgical techniques and the newer instruments as per the requirements. In our day to day practice we observe that every surgeon has a different technique in a particular surgical procedure, which is called as the personal preferences.

When we look upon the history the present form of endoscopes they has been developed within 200 of years .First of all in very beginning of 19th

Century i.e. in 1805: Phillip Bozzoni, of Germany visualized the urethral orifice with candle light and a simple tube called "lichtleiter" It is observed that Maharshi Sushruta was more clear and precise about the endovision, prescribing the variety and the utility of endoscopes.

An endoscope was first introduced into a human in 1822 by William Beaumont, an army surgeon at Mackinac Island, Michigan¹. The use of electric light was a major step in the improvement of endoscopy. The first such lights were external. Later, smaller bulbs became available making internal light possible, for instance in a hysteroscope by Charles David in 1908 Hans Christian Jacobaeus has been given credit for early endoscopic explorations of the abdomen and the thorax with laparoscopy (1912) and thoracoscopy¹.

1929 - Heinz Kalk, a German gastroenterologist, is considered the founder of the German School of Laparoscopy. Kalk developed a 135 degree lens system and a dual trocar approach. He used laparoscopy as a diagnostic method for liver and gallbladder disease.

1934 - John C. Ruddock, an American internist described laparoscopic as a good diagnostic method, many times, superior than laparotomy. His instrument consisted of a built-in forceps with electrocoagulation capacity.

1938 - J Veress, of Hungary, developed the spring-loaded needle. Its main purpose was to perform therapeutic pneumothorax to treat patients suffering from tuberculosis. Its current modifications make the "Veress" needle a perfect tool to achieve pneumoperitoneum during laparoscopic surgery.

1944 - **Raoul Palmer**, of Paris performed gynecological examinations using laparoscopy and placing the patients in the Trendelenburg position, so air could fill the pelvis. He also stressed the importance of continuous intra-abdominal pressure monitoring during a laparoscopic procedure.

1960 - **Kurst Semm**, a German gynecologist, who invented the automatic insufflator. His experience with this new device was published in 1966

1982 - First solid state camera was introduced. This is the start of "video-laparoscopy"

1987 - **Phillipe Mouret**, performed the first video-laparoscopic cholecystectomy in Lyons, France.

1994 - A robotic arm was designed to hold the laparoscope camera and instruments with the goal of improving safety, reducing resource utilization and improving efficiency and versatility for the surgeon

1996 - First live broadcast of laparoscopic surgery via the Internet.

Looking upon the history it is understood that a chain of events and ideas of physicists, surgeons, gynecologists, industrialists and several other engineers help to develop the present form of endoscopic technology. This technology has been adopted by various disciplines e.g. surgery, gynecology, urology, orthopedics, neurology, gastrology and several others. In a similar way Ayurvedic surgeons have also adopted this endoscopic technology since 1983 In the department of Salya Tantra, IMS, BHU, Varanasi for the development of Salya, Shalakyas and Prasuti Tantra on the guidelines laid down by our great scholar and Father of modern Salya-Tantra Dr. P.J.Deshpande.

Dr. K.N. Udupa promoted research work in Ayurveda . Dr. Deshpande searched out from ocean of Ayurveda , looking with two eyes i.e. Ayurveda and Modern science. The persons having single eye could not do much for the Modern- Ayurveda. Therefore we should follow Lord KRISNA saying –

यद्यदाचरति श्रेष्ठस्तत्तदेवेतरो जनः। स यत्प्रमाणम् कुरुते लोकस्तदनुवर्तते॥८॥

– We should follow the pathway laid down by our great masters and upgrade Ayurveda suitable for our students and the patients.

REFERENCES

(1). Osler, ir William, The Evolution of Modern Medicine, Electronic Text Centre, University of Virginia Library

(2) सु.सू.१/४

(3) सु० सू० १/२०

(4)Udupa KN Newell KW, ed. Health by the people. Geneva, Switzerland, World Health Organization, 1975. : 53-69.

(5)Sushruta`s nadiyantra in the diagnosis of Gulm and uder Rogas` - 1983-1985--- RAC/RES/SEP.83/Med14/8867-Deptt. Shalya-Shalakyas, IMS, BHU, Ph.D.Scholar- Raman Singh M. D. (Ay.)-Shalya-Shalakyas

(6) सु०सू०७/१

(७)सु० सू ८/१८

(८)गीता-३/२१

ANAESTHESIA FOR A PATIENT WITH PARKINSONS DISEASE- A CASE REPORT

*Poman Deepak

**Kumar Vimal

*** Pandey K.K.

Abstract:

Managing a patient with Parkinson's disease presenting for anesthesia is relatively rare and can be challenging. Parkinson's disease is a neuromuscular disorder which is characterized by resting tremors, muscle rigidity and bradykinesia. This illness affects around 3% of individuals over 66 yr of age. It is caused by cell death in areas of basal ganglia with loss of dopaminergic neurons. A 45yr male patient with rt. inguinal hernia suffering from Parkinson's disease taking tab.Sydopa (levodopa 100mg+Carbidopa 10mg) since last 6 years. After complete pre-operative assessment surgery was planned under Spinal Anesthesia. Problems faced and managed by anesthetist are discussed.

Keywords: anesthesia , Parkinson's disease, Midazolam.

Parkinson's disease:

- Degenerative disorder of the CNS
- Involving the Basal ganglia & Extra pyramidal Motor system
- Loss of dopamine in the striatum and substantia nigra.

Clinical Picture:

- Bradykinesia, Rigidity, Resting tremors, Expressionless face, Shuffling gait

Treatment :

Aim –

Restoration of Dopaminergic & cholinergic balance

- Increasing brain level of dopamine- precursor Levodopa
- Prevention of conversion of levodopa to dopamine outside the CNS- Carbidopa, benserazide.
- Anticholinergic drugs- Benztropine, Trihexyphenidyl.
- Other drugs- Bromocriptine, Apomorphine ,Selegiline & Amantadine.
- Stereotactic surgery- stimulation of subthalamic nucleus.

Anesthetic consideration-

- Excessive salivation and dysphagia may result in tracheal aspiration of secretions.
- Levodopa is continued upto surgery .
- S/S exaggerated by dopamine antagonist- phenothiazines, antiemetic drugs, butyrophenones
- Risk of massive hyperkalaemia following suxamethonium is contraversial.
- Post-operative sleep apnoea has been reported.
- Regional anaesthesia has obvious advantages over general anaesthesia
- avoids the effects of general anaesthetics and neuromuscular blocking drugs
- central anticholinergic activity is advantageous
- If general anesthesia is required -L-DOPA can be administered intraoperatively via a nasogastric tube.

- Shivering is common after general anaesthesia -should be distinguished from parkinsonian symptoms
- Patients with Parkinson's disease are more prone to postoperative confusion and hallucinations.
- Avoid- Phenothiazines, Butyrophenones and Metoclopramide
- Avoid- halothane -sensitizes the heart to the action of catecholamines. Ketamine is contraindicated because of an exaggerated sympathetic response
- Thiopental decreased dopamine release from striatal synaptosomes
- Propofol is an ideal agent -rapid metabolism and emergence profile

Neuromuscular blocking agents -

- There are no reported cases of non-depolarizing neuromuscular blocking drugs worsening the symptoms of Parkinson's disease.
- Succinylcholine has been reported to cause hyperkalaemia in a patient with Parkinson's disease

Opioids -

- Muscle rigidity following the use of fentanyl
- Morphine -reduction of dyskinesia at very low doses increase in akinesia at higher doses

Case Report

Age- 33 yr. Sex- male. Weight- 62 kg. H.N 26318. Date- 4 Aug'08

Baseline parameters - Pulse- 78/min, B.P-128/76 mm of Hg., Cardiovascular- stable. Respiratory- NAD, ASA Grade- Grade II

The patient with above findings had been suffering from Parkinson's disease for 20 yr and was well controlled with oral administration of Tab. carbidopa/levodopa (10/100)(syndopa 110), a levodopa preparation in tablet form two times with Tab.Trihexyphenyldyl 2 mg thrice daily.

scheduled for hernia repair (Rt. Inguinal hernia).

ANAESTHETIC MANAGEMENT -

Preoperative Preparation - (1.0 hr before the operation)

The patient was given his usual medications

Tab. Carbidopa/Levodopa (10/100)(syndopa 110)

Tab.Trihexyphenyldyl 2 mg

Anaesthetic premedication- Inj. Glyco 0.2 mg i.m

Inj. Pantaprazole 50 mg i.v

Anaesthesia procedure:

Spinal anaesthesia- Space- L4-L5 I/S., Drug- Inj. Bupivacain 0.5 % , Dose- 3 ml. Duration of surgery-1:15 min.

Intraoperative management of tremors

During 1st 15 min - Inj. Mezolam 0.5 mg i.v

During next 30 min - Inj. Mezolam 0.5 mg i.v

During next 30 min - Inj. Mezolam 0.5 mg i.v

Duration of surgery-

1:15 min

Post-operative Observations -

Pulse- 78/min, B.P-128/76 mm of Hg., Cardiovascular- stable., Respiratory- NAD

ASA Grade- Grade II

Discussion:

Parkinsons disease occuring world wide affecting all ethnic groups. It is clear that there is no simple anesthetic regimen for patients with Parkinson's disease. Much of the evidence about the safety of various anesthetic drugs or techniques is based on single case reports or small case series. The absence of randomized controlled trials evaluating various anesthetic techniques or drugs means that advice can only be based on data that have obvious limitations. What is apparent from these reports is that most patients with Parkinson's disease are elderly with coexisting medical conditions as well as the complications of the disease and its treatment. Meticulous preoperative assessment, maintenance of drug therapy up to the time of anesthesia and afterwards, avoiding known precipitating agents and intraoperative administration of L-DOPA or any benzodiazepines which controls tremors- if required, are key factors in the reduction of postoperative morbidity.

*** JR-II, M.D.(Ay), ** J.R-III, M.D.(Ay) *** Reader, Section of Sangyahan ,Deptt.of Shalya-Tantra,I.M.S.,B.H.U, Varanasi.**

OBITUARY

Dr. Ratnesh Asthana

Dr. Asthana served the association in the capacity of founder member and treasurer of AAIM central council since its inception in the year 1997. Dr. Ratnesh Asthana was dedicated and devoted honest worker of the Association. He made several mile stones in his short span of life till his untimely death on 29th April 2008. The members of A.A.I.M. expressed deep grief on the sad demise of Dr. Ratnesh Asthana.



Name : Dr. Ratnesh Asthana

Father's Name : Late Y.S. Asthana

Wife : Dr. Yojana Asthana

Date of Birth : 3rd May, 1965

Qualifications & Experiences : Passed B.A.M.S., from State Ayurved College Lucknow and M.S. (Ay.) Sangyahan From I.M.S., B.H.U., Varanasi

Worked as House Officer at State Ayurvedic Lucknow and Consultant Anaesthetist at Fahima Hospital, Barahal ganj, Gorakhpur, Sneha Nursing Home, Dohari Ghat, Mau., Savitri Sewashram, Barhal Ganj, Gorakhpur, and Shankar Sewa Sansthan, Gagaha, Gorakhpur.

Academic Activities : Presented nearly one dozen papers in different conferences and published two papers in the journal.

Received first prize in ENCORE 90 organised by institute of Engineering and Technology, Lucknow, for Monoacting & first prize in H.F.D. and annual function of state ayurved college lucknow.

BHARATIYA SANGYAHARAK ASSOCIATION
(ASSOCIATION OF ANAESTHESIOLOGIST OF INDIAN MEDICINE)

MEMBERSHIP FORM

I wish to join **BHARATIYA SANGYAHARAK ASSOCIATION** as Life/Annual/Associate (Life/Annual)/Honorary member and enclose Cheque/Bank Draft/Money Order/Cash for Rs..... towards subscription for the association, for the year.....

Full Name (in Block Letter) :

Date of Birth & Sex :

Qualifications :

Designation/Profession :

Permanent Residential Address with Tel. No. :

E-mail ID :

Present Address to which correspondence to be sent :

Specialty : Sangyahan/Pain/Palliation

Membership Fee	:	<u>Life Member</u>	<u>Annual Member</u>
Membership Fee Bonafide	:	Rs. 2000/-	Rs. 200/-
Associate Membership	:	Rs. 1500/-	Rs. 200/-

I agree to abide by the rules and regulation of the Bharatiya Sangyaharak Association.

Date:

Signature

Correspondence Address:

Bharatiya Sangyaharak Association, Section of Sangyahan, Deptt. Of Shalya Tantra, I.M.S., B.H.U., Varanasi - 221005

☛ Out station cheques should be accompanied by Rs. 50/- as Bank charges. Cheque/Draft/Money Order should be send in favor of Association of Anesthesiologist of Indian Medicine, Varanasi.

Notice

U.P. State Branch AAIM Election

The General body members of U.P. State Branch are hereby informed that the Election of office bearer for the year 2009-2012 is scheduled on 6th February 2009 at 1 P.M. in the office of Association as per following schedule.

Nomination - up to 12 Noon 6th February 2009

Withdrawal- up to 6th February 2009 1 P.M. before declaration of Election Process

Posts to be filled up –	President -	1
	Vice President -	2
	Secretary -	1
	Joint Secretary -	3
	Treasurer -	1
	Executive Members -	5

Secretary
(Dr. Hari Om Singh)

President
(Dr. P.K. Sharma)

SANGYAHARAN DAY

6th Feb., 2009

Organized by: Section of Sangyahan Department of Shalya Tantra, IMS, BHU
&
U.P.State Branch A.A.I.M.

INVITATION

Dear Sir,

We are going to celebrate Sangyahan Day on 6th Feb. 2008 at 9.00 A.M. At this occasion we are going to organize two Orations, Pannel discussion with an Inaugural Function followed by Delicious Lunch. Different stalls and demonstrations will be organized regarding critical care. We will be highly obliged to offer you to participate. The Pharmaceuticals and institutions are invited to organize a stall for demonstration of their life saving drugs/devices/monitoring facilities. The registration fee and tariff is given below.

In anticipation to your full cooperation.

Org. secretary

(Dr. R.K. Jaiswal)
M.O. Anesthesia (IM)

Secretary

(Dr. Hari Om Singh)
U.P. State AAIM

Registration Fee- Rs. 100/- Only.

Venue: Dhanwantari Hall, Deptt. of Shalya Tantra

Tariff :

Inaugural Tea	: 5000/-
Lunch	: 20000/-
Stall-Drugs/I.V., Fluids	: 5000/-
Stall-Monitoring Equipments	: 10000/-
Teaching & Training Materials	: 3000/-

Manas prakriti- Psychic constitution of the body
¹Dr. Murlidhar Paliwal ¹¹ Dr.Sunil Kumar

Introduction-

Human body is constituted of Dosha (humours), Dhatu (body tissues) & mala (Excreta) mainly ¹. Equilibrium & disequilibrium stage of these three components causes health & sickness respectively ². Except Dosha, Dhatu & mala, there are so many factors which influence human body such as-Prakriti, Satmya, Sattva etc.

Prakriti is one of the most important factor among all. It is designed by one or more than one Dosha which stays predominant during fertilization ³. It is of two types mainly-

1. Sharir prakriti (Physical constitution of body)
2. Manas prakriti (Psychic constitution of body)

Sharir prakriti i.e. Physical constitution is designed according to predominance of Sharir Doshas i.e.Vata, Pitta & Kapha. It is very much essential to know the Prakriti of an individual to adopt appropriate diet & regimen as well as treatment .

Assessment of Manas prakriti is equally important for the maintenance of health as well as remedy of diseases. It is designed according to predominance of any one, two or all the trigunas i.e.Sattva, Rajas & tamas. It is known as Mahaprakriti ⁴also, as trigunas are considered Mahagunas.

Manas prakriti is of seven types according to Vagbhata ⁵ & Bhadanta Nagarjun ⁶.

Acharya Charaka & Susruta has similarly discussed Sattvik prakriti of seven types, Rajas of six & Tamas of three types⁷. Common features of Sattvik, Rajas & Tamas prakriti are discussed in this article.

Assessment of Manas prakriti of an individual is essential for prophylaxis & treatment of diseases. Sattvik type of prakriti is best among all because of predominance of Sattva which is considered eternally pure, is not likely to vitiate or get vitiated.

Rajas & Tamas are considered as Manas Doshas in Ayurveda. So Rajas and tamas prakriti persons are more prone to various diseases & difficult to cure in comparison to Sattvik prakriti. So prognosis depends upon type of Manas prakriti of the patients.

Manas prakriti is directly related to Mana (mind). So it shows the strength of mind which regulates the body because of its association with soul.

Treatment procedures depend upon mental personality of an individual. Rajas & Tamas prakriti persons are not supposed to maintain punctuality & obedience in comparison to Sattvik prakriti. Rajas & Tamas prakriti persons have less bearing capacity of painful conditions.

So determination of Manas prakriti is essential to adopt diet & regimen as well as treatment Procedures.

¹ Lecturer, Deptt. Of Samhita & Sanskrit, IMS, BHU. ¹¹ Lecturer, Deptt. Of Rachana Sharir, IMS, BHU

How we know Manas prakriti

Although psychic prakriti is of many types on the basis of predominance of one, two or three trigunas i.e. Sattva, Rajas & Tamas yet it is of three types mainly. Such as-

1. Sattvik prakriti, 2. Rajas prakriti. 3. Tamas prakriti

So by observing the features of these three prakriti, we can decide the mixed type of Prakriti of any individual in which combination of two or all the trigunas (Sattva, Raja & Tama) are present.

Characteristic features of Sattvik prakriti⁸-

Purity, love for truth & self controlled

Material & spiritual knowledge

Good memory

Freedom from passion, anger, greed, ego, ignorance, jealous & intolerance

Worship of teachers & elders

Gentle & authoritative speech

Devotion to sacred rituals & vows

Study of Vedas or any authentic subject

Celibacy

Non-violability

Far sightedness

Aversion for mean acts

Exhibition of anger & pleasure at proper place

Expert in poetry, stories, historical narrations & epics

Fondness for dancing, songs, music, scents & garlands

The person who possesses the above said features is of Sattvik prakriti.

Characteristic features of Rajas prakriti⁹-

Brave, Cruel & constant anger

Sharp reactions

Jealous, greedy & uncharitable

Eating alone & gluttonous

Unstable in movement & behavior

Intolerant

Partisanship

Eating left-overs

Adventurous

Absence of shame

Violence at weak points

Fondness for non-vegetarian food

Fondness for women

The person having above said features is supposed to be Rajas prakriti.

Characteristic features of Tamas prakriti¹⁰-

Dullness

Crookedness

Negative attitude

Timidity

Foolishness

Mutual quarrel

Likes to stay at one place

Engaged only in eating

Hateful conduct

Excessive sexual indulgence & sleep

Devoid of Sattva, righteousness, enjoyment & wealth

The person who possesses above said features is considered Tamas prakriti.

According to Acharya Charaka Manas (mind) of a person is qualified on the basis of the type of his repeated actions. It is so because that quality must be predominant in him/her¹¹.

Triguna & Panchamahabhuta-Relevance

Triguna i.e. Sattva, Rajas & Tamas having Panchabhautika (five elemental constitutions)

relevance. As Acharya Dalhana says in the commentary of Sushrutasamhita sharirsthana-1-

Akasha is predominant in sattva as it enlightens,

Vayu is predominant in rajas because of movement,

Agni is predominant in sattva and rajas as it enlightens and moves,

Apa (Jala) is predominant in sattva and tamas as it is clear, enlightening, heavy & enveloping

& Prithvi is predominant in tamas as it is highly enveloping¹².

Clinical significance of triguna consideration

Consideration of triguna is much more important in clinical practices while diagnosing, treating or advising diet & regimen to any patient .

It is useful in prophylaxis also .We can advise better diet schedule considering these trigunas predominance in dietary substances on the basis of panchabhautika composition & it's effect over the body.

Sattvika diet is considered pure & non spicy. Chapati, rice, fruits ,vegetables, milk & madhura rasa (sweet taste) dominant food articles are few of the examples.

All the tasty, spicy, salty ,sour food articles are rajasika. Tea, coffee, alcohol, roasted & fried foods are the examples. rajasika food may cause hyper acidity, high BP, ulcers, etc.

Diet which increases laziness, heaviness, dullness is considered tamasika. All stored food, recooked, old, heavy foods, highly fat increasing foods etc are the examples .

Regimen also affect our triguna. Observance of Ayurvedic sadvritta & achar Rasayana (good code of conducts) reflects sattva guna & it is better way to prevent various diseases. Constant anger ,jealousy etc reflect rajasika guna & laziness, inactivity, ignorance of knowledge etc. to tamasik guna & such types of regimen should be avoided for the prevention of diseases & even during treatment of all the diseases.

References-

1. Susruta Samhita Sutrasthan-15/3
2. Ashtanga Samgrah Sutrasthan-1/43
3. Susruta Samhita Sharirsthan-4/63
4. Susruta Samhita Sharirsthan-4/95
5. Ashtanga Samgrah Sharirsthan-8/21
6. Rasavaisheshik Sutra 1/31
7. Charaka Samhita sharirasthan-4/37-39, Susruta Samhita Sharirasthan-4/77-94
8. Charaka Samhita sharirasthan-4, Susruta Samhita Sharirasthan-4
9. Charaka Samhita sharirasthan 4, Susruta Samhita Sharirasthan-4
10. Charaka Samhita sharirasthan 4, Susruta Samhita Sharirasthan-4
11. Charaka Samhita Sutrasthan 8/6
12. Su.Sha.1/20-Nibandha Samgrah commentary

**ROLE OF SHIGRUGUGGULU AS VEDANA HAR
(ANTI-INFLAMMATORY ANALGESIC)**

*B.N.Maurya

** Dr. D.N.Pande

ABSTRACT

Acharya Charaka and Sushruta described about the painful conditions and different methods to relieve the pain of different origin. Keeping in view these conditions and mentioned drugs, section of sangyahan of Faculty of Ayurveda, Institute of Medical Sciences conducted some trials to get some safe, effective anti-inflammatory analgesic for the management of post operative pain.

In this chain a comparative study of Shirgugugglu vs. diclofenac sodium was conducted to evaluate its efficacy as anti-inflammatory and analgesic. Aim of this research was to search out an indigenous drug for preoperative preparation (preanaesthetic medication) of the patient and post operative pain management.

For the present study we had selected 150 adult patients of both sex with age (16year to 60year) & weight, proposed for lower abdominal surgery under lumbar subarachnoid block (LSAB) distributed randomly in three groups having 50 patients in each group.

The pt's of group 1st were premedicated with two capsules of Shigruguggulu 500 mg (2/3 of Shigru root bark decoction & 1/3 Shigru root bark choorna with guggulu) orally at 10 pm & 90 minute before anaesthesia and inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

The pt's of group 2nd were premedicated with two capsules of Shigruguggulu 500 mg (Shigru root bark decoction Plus guggulu) orally at 10 pm & 90 minute before anaesthesia and inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

The pt's of group 3rd were premedicated with Tab. Diclofenac sodium 50 mg orally at 10 pm & 90 minute before anaesthesia & inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

All the patients were evaluated before premedication, after premedication, during subsequent anaesthesia and during post anesthetic period on a standard proforma of the department.

It was observed that when the trial drug is used alone it is less effective than the control drug diclofenac sodium. There is no side effect of trial drug. The drug does not produce any alteration in heart rate, mean blood pressure, respiratory rate, liver function test, and renal function. So the trial drug is safe anti-inflammatory analgesic thus can be used in post operative period in those cases in which oral intake is allowed for the management of pain.

*PhD Scholar, Department of Shalya Tantra, Faculty of Ayurveda, IMS, BHU Varanasi

**Reader & I/C Section of Sangyahan Department of Shalya Tantra, Faculty of Ayurveda, IMS, BHU Varanasi.

Key word

H.S. = highly significant

S = significant

R.R. = Respiratory rate

Abbreviations

ETCO₂ = End tidal carbon dioxide

MBP = Mean blood pressure

N.S. = Not significant

P.R. = Pulse rate

Temp. = Temperature

VAS = Visual analog scale

Spo₂ = Peripheral saturation of oxygen

INTRODUCTION:

Sangyahan (Anesthesiology) is the science which is based on the knowledge of Pharmacological action of drugs on a known Physiology & Biochemistry. It is the science of natural phenomena, dealing with measurable predictable and therefore, reproducible effect of drug on the function of cellular structure of animal and human.

Various experimental and clinical studies have been done previously, by using different medicinal plants and indigenous compounds. Shigru and guggulu were also evaluated by previous worker both clinically and experimentally for preoperative preparation of the patients and postoperative pain management.

In Present research work an indigenous drug Shigruguggulu had been evaluated for its efficacy as an Anti-inflammatory analgesic in post operative pain management under lumber sub arachnoids blocks (LSAB).

MATERIAL AND METHODS:

For the present study we had selected 150 adult patients of both sexes with in the age of 16 year to 60 year & weight to propose for lower abdominal surgery under lumber sub arachnoids block (LSAB) in three groups having 50 patients in each group.

The pt's of group 1st were premedicated with two capsules of Shigruguggulu 500 mg (2/3 of Shigru root bark decoction & 1/3 Shigru root bark choorn with guggulu) orally at 10 pm & 90 minute before anaesthesia and inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

The pt's of group 2nd were premedicated with two capsules of Shigruguggulu 500 mg (Shigru root bark decoction Plus guggulu) orally at 10 pm & 90 minute before anaesthesia and inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

The pt's of group 3rd were premedicated with tab. Diclofenac sodium 50 mg orally 10 pm & 90 minute before anaesthesia & inj. Glycopyrrolate 0.2 mg IM 60 minute before anaesthesia.

SELECTION OF PATIENTS

Inclusion criteria:

In the present study 150 patients of A.S.A. (American Society of Anesthesiologists) grade I and II undergoing, herniotomy with herniorrhaphy, tubal ligation, abdominal hysterectomy, skin grafting, primary threading, and hemorrhoidectomy were selected for this study from the OPD & IPD of the department of shalya tantra, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University.

Exclusion criteria

The patients were selected from the standard population, age groups (16 to 60 year) and similar physique. All patients were to undergo Lumber-Subarachnoid block (LSAB). The patients with deformities of spinal card, neurological and mental disturbances, hepatic diseases, and renal disorders, cardiovascular diseases, hypersensitive to local anaesthetic & Diclofenac sodium and with local infection were excluded.

Anaesthesia

Standard spinal technique with 25 gauge needle at L3-L4/L4-L5 interspaces in lateral /sitting position was applied and inj. Bupivacaine 0.5% heavy 2.4 ml was given intrathecally.

Consent

For present study an informed consent was also taken for drug trial. The study was conducted after proper written consent of individual patients explaining the methodology and aim of the study.

Clinical observation: was recorded on a standard proforma.

An assessment of the present clinical trial was done on the following parameters.

1. Evaluation of psycho physiological effect on the patient after premedication.
2. Effect on the course of subsequent anaesthesia.
3. Observation during immediate post Anaesthetic recovery period.
4. Requirement time of analgesic dose in post operative period.

OBSERVATION AND RESULT

1. GROUPING OF PATIENTS AND PREMEDICATION

Table 1. The number of patients and nature of premedications in the selected three groups.

Groups I	50	1. Two capsules of Shigruggulu (each 500 mg) at 10 pm (previous night) and 90 minutes before anaesthesia. Prepared by commercial method i.e. 2/3 part of shigru root bark decoction & 1/3 part of shigru root bark powder with guggulu. 2. Inj. Glycopyrrolate 0.2mg I.M. 60 minutes before anaesthesia.
Group II	50	1. Two capsules of Shigruggulu (each 500mg) at 10 pm (previous night) and 90 minutes before operation. Prepared by standard classical method i.e. shigru root bark decoction with guggulu. 2. Inj. Glycopyrrolate 0.2mg I.M. 60 minutes before anaesthesia.
Group III (Control)	50	1. Tab. of Diclofenac 50mg at 10.00 pm (previous night) and 90 minutes before operation. 2. Inj. Glycopyrrolate 0.2mg I.M. 60 minutes before anaesthesia.

The above table shows the nature and dose of premedicants and number of patients in each group. The mode of premedication in three groups is identical.

2. AGE, WEIGHT AND HEIGHT

Table 2: The mean age (years), weight (kg) and height (cm) of the patients are as follows.

Groups	Age (years) Mean \pm SD	Weight Mean \pm SD	Height (cm) Mean \pm SD
Group I	38.92 \pm 8.14	65.72 \pm 7.73	166.04 \pm 5.77
Group II	35.32 \pm 5.48	65.04 \pm 7.31	164.36 \pm 4.40
Group III (Control)	40.20 \pm 10.47	64.84 \pm 5.28	165.04 \pm 4.19
Comparison between the groups	F=4.667	F=0.226	F=1.526
One way anova test	p=0.011 NS	P=0.789 NS	P=0.221 NS

Thus we find that on statistical comparison of three groups, the age, weight and height of patient are identical in all the three groups.

3. DURATION OF ANAESTHESIA AND SURGICAL TIME

Table 3: Mean duration of anaesthesia and mean surgical time (expressed in minutes) in group-I, group-II and group III, are as follows & comparison between the groups by one way anova test and post hoc test.

Groups	Mean duration of anaesthesia (expressed in minutes) \pm SD	Mean surgical time(expressed in minutes) \pm SD
Group I	105.60 \pm 28.25	71.20 \pm 28.97
Group II	98.80 \pm 16.80	65.86 \pm 13.69
Group III (Control)	108.40 \pm 21.00	74.00 \pm 21.85
Comparison between the group by one way anova test	F=2.36 P = 0.098 NS	F=1.71 P = 0.185 NS
post hoc test		
I vs. III	P = 0.762 NS	P = 0.757 NS
II vs. III	P = 0.066 NS	P = 0.127 NS

From table 3 it is observed that the mean duration of anaesthesia (expressed in minutes) in group-I group-II and group III is 105.60 \pm 28.25, 98.80 \pm 16.80 and 108.40 \pm 21.00 respectively. When it is compared between the group by one way anova test and post hoc test it is not significant. Mean surgical time (expressed in minutes) in group-I, group-II and group III is 71.20 \pm 28.97, 65.86 \pm 13.69 and 74.00 \pm 21.85 respectively. When it compared between the group by one way anova test and post hoc test it was not significant.

4. REQUIREMENT TIME OF 1ST AND 2ND DOSE OF ANALGESIC

Table 4: The mean of the 1st and 2nd analgesic dose requirement time (in minutes) of all patients in group-I, group-II and group III were recorded and statistically compared between the groups by one way anova test and post hoc test.

Groups	Mean of 1 st analgesic dose requirement time (in minutes) \pm SD	Mean of 2 nd analgesic dose requirement time (in minutes) \pm SD
Group I	170.40 \pm 38.0	393.20 \pm 49.79
Group II	174.00 \pm 39.27	N=48 403.33 \pm 40.28
Group III (Control)	214.40 \pm 28.00	N=46 404.76 \pm 53.65
comparison between the groups by one way anova test	F=23.406 P = 0.000 HS	F=0.837 P = 0.435 NS
post hoc test		
I vs. III	P = 0.000 HS	P = 0.393 NS
II vs. III	P = 0.000 HS	P = 0.984 NS

From table 4 it is observed that the mean of the 1st analgesic dose requirement time (in minutes) in group-I, group-II and group III is 170.40 \pm 38.0, 174.00 \pm 39.27 and 214.40 \pm 28.00 respectively. When it is compared between the groups by one way anova test and post hoc test it is highly significant.

The mean of the 2nd analgesic dose requirement time (in minutes) in group-I, group-II and group III is 393.20 \pm 49.79, 403.33 \pm 40.28 and 404.76 \pm 53.65 respectively. When it is compared between the groups by one way anova test and post hoc test it is not significant.

5. DESIRABLE AND UNDESIRABLE EFFECTS

Table 5. Incidence of desirable and undesirable effects in patient in three groups after premedication.

Effects	Incidence	Group I		Group II		Group III/(Control)	
		No.	%	No.	%	No.	%
Sedation	Present	2	4	2	4	2	4
	Absent	48	96	48	96	48	96
Apprehension	Present	0	0	0	0	0	0
	Absent	50	100	50	100	50	100
Excitement	Present	0	0	0	0	0	0
	Absent	50	100	50	100	50	100
Dizziness	Present	0	0	0	0	0	0
	Absent	50	100	50	100	50	100
Nausea	Present	1	2	2	4	2	4

Vomiting	Absent	49	98	48	96	48	96
	Present	1	2	2	4	2	4
Gastric irritation	Absent	49	98	48	96	48	96
	Present	0	0	0	0	0	0
Inc. Peristalsis	Absent	50	100	50	100	50	100
	Present	0	0	0	0	0	0
Hematemesis	Absent	50	100	50	100	50	100
	Present	0	0	0	0	0	0
Melena	Absent	50	100	50	100	50	100
	Present	0	0	0	0	0	0
	Absent	50	100	50	50	50	100

From table 5 it is observed that all inter group's comparison using chi square test of various symptom of desirable effects and undesirable effects was resulted insignificant.

6. POST ANAESTHETIC SEQUEL

Table 6. The incidence of post-anesthetic sequel observed between groups I group II and Group III.

Effects	Incidence	Group I		Group II		Group III/(Control)	
		No.	%	No.	%	No.	%
Nausea	Present	1	2	2	4	2	4
	Absent	49	98	48	96	48	96
Vomiting	Present	1	2	2	4	2	4
	Absent	49	98	48	96	48	96
Headache	Present	2	4	2	4	2	4
	Absent	48	96	48	96	48	96
Backache	Present	1	2	0	0	2	4
	Absent	49	98	50	100	48	96
CNS irritability	Present	0	0	0	0	0	0
	Absent	50	100	50	50	50	100

From table 6 it is observed that all inter group's comparison using chi square test of various symptom of post-anesthetic sequel was resulted insignificant.

CONCLUSION

- The trial drug shigruggulu is less effective than the control drug diclofenac sodium.
- There is no side effect of trial drug.
- Thus the trial drug is safe anti-inflammatory analgesic which can be used in post operative period in those cases where oral intake is allowed for the management of pain.

REFERENCE :

- Champak Medhi, Pande D.N. (2003) Evaluation of Shigru in Sangyahan as Preanaesthetic agent.
- Charak Samhita: Text with English Translation and Critical Exposition based on Chakrapani. Ayurveda Deepika by R.K. Sharma and Bhagwandas: Chaukhamba Sanskrit Series, Varanasi (1990).
- Chaubey Anjana, Dixit S.K., Sharma, P.V. – Disintegration time of Commiphora mukul Thesis for M.D. Ras Shastra B.H.U.
- Chaurasia S.B. et al. – Studies of Rasna (P. Lanceolata) in management of Pain 1998.
- Clayton L. Thomas: Taber's Cyclopedic Medical Dictionary 18th Ed
- Ghosh, R.K. et al.: Clinical studies on the indigenous compound (Nirgundi, Erandmool, Bala) as analgesic in Post operative pain. 1995
- Guyton, Arthur C, M.D.: Text Book of Medical Physiology 8th Ed. 1991.
- Harrisons Principles of Internal Medicine fourteenth Edition 1998.
- Mishra P.R., Guggulu in the management of post-operative pain M.S. (Ay.) Sangyahan Thesis 1998 I.M.S., B.H.U., Varanasi.
- Paul Arun Kumar : Essentials of Anaesthesiology 6th Ed 2002.
- Paul Arun Kumar :Clinical Anaesthesia 2nd Ed 2000.
- Ronald .D.Miller: Anesthesia 5th ED. Vol 1 Ed2000.
- Ronald .D.Miller: Anesthesia 5th ED. Vol 2 Ed2000.
- Sharma P.V. – Classical usage of medicinal plant 1996 Chaukhamba edition.
- Sharma P.V. (1975), Dravyaguna vigyana Parts II and III. Ed. 3rd, 4th, Chowkhambha Prakashan, Varanasi.
- Singh H.O. et al (2000) Evaluation of Triphalaguggulu in Post Operative Pain managements.
- Sushruta Samhita (1962). Hindi Commentary Ambika Dutta Shastri. Chow. Curr. Res. 7: 361.
- Sushruta Samhita: Translated by Atridev Gupta, basic commentatro B.G. Ghanekar, V Edn., Motilal Banarasidas, Benglow Road, Delhi, (1989).



SANGYAHARAN SHODH

An official Journal of Bharatiya Sangyaharak Association(A.A.I.M.)

Chief Editor: Dr. D.N. Pande Asso. Editor: Dr. K. K. Pandey Managing Editor: Dr. S. Sharma Treasurer: Dr. R.K. Jaiswal

Peer review Board

(Approved by G.B. Meeting Dated 3rd Oct. 2008)

1. Prof. K. Pandey, Emeritus Professor, Deptt. of Anesthesia, IMS, BHU, Varanasi
2. Prof. A. Lal, Ex. Head, Deptt. of Anesthesia, IMS, BHU, Varanasi
3. Prof. D.P. Puranik, Director, I.P.G.T., & R. A. Pune
4. Prof. S. Bhat, SDM Ay. College, Udupi
5. Dr. C.K. Dash, Lecturer, State Ayurvedic College, Berhampur
6. Dr. C. Medhi, Asst. Prof., State Ayurvedic College, Gauhati
7. Prof. Anil Agrawal, SGPGI, Lucknow
8. Prof. P. Kumar, Medical College, Jamnagar
9. Dr. D.N. Pande, Reader Sangyahan Deptt. of Shalya Tantra, IMS, BHU, Varanasi
10. Dr. K.K. Pandey, Reader Sangyahan Deptt. of Shalya Tantra, IMS, BHU, Varanasi
11. Prof. S.C. Varshney, Prof. & Head, Deptt. of Shalya Tantra, IMS, BHU, Varanasi
12. Dr. B.N. Mukhopadhyay, Reader & Head, Deptt. of Shalakyta Tantra, IMS, BHU, Varanasi
13. Dr. M. Sinha, Reader, Prasuti Tantra, IMS, BHU, Varanasi
14. Dr. S.K. Tiwari, Reader, Kaya Chikitsa, IMS, BHU, Varanasi
15. Dr. Anil Dutt, Reader & I/c Section of Sangyahan, R.G.G.P.G. Ay. College, Paprola

NEUTRAPIME Inj. Cefepime 1000/250 mg.	ELCEF Tab./Dry Syp. Cefixime 200/100 mg.	GOLD RUSH Syp. Vitamins, Minerals with zinc
FYDOCEP Tab./Dry Syp. Cefpodoxime Proxetil 200/100 mg.	MONOGAT Tab Gatifloxacin 200/400 mg.	O-AP Syp. Tricholine Citrate 275 mg. & Cyproheptadine HCl 2 mg.
CLAV-CILL Tab./Inj./D.S. Amoxicillin & Clavulanic Acid	ARODOL Inj. Tramadol Hcl 50 mg.	AROFER - PLUS Syp. Protein, Folic Acid, Minerals & Trace Elements
AARBACT Inj. Piperacillin & Tazobactam 4.5 gm.	AARZOLE Inj. Pantoprazole Sodium 40 mg.	AARNET Tab. Artesunate 50 mg.
AFZID Inj. Ceftazidime 1000/500/250 mg.	PAT-D Tab. Pantoprazole 40 mg. + Domperidone 10 mg.	ARONIM -D Tab. Nimesulide 100 mg. & Dicyclomine HCl 10 mg.
ORAMAX Inj. Cefoperazone 500 mg. & Sulbactam 500 mg.	NUROVOLE PLUS Inj./Tab. Mecobalamin 1000 mcg. + Alpha-Lipoic Acid + Vitamins	ARONIM - P Tab./Syp. Nimesulide & Paracetamol
AROCEF Inj. Ceftriaxone Sodium 1000/500/250 mg.	SAFEX - BR Syp. Salbutamol, Bromhexine, Guaiphensin & Menthol Syp.	ARONIM - SP Tab. Aceclofenac 100 mg. & Paracetamol 500 mg.
AROCEF - TZ Inj. Ceftriaxone Sodium & Tazobactam 281.25/562.50/1125 mg.	IPRIDE Cap. Rabeprazole Sodium & Itopride Hydrochloride	ARODASE - D Tab. Diclofenac Potassium 50 mg. + Serratiopeptidase 10 mg.
AROCEF - PLUS Inj. Ceftriaxone Sodium & Sulbactam 1500/750/375 mg.	SPIROFER Cap. Spirulina, Ginseng & Vitamins	GLYMIN Tab. Gliclazide 80 mg. + Metformin 500 mg.
AROFLOX - LB Tab. Ofloxacin 200 mg. & Lactic Acid Bacillus	SKELBON Tab. Calcium Carbonate 1250 & Alfa Calcidol 0.25 mg.	PACIFIC Tab. Alprazolam 0.25 mg.
AROFLOX-OZ Tab. /Susp. Ofloxacin 200 mg. & Ornidazole 500 mg.	FLUCET Cap. Fluconazole 50/150 mg.	AFDEC Inj. Nandrolone Decanoate 25/50 mg.
LEOFLOX Tab. Levofloxacin 500/250 mg.	AARNET Inj. a-b Arteether 150 mg./2ml.	PROSET Inj. Ondansetron Hydrochloride Inj.



We Care

Area wise franchisee distributors required, please contact

alpha aromatic pvt. ltd.

An ISO-9001:2000 Company

H.O. : Express Chamber, Opp. Natraj Studio, Andheri-Kurla Road, Andheri (E), Mumbai - 400 069

C. O. : Bungalow No. 6, The Mall, Kariappa Road, Cantt. Varanasi

Cell : 9936290300, 9793115556 Website : www.alphaaromatic.com

Critical Evaluation Of Ojovaha Srotas And Vyadhiksamatwa with Special Reference To Immune System.

* Dr.P.S.Byadgi, **Dr.Rajesh Kumar, *** Dr.Rakesh Kumar Singh, ****Dr.Gaurav Singh Rathore.

Key words--Ojovaha srotas, paraojas, apara ojas, ojovaha srotodusti hetu, ojovaha srotodusti lakshana, ojovaha srotodusti vikara, natural or artificial, innate or acquired (adaptive), and either active or passive, immunodeficiencies, autoimmunity and hypersensitivities.

Abstract

Para ojas is one of the purest, finest forms of *saptadhatu*, its abnormality leads to death, and its quantity is 8 drops. Some people say it is the *upadhatu* of *Shukra*. It is very best substance, soft, possesses the qualities of water, pure, slightly reddish with yellowish tinge, it is the first essential element of the embryo, the essence of *rasa dhatu* of the foetus and is localised in the heart of the foetus before the development of other body parts. It resides in the heart, from there it circulates to all body parts via *ojovaha srotas*, and helps to perform normal activities. Its decrease causes loss of strength, complexion, discomfort in mind and sense organs, and lastly death.

Aparaojas which is half *anjali* having similar properties like that of *kapha*, circulates all over the body along with *rasadhatu*, confer the body with two kinds of strength i.e physical strength and strength to resist diseases. Three varieties of abnormalities develop namely *Ojokshaya*, *Ojovyapat* and *Ojovisramsa*. *Ojovaha srotas* carries the *para ojas* and *apara ojas* to their proper destinations. Its abnormality manifest due to *dhatu kshaya*, *abhighata* etc. *Hataujasa jvara*, *Ojo nirodhaja jvara*, *Rajayakshma*, *Prameha* etc. manifest due to abnormality in *Ojovaha Srotas*. Understanding of concept of *ojas* is very important in terms diagnosis, prognosis and treatment because *ojas* determines these. Channel, which carries *Ojas* known as *Ojovaha srotas* the same, has been discussed in detail.

Ojovaha Srotas

Ojas is the essence of *saptadhatu* and it is the seat for strength [S. Su 13/14 (Cakrapani)]
Dhatugrahana refers to *dhatuvaha srotas*. It is also called *ojovaha srotas* as stated by Cakrapani [S. Su 15/27 (Dalhana)]

Ojas is the essence of *saptadhatu* and it is the *mala* of *shukra*
[A. Hr. Sha 3/63 (Sarvanga Sundara)]

Ojas is the *upadhatu* of *shukra* (S. S. Pu. 5/17)

Ojas is the waste product of *shukra dhatu* (A. S. Sha 6/39)

*Lecturer, ** Senior Lecturer, *** Senior Resident, **** Junior Resident, IMS,BHU,Varanasi

Root

The seat of *ojovaha srotas* is **Hridaya** along with blood vessels attached to it (*S. Su 15/27* [*Cakrapani*])

Ten vessels attached to the heart, which carry *ojas* & pulsate all over body (*C. Su 30/8*)

During the process of *paka* two things are observed i.e. *mala* and *ahara*. *Mala* is the *malarupi ojas* & *sara* is the *garbha* (*A. Hr. Su 11/37-38*)

If *astabindu* quantity *ojas* (*para ojas*) decreases then person will die.

On the contrary if *ardhanjali* (*apara ojas*) *ojas* decreases or vitiated manifest 3 kinds of abnormalities i.e. *ojokshaya*, *ojo vyapat* and *ojovisramsas*. But person may die due to *ardhanjali ojokshaya* also [*C. Su 17/73-74* (*Gangadhara*)]

Ojovaha Srotodusti Hetu (etiological factors)

Ojas undergoes decrease due to injury, tissue depletion (*dhatukshaya*), anger, grief, worry, exertion, hunger etc. resulting into the flowing out from the *dhatu*s and getting associated with *tejas* and instigated by *vata*, which gives various discomfort to the body (*S. Su 15/23*) *Astanga Sangraha* also mentioned same etiological factors (*A. S. Su 19/32-33*)

Ojovaha Srotodusti Lakshana

Three kinds of *Ojodoshas* manifests are as follows–

Ojodoshas i.e. abnormalities in *ojas* is of 3 kinds i) *Ojo visramsas* ii) *Ojo vyapat* and iii) *Ojokshaya* (*S. Su 15/24*)

Ojo Visramsas

Visramsas means displacement from its normal place [*S. Su 15/24* (*Dalhana*)]

Clinical features due to *oja visramsas* are as follows–Looseness of the joints; weakness of the body; displacement of the *doshas* from their respective seats; impairment in activities or sluggish behaviour. (*S. Su 15/24*)

Ojo Vyapat

Vyapat means *ojas* is vitiated by *dusta dosha* and *dushya* [*S. Su 15/24* (*Dalhana*)]

General symptomatology due to *ojo vyapat* are as follows–

Stiffness and heaviness in body; swelling due to *vata*; discolouration or loss of complexion; exhaustion ; stupor; excess sleep (*S. Su 15/24*)

Clinical Features of Ojokshaya

Ojakshaya means decrease in its quantity [*S. Su 15/24* (*Dalhana*)]

Fainting; wasting of muscles; unconsciousness; delirium and death (*S. Su 15/24*)

Fear complex develops or full of fear; general weakness; worry; discomfort in sense organs; loss of complexion; unstable mind; roughness; emaciation (*C. Su 17/73*; *A. S. Su 19/32-33*).

Ojo Vriddhi Lakshana

Increased *ojas* is responsible for unique growth, nourishment and promotes strength (*A. S. Su 19/34*)

Ojovaha Srotodusti Vikara

Role of Ojas in the Genesis of Various Disorders

Others also call *Abhinyasa jvara hataujasa jvara*. Due to loss or decrease of *ojas*, as a result it becomes difficult for management (*S. Utt 39/41*)

Ojonirodhaja Jvara

Ojonirodhaja jvara manifest due to depletion of *ojas* by aggravated *pitta* and *vata*.

Clinical features.

Stiffness all over the body; coldness; desire to sleep always; unconsciousness; disturbed sleep (i.e. Sleep for a while followed by awakening rottenly); stupor; delirium; horripilations; debility and mild increase of temperature and discomfort

Time for Pacification or Kill

Symptoms greatly aggravated on seventh day, tenth day and 12th day or symptoms may subside on seventh day, tenth day and 12th day (*S. Utt 39/43-46*)

Sosha

In case of *sosha roga* there will be severe dryness or extreme depletion of tissues leading to loss of *ojas* (*S. Utt 41/4*)

Murcha

Unconsciousness, loss of strength are the *purvarupa* observed in *murcha* (*S. Utt 46/5*)

Jvara

Jvara is the king of all diseases. It causes death to all creatures on earth and which is seriously afflicting individual. (*C. Ci 3/345*)

Prameha

In case of *prameha*, *apara* or *ardhanjali ojas* is involved and not the *para ojas* because even slight reduction of *para ojas* leads to death. In *madhumeha*, inspite of reduction of *ojas* i.e. *apara ojas* person still survives [*C. Su 30/6-7 (Cakrapani)*]

Pandu

Due to excessive excacerbation of three *doshas* especially *pitta* afflicts *dhatus* as a result complexion, strength, unctousness and *ojas* get exceedingly reduced leading to development of *pandu roga* (*C. Ci 16/5-6*).

Rajyakshma

Disturbed functions of *agni* leads to manifestation of *kitta* (waste substance) in excess as a result *ojas* diminishes. That is why *mala* has to be preserved to support the body (*C. Ci. 8/41-42*)

Udanavrita Prana

Loss of activities, *oja*, *bala* and complexion is seen in *udanavrita prana*. (*C. Ci. 28/208*)

Prognosis of Oja and Bala Abnormalities

Ojo visramsa and *vyapat* are curable by adopting treatments, which are not opposite. *Ojokshaya* is incurable entity because it produces due to improper understanding (*S. Su 15/28*)

Discussion

According to Ayurveda immunity depends on *ojas*, equilibrium state of *kapha* and *udana vata*. There are two terminologies used in Ayurveda to discuss about the concept of *vyadhiksamatwa* (immunity) namely *Ojas* and *bala*. Both are reviewed critically are as follows. Immunity can be natural or artificial, innate or acquired=adaptive, and either active or passive. Active natural (contact

with infection): develops slowly, is long term, and antigen specific. Active artificial (immunization): develops slowly, lasts for several years, and is specific to the antigen for which the immunization was given. Passive natural (transplacental = mother to child): develops immediately, is temporary, and affects all antigens to which the mother has immunity. Passive artificial (injection of gamma globulin): develops immediately, is temporary, and affects all antigens to which the donor has immunity. An **immune system** is a collection of mechanisms within an organism that protects against disease by identifying and killing pathogens and tumor cells. It detects a wide variety of agents, from viruses to parasitic worms, and needs to distinguish them from the organism's own healthy cells and tissues in order to function properly. Detection is complicated as pathogens adapt and evolve new ways to successfully infect the host organism. To survive this challenge, several mechanisms have evolved that recognize and neutralize pathogens. Even simple unicellular organisms such as bacteria possess enzyme systems that protect against viral infections. Other basic immune mechanisms evolved in ancient eukaryotes and remain in their modern descendants, such as plants, fish, reptiles, and insects. These mechanisms include antimicrobial peptides called defensins, phagocytosis, and the complement system. More sophisticated mechanisms, however, developed relatively recently, with the evolution of vertebrates. The immune systems of vertebrates such as humans consist of many types of proteins, cells, organs, and tissues, which interact in an elaborate and dynamic network. As part of this more complex immune response, the vertebrate system adapts over time to recognize particular pathogens more efficiently. The adaptation process creates immunological memories and allows even more effective protection during future encounters with these pathogens. This process of acquired immunity is the basis of vaccination. Concept of immunity may be compared to **Vyadhiksamatwa**. During certain conditions, or due to certain factors, even unwholesome food does not produce diseases immediately. Not all unwholesome food articles are equally harmful, not all doshas are equally powerful, all persons are not capable of resisting diseases (C. Su 28/07). Resistance to diseases or immunity against diseases is of two kinds i.e. the one, which attenuates the manifested disease, and other variety prevents the manifestation of diseases. Unwholesome food substances become more harmful depending upon the nature of the locality, time, combination, potency and excessive quantity [C. Su 28/7 (Cakrapani)].

The following persons are unable to resist diseases

Over obese individual; over emaciated person; whose muscles and blood are diminished markedly; debilitated person; one who consumes unwholesome food; one who consumes less amount of food; whose mental faculties are weak. On the other hand, individuals having opposite type of physical constitution are capable of resisting diseases. *Vyadhisaha* means one who is capable of resisting diseases. Depending on the nature of unwholesome food, condition of *vatadi doshas* and person who is not capable of resisting diseases suffers from diseases mild or severe, acute or chronic. *Vata*, *pitta*, *kapha* manifests different diseases

depending upon their vitiation at various places. (C. Su 28/07). Strength is of three types i.e. *Sahaja* (constitutional), *Kalaja* (temporal) and *Yuktikrita* (acquired) (C. Su 11/36).

A. Sahaja bala

It is an inherent characteristic property of an individual present since birth. It is because of equilibrium state of *doshas* (C. Su 11/36)

B. Kalaja bala

Kalaja bala is dependent on season and age. (C. Su 11/36)

Loss of strength is observed in *adanakala*, gaining of strength is observed in *visarga kala* and middle age is considered as full of strength.

C. Yuktikrit bala

Acquired strength is dependent on healthy practices related to diet, activities etc. (C. Su 11/36). Performing exercises with proper methods by giving rest in between different exercises. C. Su 11/36 (*Cakrapani*). Other says that *yoga as rasayan* therapy. [C. Su 11/36 (*Cakrapani*)]. *Vajikarana yogas* helps to acquire strength by fulfilling necessary deficiencies in deficient *dhatu*s. [C. Su 11/36 (*Gangadhara*)].

Diseases of immune system arises due to disturbance in ojas, kapha, bala and udana vata. Disorders in the immune system can cause disease. Immunodeficiency diseases occur when the immune system is less active than normal, resulting in recurring and life-threatening infections. Immunodeficiency can either be the result of a genetic disease, such as severe combined immunodeficiency, or be produced by pharmaceuticals or an infection, such as the acquired immune deficiency syndrome (AIDS) that is caused by the retrovirus HIV. In contrast, autoimmune diseases result from a hyperactive immune system attacking normal tissues as if they were foreign organisms. Common autoimmune diseases include rheumatoid arthritis, diabetes mellitus type 1 and lupus erythematosus. These critical roles of immunology in health and disease are areas of intense scientific study. The immune system is a remarkably effective structure that incorporates specificity, inducibility and adaptation. Failures of host defense do occur, however, and fall into three broad categories: immunodeficiencies (Ojokshaya), autoimmunity (Ojovisramsa)

and hypersensitivities (Ojovyapat). Immunodeficiencies occur when one or more of the components of the immune system are inactive. The ability of the immune system to respond to pathogens is diminished in both the young and the elderly, with immune responses beginning to decline at around 50 years of age due to immunosenescence. Immunodeficiencies can also be inherited or 'acquired'. Chronic granulomatous disease, where phagocytes have a reduced ability to destroy pathogens, is an example of an inherited, or congenital, immunodeficiency. AIDS and some types of cancer cause acquired immunodeficiency. Overactive immune responses comprise the other end of immune dysfunction, particularly the autoimmune disorders. Here, the immune system fails to properly distinguish between self and non-self, and attacks part of the body. Under normal circumstances, many T cells and antibodies react with "self" peptides. One of the functions of specialized cells (located in the

thymus and bone marrow) is to present young lymphocytes with self antigens produced throughout the body and to eliminate those cells that recognize self-antigens, preventing autoimmunity. Hypersensitivity is an immune response that damages the body's own tissues. They are divided into four classes (Type I – IV) based on the mechanisms involved and the time course of the hypersensitive reaction. Type I hypersensitivity is an immediate or anaphylactic reaction, often associated with allergy. Symptoms can range from mild discomfort to death. Type I hypersensitivity is mediated by IgE released from mast cells and basophils. Type II hypersensitivity occurs when antibodies bind to antigens on the patient's own cells, marking them for destruction. This is also called antibody-dependent (or cytotoxic) hypersensitivity, and is mediated by IgG and IgM antibodies. Immune complexes (aggregations of antigens, complement proteins, and IgG and IgM antibodies) deposited in various tissues trigger Type III hypersensitivity reactions. Type IV hypersensitivity (also known as cell-mediated or *delayed type hypersensitivity*) usually takes between two and three days to develop. Type IV reactions are involved in many **autoimmune and infectious diseases**, but may also involve contact dermatitis (poison ivy). These reactions are mediated by T cells, monocytes, and macrophages. It is likely that a multicomponent, adaptive immune system arose with the first vertebrates, as invertebrates do not generate lymphocytes or an antibody-based humoral response. Many species, however, utilize mechanisms that appear to be precursors of these aspects of vertebrate immunity. Immune systems appear even in the most structurally-simple forms of life, with bacteria using a unique defense mechanism, called the restriction modification system to protect themselves from viral pathogens, called bacteriophages. Pattern recognition receptors are proteins used by nearly all organisms to identify molecules associated with pathogens. Antimicrobial peptides called defensins are an evolutionarily conserved component of the innate immune response found in all animals and plants, and represent the main form of invertebrate systemic immunity. The complement system and phagocytic cells are also used by most forms of invertebrate life. Ribonucleases and the RNA interference pathway are conserved across all eukaryotes, and are thought to play a role in the immune response to viruses. Unlike animals, plants lack phagocytic cells, and most plant immune responses involve systemic chemical signals that are sent through a plant. When a part of a plant becomes infected, the plant produces a localized hypersensitive response, whereby cells at the site of infection undergo rapid apoptosis to prevent the spread of the disease to other parts of the plant. Systemic acquired resistance (SAR) is a type of defensive response used by plants that renders the entire plant resistant to a particular infectious agent. RNA silencing mechanisms are particularly important in this systemic response as they can block virus replication (**Immune system-Wikipedia, the free encyclopedia**).

Abbreviations

1. *C.Su*—Charaka Sutrasthana
2. *C.Ci*—Charaka Chikitsasthana
3. *S.Su---*Sushruta Sutrasthana
4. *S.Utt.*—Sushruta Uttaratantra
5. *A.Hr.Sha*—Astanga Hridaya Sharir
6. *A.Hr.Su*—Astanga Hridaya Sutrasthana
7. *A.S.Su*—Astanga Sangraha Sutrasthana
8. *S.S.Pu*—Sharangadhara Samhita Purvardha



SANGYAHARAN SHODH

An official Journal of Bharatiya Sangyaharak Association(A.A.I.M.)

Chief Editor: Dr. D.N. Pande Asso. Editor: Dr. K. K. Pandey Managing Editor: Dr. S. Sharma Treasurer: Dr. R.K. Jaiswal

APPEAL

All the members of Association of Anesthesiologists of Indian Medicine are requested to send articles / research papers / case reports and chapters realated to anesthesia. Please ensure that the articles include only the opinion and data which you have evidences and records. The sole responsibility will be to the authors. The editorial staff disclaims any responsibility whatsoever for the consequences of inaccurate or misleading data, opinion or statement published herein.

Chief Edior

An Evaluation of Herbal Drug Compound for Post-operative Pain Management

* Mishra Y.K. ** Pandey K.K. *** Pande D.N.

Abstract:

The ancient medical science accepted the most challenging problem of pain and tried to encounter with definite procedure and indigenous drug. Acharya Charaka and Sushruta describe the painful conditions and their management.

Management of pain during post operative pain has been a global challenge since the inception of surgical treatment procedure. As a matter of fact pain has its many modalities and likewise there are so many limitations of pain therapy application. Hence a continuous chain of researches are being performed to pacify the pain in different surgical procedure in patients of varying personality.

A clinical trial was carried out on Dasamula, prepared in the form of dried decoction tablet (Ghanvati) and compared with well known analgesic drug diclofenac sodium for their analgesic properties during post operative period in patients operated under Lumber sub-arachnoid block.

Keywords: Analgesics, Vedanahara, Sothahar, Vatashamak, Damula Ghanvati, Post operative saturation
 MBP = Mean blood pressure, EtCO₂ = End Tidal CO₂, PR = Pulse rate, SPO₂ = Oxygen

INTRODUCTION

Pain is the most unpleasant sensation in the world. It has two components such as - physical component and mental component. This has been vividly described in samhita Grantha.

Literary evidences reveal that people in ancient days were quite conversant with pain relieving drugs. Acharya Sushruta has mentioned the use of medicated alcohol (Madya) before surgical procedure and during delivery to relieve pain and allaying apprehension. Pain is the basic and most challenging problem for surgeons from primitive era.

The primary requirement of safe and satisfactory surgery is to abolish the pain during operation. Keeping this views we have evaluate the efficacy of herbal drug compound Dasamula Ghanvati as anti-inflammatory and analgesic activity.

MATERIAL AND METHODS

No. of patients = 40

Operation - Elective surgery below umbilicus except GIT surgery.

Anesthesia - Lumber subarachnoid block with Bupivacaine 0.5% heavy

Trial group (Dasamula Ghanvati)	No. of Patient - 20	Premedication - Tab. Dasamula Ghanvati 1 gm at 10 P.M. of previous night and 2 hours before operation with sips of plain water orally and Injection Glycopyrolate 0.2 mg IM 1 hours before Operation.
Control group (Diclofenac Sodium)	No. of Patient - 20	Premedication - Tab. Diclofenac sodium 50 mg at 10 P.M. of previous night and 2 hours before operation with sips of plain water orally and Injection Glycopyrolate 0.2 mg IM 1 hours before Operation.

*J.R. III, Sangyahan, **Reader, *** Reader & I/c Sangyahan Dept.of Shalya Tantra ,I.M.S.,B.H.U.

Table No. 1: OBSERVATIONS AND RESULTS**2. AGE, WEIGHT AND HEIGHT****Table 2: The statistical comparison of mean age, mean weight and mean height between the groups.**

Group		Age (years) Mean \pm SD	Weight (Kg) Mean \pm SD	Height (cm) Mean \pm SD
Group I / Trial		41.75 \pm 11.79	59.10 \pm 8.48	164.80 \pm 3.82
Group II / Control		40.00 \pm 14.05	58.00 \pm 7.65	164.60 \pm 4.76
Comparison between groups unpaired 't' test	t value	t = 0.43	t = 0.43	t = 0.15
	p-value	p > 0.05	P > 0.05	P > 0.05
Remark		NS	NS	NS

It is obvious from the above table that mean age, weight and height are statistically comparable and identical ($p > 0.05$) in the patients of both the groups.

3. EFFECT ON BLOOD PRESSURE

Table 3A: The statistical comparison of difference in mean of mean blood pressure (mm Hg) between the groups at corresponding time i.e. before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D), by applying student t-test, p-values and remarks are as follows:

Group		Mean of MBP \pm SD			
		Before premedication (A)	After premedication (B)	During subsequent anaesthesia (C)	After recovery from anaesthesia (D)
Group I (Trial)		94.30 \pm 8.58	96.80 \pm 8.49	90.45 \pm 9.13	93.15 \pm 6.03
Group II (Control)		95.30 \pm 8.03	97.80 \pm 8.93	92.10 \pm 9.87	95.75 \pm 6.15
Comparison between groups unpaired 't' test	t value	t = 0.38	t = 0.36	t = 0.55	t = 1.33
	p-value	p > 0.05	p > 0.05	p > 0.05	p > 0.05
Remark		NS	NS	NS	NS

Table 3A shows that mean of MBP in-group I (Trial) before and after premedication was 94.30 ± 8.58 and 96.80 ± 8.49 , respectively, while in group II (Control) it was 95.30 ± 8.03 and 97.80 ± 8.93 , respectively. Again mean of MBP in group I during subsequent anaesthesia and after recovery from anaesthesia was 90.45 ± 9.13 and 93.15 ± 6.03 while in group II it was 92.10 ± 9.87 and 95.75 ± 6.15 respectively.

The above statistical comparison represents that difference in mean of mean blood pressure between group I and group II at corresponding four different timings are statistically insignificant.

Table 3B: The statistical comparison of mean of MBP (mmHg) before premedication (A), after premedication (B), during subsequent anaesthesia (C), and after recovery from anaesthesia (D), within the group by applying paired t-test, p-values and remarks are as follows

Comparison within the groups	Group I			Group II		
	Mean \pm SD	t-value p-value	Remark	Mean \pm SD	t-value p-value	Remark
A vs. B	-2.50 ± 4.40	t = 2.52 p < 0.05	S	-2.50 ± 5.41	t = 2.07 p > 0.05	NS
A vs. C	3.85 ± 7.43	t = 2.32 p < 0.05	S	3.20 ± 9.63	t = 1.49 p > 0.05	NS
A vs. D	1.15 ± 4.44	t = 1.16 p > 0.05	NS	-0.45 ± 4.44	t = 0.45 p > 0.05	NS

From Table 3b it is observed that difference of MBP before premedication and after premedication, difference of MBP before premedication, during subsequent anaesthesia and before premedication and after recovery from anaesthesia in group II is insignificant but difference of MBP before premedication and after premedication and before premedication and during subsequent anaesthesia is significant, and before premedication and after recovery from anaesthesia is insignificant in group I..

4. EFFECT ON PULSE RATE

Table 4A: The statistical comparison of difference of mean pulse rate/min, between the two groups at corresponding time i.e. before premedication (A), after premedication (B), during subsequent anaesthesia (C), after recovery from anaesthesia (D), by applying student t-test, p-values and remarks are as follows.

		Mean Pulse Rate/min; (Mean \pm SD)			
		Before premedication (A)	After premedication (B)	During subsequent anaesthesia (C)	After recovery from anaesthesia (D)
Group I (Trial)		74.65 \pm 10.91	86.50 \pm 10.73	85.15 \pm 13.14	81.80 \pm 8.98
Group II (Control)		74.65 \pm 9.26	82.90 \pm 9.72	81.00 \pm 12.40	77.55 \pm 8.96
Comparison between groups unpaired 't' test	t value	t = 0.00	t = 1.11	t = 1.03	T = 1.50
	p-value	p > 0.05	p > 0.05	p > 0.05	P > 0.05
Remark		NS	NS	NS	NS

From Table 4A, it can be observed that mean pulse rate/min in group-I, before and after premedication was 74.65 ± 10.91 and 86.50 ± 10.73 , respectively while in group-II, it was 74.65 ± 9.26 and 82.90 ± 9.72 , respectively. Again mean pulse rate/min in group-I during subsequent anaesthesia and after recovery from anaesthesia was 85.15 ± 13.14 and 81.80 ± 8.98 while in group-II it was 81.00 ± 12.40 and 77.55 ± 8.96 respectively.

From Table 4A, it is observed that difference of mean pulse rate when compared in between group-I and group-II at corresponding four different timings it is insignificant.

Table 4B: Statistical comparison of difference in the mean pulse rate/min before premedication (A), after premedication (B), during subsequent anaesthesia (C), and after recovery from anaesthesia (D), within the groups by applying paired t-test, p-values and remarks are as follows.

Comparison within the groups	Group I			Group II		
	Mean \pm SD	t-value p-value	Remark	Mean \pm SD	t-value p-value	Remark
A vs. B	-11.85 \pm 8.83	t = 5.99 p < 0.001	HS	-8.25 \pm 7.02	t = 5.26 p < 0.001	HS
A vs. C	-10.50 \pm 13.08	t = 3.59 p < 0.01	HS	-6.35 \pm 12.54	t = 2.26 p < 0.05	S
A vs. D	-7.15 \pm 10.51	t = 3.04 p < 0.01	HS	-2.90 \pm 5.72	t = 2.27 p < 0.05	S

From Table 4B, it is observed that difference of mean pulse rate, at the level of before

premedication and after premedication is highly significant in group-I and also in group-II and difference of mean pulse rate before premedication and during subsequent anaesthesia and after recovery from anaesthesia is highly significant in group I and significant in group-II

5. EFFECT ON RESPIRATORY RATE

Table 5A: The statistical comparison of mean respiratory rate per minute changes before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D) between the two groups at corresponding time by applying student t-test and p-values and remarks are as follows.

Group		Mean Respiratory Rate/min; (Mean \pm SD)			
		Before premedication (A)	After premedication (B)	During subsequent anaesthesia (C)	After recovery from anaesthesia (D)
Group I (Trial)		17.45 \pm 1.93	17.20 \pm 2.06	17.90 \pm 3.02	17.00 \pm 1.34
Group II (Control)		19.90 \pm 2.20	16.75 \pm 2.34	17.56 \pm 3.34	16.95 \pm 1.53
Comparison between groups unpaired 't' test	t value	t = 0.84	t = 0.64	t = 0.34	t = 0.11
	p-value	p > 0.05	p > 0.05	p > 0.05	P > 0.05
Remark		NS	NS	NS	NS

Table 5A shows that mean respiratory rate/min in group-I at all the four level before premedication (A), after premedication (B) during subsequent anaesthesia (C) and after recovery from anaesthesia (D) is 17.45 ± 1.93 , 17.20 ± 2.06 and 17.90 ± 3.02 , 17.00 ± 1.34 respectively, while in group-II it is 19.90 ± 2.20 , 16.75 ± 2.34 and 17.56 ± 3.34 , 16.95 ± 1.53 , respectively.

From Table 5A, it is observed that difference of mean respiratory rate per minute when compared in between group-I and group-II at corresponding four different timings, it is statistically insignificant and identical.

Table 5B. The statistical comparison of mean respiratory rate per minute within both groups before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D), by mean \pm SD, paired t-test, p-values and remark are as follows.

Comparison within the groups	Group I			Group II		
	Mean \pm SD	t-value p-value	Remark	Mean \pm SD	t-value p-value	Remark
A vs. B	0.25 \pm 1.33	t = 0.84 p > 0.05	NS	0.15 \pm 1.95	t = 0.34 p > 0.05	NS
A vs. C	-0.45 \pm 2.06	t = 0.97 p > 0.05	NS	-0.65 \pm 2.39	t = 1.22 p > 0.05	NS
A vs. D	0.45 \pm 1.54	t = 1.31 p > 0.05	NS	-0.05 \pm 2.01	t = 0.11 p > 0.05	NS

From Table 5B, it is observed that changes in respiratory rate are insignificant in both groups at the levels of before premedication vs after premedication, before premedication vs during subsequent anaesthesia and before premedication vs after recovery from anaesthesia

6.EFFECT ON TEMPERATURE

Table 6A: The statistical comparison of difference in the mean axillary temperature ($^{\circ}$ F) between group-I and II before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D) by applying student t-test, p-values and remarks are as follows.

Group	Mean Axillary Temperature; (mean \pm SD)				
	Before premedication (A)	After premedication (B)	During subsequent anaesthesia (C)	After recovery from anaesthesia (D)	
Group – I	97.50 \pm 0.51	98.17 \pm 0.49	98.05 \pm 0.43	97.92 \pm 0.44	
Group – II	97.58 \pm 0.45	98.30 \pm 0.41	98.36 \pm 0.30	97.78 \pm 0.41	
Comparison between groups unpaired 't' test	t value	t = 0.49	t = 0.91	t = 2.66	T = 1.04
	p-value	p > 0.05	p > 0.05	p < 0.02	P > 0.05
Remark	NS	NS	S	NS	

Table 6A shows that mean Axillary temperature ($^{\circ}$ F) in group-I, at four level before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D) are 97.50 ± 0.51 , 98.17 ± 0.49 , 98.05 ± 0.43 and 97.92 ± 0.44 , respectively, while in group-II it was 97.58 ± 0.45 , 98.30 ± 0.41 , 98.36 ± 0.30 and

97.78 ± 0.41, respectively.

From table 6A, it is observed that difference of mean Axillary temperature (°F), when compared between group-I and group-II at corresponding four different timings it is statistically insignificant. Except during subsequent anaesthesia, it is statistically significant.

Table 6B: The statistical comparison of mean Axillary temperature (°F) within both groups before premedication (A), after premedication (B), during subsequent anaesthesia (C) and after recovery from anaesthesia (D) by mean ± SD, paired t-test and p-value and remarks are as follows.

Comparison between the groups	Group I (Trial)			Group II (Control)		
	Mean ± SD	t-value p-value	Remark	Mean ± SD	t-value p-value	Remark
A vs. B	-0.67 ± 0.29	t=10.17 p<0.001	HS	-0.72 ± 0.21	t =15.39 p < 0.001	HS
A vs. C	-0.55 ± 0.33	t = 7.38 p<0.001	HS	-0.78 ± 0.37	t = 9.37 p<0.001	HS
A vs. D	-0.42 ± 0.49	t = 3.80 p<0.001	HS	-0.20 ± 0.48	t = 1.86 p>0.05	NS

From Table 6B, when comparison is done for mean Axillary temperature (°F), within the groups at the level of before premedication with after premedication and before premedication with during subsequent anaesthesia it was statistically highly significant in both groups but at the level of before premedication with after recovery from anaesthesia it is statistically highly significant in group I and statistically insignificant in group-II.

12. REQUIREMENT TIME OF 1ST DOSE OF ANALGESIC

Table 12: The mean of the 1st analgesic dose requirement time (in minutes) of all patients in group-I and group-II were recorded and statistically compared.

Groups	Mean ± SD	t-value	p-value	Remark
Trial Group – I	218.75 ± 29.77	t = 1.51	p > 0.05	NS
Control Group – II	202.200 ± 38.93			

It is obvious from the above table that requirement of the first dose analgesic time in patients of both the groups was almost equal and identical time intervals the statistical comparison of first dose analgesic requirement time between the group is insignificant

CONCLUSION

On the basis of observations made on 20 patients in each groups, it can be concluded that in these groups:

- The trial drug Dasamula Ghanvati has Shothahar (anti-inflammatory) and Vedanahar (analgesic) properties.
- Dasamula Ghanvati did not produce any significant side effects when used as premedicant.
- No significant changes were observed in mean blood pressure, pulse rate, respiratory rate, temperature, oxygen saturation and End tidal carbon dioxide.
- The trial drug Dasamula Ghanvati (1000 mg) is almost equally effective as anti-inflammatory and analgesic in comparison to control drug Diclofenac sodium (50 mg).

References:

- Abhinav Nighantu. Hindi commentary by Dutta Ram Chaube, Nirnaya Sagar Press, Bombay 1916.
- Adrini J. (1960). The Pharmacology of anaesthetic drugs, 4th Edn. Springfield Illinois.
- Champak Medhi, Pande D.N. (2003) Evaluation of Shigru in Sangyahan as Pre-anaesthetic agent.
- Chaurasia S.B. et al. – Studies of Rasna (P. Lanceolata) in management of Pain 1998.
- Dutt A.T., Ghosh S. and Chopra R.N. Chemical investigation of gum resin from Balsamodendron mukul. Indian J. Med. Res. 1942, 30; 331.
- Dutta. A. et al. Comparative clinical study of Brahmi and Ashwagandha as preanaesthetic medication 1993.
- Ghosh, R.K. et al. : Clinical studies on the indigenous compound (Nirgundi, Erandmool, Bala) as analgesic in Post operative pain. 1995.
- Lal A. – Study of Novalgin in relation to anaesthesia. Thesis for M.D. Anaesthesia. 1967.
- Mishra P.R., Guggulu in the management of post-operative pain M.S. (Ay.) Sangyahan Thesis 1998 I.M.S., B.H.U., Varanasi.
- Mishra S.K. Pande D.N., Evaluation of Vacha as Premedicant. 1998.
- Pai A. (1999): Evaluation of Rasna as premedicant under Sarvadaihk Sangyahan.
- Pande D.N. (1986), Poorvakarama in relation to anaesthesia. M.D. (Ay.) Thesis, I.M.S., B.H.U., Varanasi.
- Pande S.B. (1977), Evaluation of Aswagandha as Preanaesthetic agent. Ph.D. (Ay.) Thesis, I.M.S., B.H.U. Varanasi.
- Pandey K.K. (1990). Role of Medhya Dravyas in Snagyahan Ph.D. Thesis. I.M.S., B.H.U., Varanasi.
- Pandey P.S., Studies on an indigenous compound (Nirgundi, Erandmool and Bhringaraja) as an analgesic. M.S. (Ay.) Sangyahan thesis 1997. I.M.S., B.H.U., Varanasi.
- Roy A.K. Role of Shigrughanasatva under Sarvadaihk sangya harana (GA): a clinical study. M.S. (Ay.) Sangyahan Thesis 2005 I.M.S., B.H.U., Varanasi.
- Sah G.S. (1998): Study of Parijat in Post Operative Pain under Sub-arachnoid Block.
- Sharma P.K. et al. Evaluation of Jatamansi as Pre anaesthetic medication A-biochemical study – 1997.
- Sharma P.V. – Classical usage of medicinal plant 1996 Chaukhamba edition.
- Sharma P.V. (1975), Dravyaguna vigyana Parts II and III. Ed. 3rd, 4th, Chowkhamba Prakashan. Varanasi.
- Singh, J. (2006) Critical analysis of Marma with special reference to Sangyahan. MS(Ay) Sangyahan, thesis, IMS, BHU
- Singh H.O. et al (2000) Evaluation of Triphala guggulu in Post Operative Pain managements.
- Singh Rajesh et al., Biochemical studied of Parijat Ghansatva during and after intrathecal Anaesthesia. 2003.
- Singh S.K. (1999): Study of Parijat as Premedicant under Sarvadaihk Sangyahan.

SANGYAHARAN SHODH

An Official Journal of Bharatiya Sangyaharak Association (A.A.I.M.)

Form IV (See Rule 8)

Declaration under Rules of the Press and Registration Act (1956)

Place of Publication : Bharatiya Sangyaharak Association (A.A.I.M.)
Operation Theatre Block (Indian Medicine)
S.S. Hospital, Banaras Hindu University
Varanasi – 221005

Period of its Publication : Bi-annual

Printers Name : Dr. Devendra Nath Pande

Whether citizen of India? : Yes

Address : Bharatiya Sangyaharak Association (A.A.I.M.)
Operation Theatre Block (Indian Medicine)
S.S. Hospital, Banaras Hindu University
Varanasi – 221005

Publisher's Name : Dr. Devendra Nath Pande

Whether Citizen of India? : Yes

Address : Bharatiya Sangyaharak Association (A.A.I.M.)
Operation Theatre Block (Indian Medicine)
S.S. Hospital, Banaras Hindu University
Varanasi – 221005

Chief Editor : Dr. Devendra Nath Pande

Whether Citizen of India? : Yes

Address : 928/2 Ganeshpuri Colony
Susuwahi, Varanasi – 221 005

Name and Address of Owner : Bharatiya Sangyaharak Association (A.A.I.M.)
Operation Theatre Block (Indian Medicine)
S.S. Hospital, Banaras Hindu University
Varanasi – 221005

I, Devendra Nath Pande, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-

Devendra Nath Pande
Signature of Publisher

REG. NO. 72006/98



Shiv Ayurvedic Pharmacy

KASGANJ – 207123 (U.P.)

PHONE – 05744-532

- VITAL COMPOUND** : Palliative and Nutritional tonic for Health and appetite stimulants, ensuring bioutilization and giving better health.
- VITAL DROPS** : For Paediatric – General tonic.
- HEMA CORDIAL** : Uterine Sedative and Tonic, corrects ovarian function, regulates menstrual cycle, stimulates normal sexual growth and ovulation, minimization of psychosomatic disturbances at menopause.
- GASSO-WIN** : For Gastric disorders, improves appetite, relieves flatulence and promotes digestion.
- COUGH-CO** : Powerful Expectorant.

On behalf of Bharatiya Sangyaharak Association (Association of Anesthesiologists Indian Medicine), Printed and Published by Dr. Devendra Nath Pande, at Bharatiya Sangyaharak Association, O.T. Block, (I.M.), S.S. Hospital, B.H.U., Varanasi – 221005. Editor: Dr. Devendra Nath Pande. Computerised typesetting by M/s Ramesh Chandra Chitaipur, Sunderpur, Varanasi – 221 005