SANGYAHARAN SHODH

(A Bi annual Peer Reviewed International Journal)

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संज्ञाहरण शोध

An Official Journal of

BHARATIYA SANGYAHARAK ASSOCIATION

(Association of Anaesthetists of Indian Medicine)

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

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SANGYAHARAN SHODH

(A Peer Reviewed International Journal)

February - 2012 **Volume 15, Number**

CONTENTS

EDITORIAL

The 15th Volume is now in your hand. Till date 29 issues are published regularly with scientific research papers and news of our society. Sangyaharan Shodh has been registered and assigned ISSN no.2278-8166.Now Indexing is in process. I hope it will be indexed very soon.

Another achievement is up gradation of Section of Sangyaharan as Department of Sangyaharan in the Faculty of Ayurved, I.M.S., B.H.U., VARANASI on 18.11.2011.The **Department of Sangyaharan**; Banaras Hindu University has been one of the leading departments in the country. The teaching and research in the specialty of Sangyaharan was started in the Department of Shalya Shalakya with its inception in the year 1963 topromote surgical disciplines of Ayurved . Primarily teaching of Sangyaharan was started as a Section of Department of Shalya Shalakya under Dynamic Leadership of Late Dr. S.B.Pande, Reader of the Department .It has not only provided up-to-date teaching resources but also taken lead in introducing newer disciplines to the teaching curricula. Thus, introduction of subjects such as Ayurvedic Pain Management and Ayuvedic Palliative Care in the teaching curricula, much ahead of other departments in the country, helped to revive the surgical disciplines of Ayurved as a living, growing medical stream. In that respect, the Department has been a pioneer in Sangyaharan teaching in India. The scientific merit of the faculty has been recognized from time to time through honours and awards, such as Ashwinau Award and Best Ph.D. Thesis Award. The faculty members have been serving on editorial boards of various journals in their domains of expertise and as members of national and international decision making bodies that formulate general policy/plans on research and education. The tradition of strong training and excellence has been maintained and expanded during the last 50 years. The Department offers 3 years **M. D. Ayu. Sangyaharan course** (annual intake of 2 Residents), **2 years P.G. Diploma course** (annual intake of minimum 3 or maximum 5 students), and 1 year **Certificate Course in Ayurvedic PainManagement** for foreign nationals (annual intake of minimum 1 or maximum 3 students). The Department also offers teaching and training of Sangyaharan to B.A.M.S. students in final professional course. The Department also offers Ph.D. programme in Sangyaharan. Presently there are 2 members on the faculty, two Medical Officers, one Sr. Resident, one J.R.F. and 5 U.G.C. Research fellows.

Important dates in the history of Department –

1 August 1989-Starting new specialty-Sangyaharan P.G. at B.H.U.
Foundation of AAIM-Registered on 14th November 1996.
Organization of 1st National Conference of AAIM-8-9March1997- B.H.U., VARANASI
16 August 2011-Starting new specialty-Sangyaharan P.G. Diploma Course at B.H.U.
Proposal to upgrade Sangyaharan as Depatment-29.01.1995 by Joint Board of Study Meeting.
1.01.2007-Approved by academic council as Department.
31.10.2007- Approved by Executive council as Department.
11.11.2011-Approved by Ministry of Human Resource Development as Depatment.
18.11.2011-Notified as Department of SANGYAHAN by Registrar B.H.U.
On 17.01.2012-Appointment of First & Founder Head-Dr. D.N. Pande.
On 18.01.2012-Inauguration of Departt.by the Directr-I.M.S.-Prof. T.M.Mohopatra.

Congratulations to all the A.A.I.M. Members for these achievements.

JAI HIND JAI SANGYAHARAN JAY AYURVED

Devendra Nath Pande,Chief Editor-Professor & Head, Departt. ofSangyaharan,I.M.S., B.H.U., Varanasi.

CASE REPORT

Skin Infiltration of Lignocaine with Adrenaline Prior To Epidural Catheter Placement Causing Local Site Ulceration

*Shashi Prakash *A K Paswan *G Yadav** Yashpal Singh***Biranchi N Pratihari**** S.K Mathur

Abstract:

A young patient posted for exploratory laprotomy following gunshot injury to abdomen under GA. An epidural catheter was inserted in L1-L2 inerspace after local infiltration with xylocaine with adrenaline under strict aseptic and antiseptic precaution for postoperative analgesia. Intraoperatively condition was uneventful and postoperative pain relief was good by Infusion of o.125% of bupivacaine. Catheter was removed on post-op day 4 and sterile dressing was applied over the catheter insertion site. The post-op period was uneventful, and patientt was discharged on post-op day 7. On post-op day 12 patient came to OPD with complain of pain on back, at the catheter insertion site.On inspection it was seen that a skin ulcer of size2×2×0.3 cm, irregular margin was developed at the catheter insertion site.

KEY WARDS: exploratory laparotomy; epidural anaesthesia; local infiltration of skin;

Introduction

Epidural anaesthesia has versatility means, it can used as an anaesthetic, analgesic adjuvant to general anaesthesia (GA).It is an preferred method for post operative analgesia. It avoids many of the serious problems of GA as well as provide near optimal condition for surgery. However because of the invasive nature of regional anaesthesia (RA), complications are possible and require a thorough understanding. Judicious management of complications associated with the procedure must be performed.

Case report:

A 35 year old male presented with pain abdomen, absolute constipation and progressive abdominal distention following a gunshot injury to abdomen since last24 hrs. Local examination shows distended abdomen with everted umbilicus, tenderness, abdominal rigidity, guarding with a 1 cm size entrance wound without any exit wound. X ray abdomen PA view in erect posture shows gas under diaphragm, and a radio opaque body of size1×2 cm size. Lab investigation shows Hb 8.2 gm% otherwise normal. ABG shows Pao2 88 mm Hg, PaCO2 24 mmHg, SaO2 92%, Ca++ 0.926 mMol/lit, K+ 5.3mMol/lit. Patient was scheduled for exploratory laparotomy. Inj. Ranitidine 50 mg and Inj metaclopromide 10 mg intravenously(IV) given 30 minute prior to operation, On arrival to operation theater patient was irritable, conscious, oriented, GCS was E4V5M6, chest auscultation reveals clear with bilateral bronchovesicular sound, Respiratory Rate(RR)=28/min, Heart Rate(HR)=120/min, Noninvasive Blood Pressure(NIBP) =100/56 mmHg, Urine output over last 4 hrs 200ml.

Corresponding Author-*Dr. Shashi Prakash,Assistant Professor, Department of Anesthesiology, IMS BHU Varanasi.Email- dr.shashi.prakash@gmail.com

Coauthors:*Assistant Professor **Senior Resident *** Junior Resident**** Professor,Department of Anesthesiology, IMS BHU Varanasi.

After obtaining an informed consent, patient was counseled about the risk involved in the procedure and was accepted for the surgery under General Anaesthesia (GA) with epidural analgesia, After putting pulse oximetry probe (SpO2 probe), noninvasive blood pressure (NIBP) and electrocardiogram (ECG) leads, intravenous cannula of 16 & 18G was established on Left & Right forearm respectively. Preloading was done with Ringer lactate (RL) 15 ml/kg. The patient was put on right lateral position, skin infiltration over L1-L2 interspaces by 2 ml of Lignocaine 2% with 1:2, 00,000 Adrenaline. Epidural space was identified by loss of resistance technique at a depth of 4 cm in L1-L2 intervertebral space using 16G Tuohy needle.A16G polyurethane epidural catheter was inserted and left at 8 cm in epidural space. Following a test dose of LA Lignocaine 2% with Adrenaline 1; 2, 00,000, the catheter was secured in position after putting a sterile gauge piece between skin and catheter. Premedication was done with Inj Midazolam 0.1 mg/kg, Inj Ondansatron 0.1mg/kg, Inj Fentanyl 2 mcg/kg intravenously. Preoxygenation for 3 min with 100% O2, anaesthesia was induced with Inj Thiopentone in titrated dose up to loss of eyelash reflex and inhalation via mask with O2, N2O and Sevoflurane .Rocuronium 1mg/kg was given to facilitate intubations with poly vinyl chloride (PVC)/size 8.5/Cuffed/oral and to confirm its correct placement. Anaesthesia was maintained with N2O 60%+ O2 40%. Intra-operative analgesia was maintained with 10 ml of Bupivacaine 0.125% with fentanyl 2mcg/ml slowly injected over 10 mins through the epidural catheter. Patient was operated successfully over 2 hrs and reversed with Inj Neostigmine 0.05 mg/kg and Inj Glycopyrrolate 0.01 mg/kg. Post-operative vitals, urine output, temperature, GCS was within normal limit.

Post-op analgesia was maintained with epidural injection of Bupivacaine 0.125% .Catheter was removed on post-op day 4 with putting a gauge piece over the catheter insertion site. The post-op period was uneventful, and pt was discharged on post-op day 7. On post-op day 12 patient came to OPD with complain of pain on back, at the catheter insertion site..On inspection it was seen that a skin ulcer of size2×2×0.3 cm, irregular margin was developed at the catheter insertion site.

DISCUSSION:

Skin is a tough and pain sensitive structure, so local infiltration on the epidural catheter insertion site is mandatory. Lignocaine 2% with 1:2, 00,000 adrenaline is the most commonly used reagent for local infiltration. Adrenaline is a localizing agent added to local anaesthesia (LA) to delay their absorption from the site of injection. This effect is achieved through a vasoconstrictors action caused by local $\alpha 1$ receptor stimulation of the smooth muscle of peripheral blood vessels .The consequences is reduced tissue perfusion and subsequent oxygen availability which may leads to tissue ischemia and necrosis1.Locally administered adrenaline may further gives rise to local increase in oxygen consumption. Local side effects like pain at injection site is a well known documented side effect of LA injection2, but skin ulcer at local site found to be a rarest presentation. To neutralize pH of LA and to decrease pain Inj NaHCO3 added to the solution. Lignocaine has an adverse effect on wound healing at 5th and 7th days, perhaps partly due to the destructive effect of the intra and S.C injection but certainly due to the Lignocaine itself 3 and adrenaline potentiated this action. Bruising at injection site is common in elderly person due to thin dermis, It was prevented by local application of pressure, ice pack/cubes but local site ulceration in young adult, nonsmoker is a rarer finding.

Reference:

1. A. J. Martin, Ph adjustment and discomfort caused by the intra dermal injection of Lignocaine. Anaesthesia, 2007; 45: issue 11,975-78

2. Frode samdal et al, The effect of infiltration with adrenaline on blood loss during reduction mammoplasty, Scandinavian Journal of plastic and reconstructive surgery and hand surgery: 1992:vol26, No -2,211-15

3. Tom morris, Jocelyn tracey, Lignocaine: Its effects on wound healing. British Journal of Surgery, 1977; vol 64, No-12, 902–903.

Fig. of back showing ulcer at epidural site.

ONE DAY C.M.E. ON PAIN MANAGEMENT IN AYURVED

AT

The Occasion Of 150th Birth Anniversary Celebration Year Of Great Visionary

Pt. Madan Mohan Malviyaji

VENUE: Department Of Sangyaharan, Faculty Of Ayurved,

I.M.S., Banaras Hindu University, Varanasi.

Date: 15 october 2012

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Correspondance:

Head, Deptt ofSangyaharan,Faculty of Ayurveda, IMS, BHU,Varanasi.

Organising Secretary, Deptt ofSangyaharan,Faculty of Ayurveda, IMS, BHU,Varanasi.

Phone-054226702189,9415251556.

Sangyaharan Discipline Course Curriculum

M.D.Ay. SANGYAHARAN-ANESTHESIOLOGY

Duration- 3 years PAPER – I Sangyaharana Siddhant

History of anaesthesia in ancient and modern literature.Rogi-Roga pariksha- pre anesthetic assessment and Pre anesthetic preparations. Knowledge of Yantra-Shastra- Update knowledge of Monitors, Machine and equipments-Ventilators, Medical gas supply, Gas law, Vaporizers, Flow meters, breathing systems, Corbondioxide absorbers, suction machine. Electrical fire and explosion hazards, Pollution of operation theatre, Sterilization of O.T. machine and Equipments. Physics related to Sangyaharan, Principles of Anesthesia & Sangyaharan.

Applied aspects of anatomy, Physiology and Pathology of –

Cardiovascular System-Heart and Autonomic nervous system ,Monitoring of Blood pressure, Microcirculation, Rakta and Raktadhana (blood and transfusion and component therapy). Intravenous fluid therapy.Hematology- Anemia, Leukemia, Coagulopathy and Haemoglobinopathy. Immunology related to anaesthesia. Fluid Electrolyte and Acid-Base balance. Oxygen therapy.

Respiratory System- Anatomy of upper airway-Nose, pharynx ,larynx, Tracheo-bronchial system, Mechanics of respiration, Ventilation /Perfusion matching, Lung volumes and capacities in relation to age. Lung function test- Bed side and laboratory test for various pulmonary diseases.

Nervous system-Spinal cord and nerves, CSF, Cranial nerves, Autonomic nervous system-Sympathetic and Parasympathetic system , Neuromuscular junction, Nerve plexuses, Thermoregulation. Physiology of Sleep and its disorders, Memory and its disorders.

Endocrinology related to anesthesia- Endo and exocrinal glands, their functions and disorders – pituitary, Thyroid, parathyroid, adrenal, pancreas.

Anatomy and pathophysiology of Musculoskeletal systems – atrophy and hypertrophy of muscles.

Hepatobiliry system- Liver function test, Portal hypertension, mechanism of drug detoxification in liver, Hepatic failure. Pathophysiology of Nausea and vomiting.

Renal System –Renal function test, pathophysiology of renal function- Acute and chronic renal failure.

Pathophysiology, Genitourinary systems.Clinical importance of vital organs (Marma).

Concept of Agni and Metabolic disorders – Obesity, Protein energy malnutrition ,Diabetes, hypo/Hyperglycemia, keto acidosis.

Knowledge of disorders like unmada, mada, murcha, sanyasa and stabdhata (Cardiac arrest / heart block) etc. Concept of Pranaptyagamana - Methods to revive the consciousness back. Knowledge of medical jurisprudence in anesthesia. Method of Hypnotism, Acupressure.

Acupuncture, TENS, Behavioral Therapy. Concept of pain and anesthesia in ancient and modern literature .Methods to relieve pain. Procedures of alleviation therapy and their importance.Concept of palliative care .Basic research methodology and statics.

PAPER – II

Sangyaharan Bheshaja Vigyan

Pharmacology of – Drugs used for premedication- Anticholenergics, Anti emetics, sedatives, Analgesics, Antiinflammatory, Tranquillizers and Hypnotics, anticonvulsants.
Pharmacology of - Local anesthetic drugs .
Pharmacology of General anesthetic drugs- Inhalational anesthetics- Halothane, Isoflurane ,Savoflurane, Intravenous anesthetics- Ketamine, Thiopentone, Propofol, Etomidate, Muscle relaxants-Depolarizing and Nondepolarising.
Pharmacology of Reversal drugs-Neostigmine and Pyredostigmine.
Gases used in anaesthesia –Nitrous oxide, Cyclopropane, Corbon dioxide.
Drug interaction in anaesthesia practice .Pharmacology of drugs used in emergency- cardiac stimulant, respiratory stimulant, Vasopressures.Hypersensitivity , Anaphylaxis and its management.
Drugs and measures used for Poorva Karma, Pradhankarma and Pashchatkarma in sangyaharan

Pharmacology of herbal drugs used as - Medhya ,Manoddyvegahara, Rejuvenative, Hridyottejaka, Hridayavasadaka, Shwasottejaka, Shwasavasadaka Avasadahara, Nidrajanaka, Shothahara, Vedanahara and Vedanasthapaka, Chhardihara, Mutrajanana .
Pharmacology of Immunomodulator drugs used in Palliative care - Guduchi, Ashwagandha, Brahmi ,Shankhushpi, Madhuyasthi, Shunthi etc. Drugs used in aromatherapy.

PAPER - III

Vishishta Sangyaharana – Applied Anesthesia

Definition and types of anaesthesia.
Methods and types of local anesthesia-Indications,contra indications,complications and their management. Techniques of different Nerve blocks for anaesthesia and Pain management.
Regional anaesthesia- Technique and Types – Lumber subarachnoid block, Epidural and Caudal anaesthesia, Intra venous regional anaesthesia- Biers block ,indications, contra indications, complications and their management.Plexus and Nerve blocks for Upper and lower limb.
General anesthesia- Different methods of General anesthesia and practical knowledge of instruments used in anesthesia.Complications of various types of anaesthesia and their management.Endotracheal intubation - indications, contra indications, complications and their management. Methods of anesthesia in laparoscopic , Endoscopic and Laser surgeries.
Specific methods of anesthesia in- General Surgeries, Pediatric, Orthopedic, Gynecological and Obstetrical, Cardiothoracic, Neurological, Ophthalmic ,ENTand Dental surgery. Anaesthesia in Day care / OPD patients.knowledge of ICU and ICU patient care. Complication of anesthesia morbidity and mortality,medicolegal aspects.

Method and monitoring of anesthesia in following conditions -
Diabetes mellitus, Hypertension and other cardiac diseases, Jaundice, Anemia, Asthma and other respiratory diseases , Thyroid disorders, Inherited metabolic diseases, Obesity, Burn, Renal diseases, Myasthenia Gravis, Pulmonary kochs and Geriatric Patients.
Management of acute and chronic pain .Peri operative pain management.WHO regimn for Cancer pain management.Ablative Nerve block.

Arrangement and out door set-up for relieving pain. Principles of Intensive Care ,Special care of critically ill patients,Nosocomial infections detection and prevention.Modern O.T. and ICU set up and supply of gases .Trauma care management. CCPR-basic and advance Life Support.
Concept of pashchat karma – Post anaesthetic care in anesthesia. Nutrition, psychological support to patients and their family members. Specific knowledge of modern science in the field of anesthesia.

PAPER – IV

Sangyaharana Vangmaya – Literary, Research And Development

Shisyopanayan, Vishikhanupravesha, Agropaharaniya- Concept of purvakarma in practice of anesthesia. Applied portion of yurveda specially Sushrutha Samhita, Charak Samhita and Ashtang Hridaya. Shatkriyakala and determination of Dosha, Dhatu, Mata and Prakriti. Modern books of anesthesia.History of anesthesia and its development.Instruments for anesthesia in modern and ancient era and their development.Contribution of different Acharyas in the development of anesthesia.Depiction of importance of anesthesia in Ayurved. Method of Panchakarma

Reference Books

1. Sushrut Samhita -Dalhana Commentary
2. Charak samhita
3. Ashtang Hridayam
4. Practice of Anaesthesia -Churchils Davidson
5. Anaesthesia -Renald D. Miller
6. Synopsis of Anesthesia -Alfred Lee
7. Anaesthesia -Colins
8. Other Up-to-date reference books and Journal's available
9. Sangyaharan Prakash -Dr. D.N. Pande
10. Agni karma-Technological Innovation -Dr. P.D. Gupta
11. Practice of Anesthesia and Resuscitation -Dr. P.K. Gupta et al
12. Essentials of Anesthesiology -Prof. A.K. Paul
13. Clinical Anesthesia -Prof. A.K. Paul
14. Anu shastra karma -Dr. D.N. Pande

2 years P.G. Diploma in Sangyaharan – Anesthesiology

Degree: Diploma in Sangyaharan –D.A. (AY.) [Diploma in Anesthesiology-Ay.]

First Year – paper –I -100 marks

Basic science related to Sangyaharan (anesthesia): Sangyaharan Sidhant

Part- A-50 marks

1. History and Development of Sangyaharan and anesthesiology.
2. Nirukti and Definition of sangyaharan.
3. Shishyopanayan (Induction).
4. Vishikhnupravesh(Internship).
5. Agropaharaniya (Preanaesthetic Measures)
6. Knowledge of Yantra – Shastra
7. Dosh – Dhatu – Mala and Prakriti in Sangyaharan.
8. Kshatkriyakala.
9. Rog. Rogi priksha (Examination of patients)
10. Marma and Snayu,
11. Knowledge of Unmad, Murchha, Sanyas.
12. Poorva Karma - Snehan, Swedan, Vaman, Veerechen and Basti..
13. Sanjeevan Vidhi
14. The relevant parts of Ayurvedic classics especially Sushruta, Charak and Astang hridaya.

PART B- 50 MARKS

1. Knowledge and practical application of essential investigations related to Anesthesia practices- Blood, urine, Stool, X-Ray, ECG, Ultra Sonography, CT Scan And MRI etc.
2. Applied Anatomy and Physiology of Respiratory, Cardiovascular. Nervous System, Hepatorenal system, musculo skeletal and endocrine system.
3. Fluid and Electrolyte Balance
4. Blood and component therapy.
5. Principles of Gaseous exchange.
6. Principles of preanaesthetic assessment and premedication in anaesthesia
7. Shock and its management.
8. Knowledge of anesthesia apparatus and equipment.
9. Breathing systems & monitoring devices.
10. Ethics & values in Sangyaharan Practices – consequences and importance.
11. Medico legal aspect in the practices of Anaesthesia.

First Year – paper –II-100 marks

Pharmacology - related to Anesthesia with Ayurvedic and modern concept including recent advances.

(Sangyaharanopayogi Bhaishjya Vigyanam)

Part- A-50 marks

Pharmacology & clinical application of –

1. Medhya Dravyas – Brahmi,Vacha Aswagandha, Sankhpuspi, Jatamansi, Guduchi, Madhuyasthi & Jyotisamti etc.
2. Vadanahar dravya- Rasna, Eranda, Nirgundi, Bhrigraj, Parijhat, Sigru, Kadamb, Padmak, Gugglu, Bhanga, Ahiphen and Godanti etc.
3. Swapnajanan (Nidrajanan) Dravya
4. chhardihar Dravya
5. Hridayottjak Dravya.
6. Kasahara Dravya.
7. Sanjeevan Dravya

Part B-50 marks

1. **Pharmacology of** Local anesthetics, General anesthetics, Muscle Relaxant, Reversal Drugs.
2. **Pharmacology of** Drugs used in premedication.
3. **Pharmacology of** acting on autonomic nervous system, central nervous system, cardio vascular system, respiratory system & endocrine system.
4. **Pharmacology of** drugs used asAntidepressants, Cardiac Stimulants & Respiratory Stimulants.
5. **Pharmacology of** drugs used in emergency.
6. **Analgesics** – Narcotic and Non narcotic

Practical and viva -100 marks

Diploma Course in Sangyaharan

D.A. (AY.) , Diploma in Anesthesiology –Ay.

Second Year – Paper –I -100 marks

Techniques of Anaesthesia - Sangyaharan Vidhayah

Part- A-50 marks

TYPE OF ANESTHESIA-Local, Regional and General Anaesthesia, Techniques and types.The instruments and equipments useful in these techniques, Special technique of anaesthesia in pediatrics, orthopedics, Gynecology and Obstetrics, Cardiothoracic, Neurosurgery, Plastic surgery, Eye and E.N.T. Surgery, Accident in Anaesthesia.

PartB-50 marks

Management of Anaesthesia technique in following conditions:

Diabetes, High Blood Pressure, Jaundice, Anemia, Respiratory diseases, Thyroids, infections, Burns, Renal failure, musculoskeletal disorders , Pulmonary Tuberculosis Geriatrics, Laparoscopic cholecystectomy, Herniotomy, and Appendectomy etc.

Second Year – paper –II -100 marks

Second Year - Paper – II

Pain and Palliative Care – Vedanaharan Avum Upshami Chikitsa

PartA-50 marks

Concept of Pain in Ayurved, Pain pathway, Pain management by drugs and other methods e.g. Accupressur, Acupuncture, Aroma Therapy, Magnet Therapy, Panchkarma etc.Jalaukavacharan and Agni Karma, Siravyadha, their Principles, Materials and methods with indications and contra indications. Upshami Chikitsa (Palliative care)- Methods and importance.

PartB-50 marks

Saghan Chikitsa (intensive care) – establishment and management of I.C.U./C.C.U./H.D.U./ Critical care unit.

Critical care medicine

Monitoring & resuscitation (CCPR).

Post Anesthetic care.

Pain Clinic setup.

Recent advances in the field of Pain management, Palliative Care,

Sangyaharan &Anesthesiologist.

Practical and viva -100 marks

Note as per gazette notification dated: 14.07.2010 – A Project work on the subject.

1st Year

PRACTICAL MARKS (Distribution)-100 marks

1. MCQ	-	20 marks
2. Spotting	-	20 marks
3. Viva Voce	-	60marks

2nd year

PRACTICAL MARKS (Distribution)-100 marks

Project work presentation	-	20 marks
Short case	-	15 marks
Long case	-	25 marks
Viva voce	-	40 marks

Note: final result will be declared as pass/fail (separately in theory & practical).

Pass- 50% or above in Theory and Practical Separately.

Fail- Below 50% either in theory or practical

Reference Books –

1. Sushrut Samhita -Dalhana Commentary
2. Charak samhita
3. Ashtang Hridayam
4. Practice of Anaesthesia -Churchils Davidson
5. Anaesthesia -Renald D. Miller
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One Years P.G. Certificate Course in Ayurvedic Pain Management

Aims and Object:

To introduce and equip the International Traditional System of Medicine with practice of Ayurvedic system of Medicine.

To integrate Ayurved with other system of Medicine existing in all over the world.

To produce the experts in Pain Management and also to produce the expertise for Research & Development in Pain Management.

Duration of the Course:

The period of training for obtaining a Certificate shall be one completed year including the examination period.

Eligibility Criteria: (Only for foreign nationals)-

Every foreign student selected for admission to One Years P.G. Certificate Course in Ayurvedic Pain Management shall possess a recognized Traditional/Modern Medical Degree or Diploma.

Syllabus and Curriculum of the Course:

Shall consist of one years training. Total tenure of the course will be of one completed years including final examination period.

Nomenclature of the Course: One Years P.G. Certificate Course in Ayurvedic Pain Management

Examination: Examination shall consist of theory, clinical, practical and oral.

Theory: There shall be two theory papers.

Clinical: Clinical examination of the subject shall be conducted to test/aimed at assessing the knowledge.

Oral: The oral examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic techniques and other aspects of the specialty which shall form a part of examination.
The candidate shall secure not less than 50% marks in each head of passing which shall include Theory, Practical including Clinical and Viva – Voce examinations.
Number of examinations: There will be only one examination at the end of course which will be conducted by University.
Age Limits: Minimum 22 Years and Maximum 45 Years
Mode of selection of Students- Interview & counseling.
Admission Capacity: Minimum 1 and Maximum 3.
Medium of Instruction –English.
Course Fee- 5000 Dollar for other than SARC country Per Year.
- 4000 Dollar for SARC country Per Year.

Syllabus:
Paper I Principles of Ayurved Related to Pain Management - 100 Marks
Concept of Pain in Ayurved, Dosh – Dhatu – Mala and Prakriti.
Kshatkriyakala, Rog. Rogi priksha (Examination of patients).
Poorva Karma - Snehan, Swedan, Vaman, Veerechen and Basti..
Marma and Snayu.
Pain pathway, Pain management by drugs and other methods e.g. Aroma Therapy,
Panchkarma ,Anushasta Karma- Jalaukavacharan and Agni Karma,
Siravyadha.
Principles, Materials and methods with indications and contra indications of Agnikarma & Jalaukavacharan.

Paper II Technique of Pain Management **100 Marks**
Pain Clinic setup.
Recent advances in the field of **Pain management**Vadanahar dravya- Rasna, Eranda, Nirgundi Bhrigraj, Parijhat, Sigru, Kadamb, Padmak, Gugglu, Bhanga, Ahiphen and Godanti etc.
Analgesics – Narcotic and Non narcotic.
Agnikarma: Introduction, type, instrument and equipments as per modern system an Ayurveda.Fundamentals, importance, method of application, duration, various materials used fo Agni Karma. Indications, contraindications and complications of Agni karma
Raktamokshana- a. Introduction, type, instruments and equipment as per modern system an Ayurved.
b. Fundamentals, importance, methods of application, duration, various materials used fo Raktamokshana, Indications, contraindications and complications of Raktamokshana.
c. Causes of Vitiation of Rakt Dosha and Rakta dustijanya, Vikaras.
d. Type of bloodletting and determination of appropriate amount of blood loss in bloodletting an relation to diseases and patients.
e. Methods of Raktastambana – Haemostasis.
f. Introduction of leeches, Varieties, importance, Methods of applications and maintenance leeches.
Practical and Viva **100 Marks**

Curriculum in U.G. Course:

IIIrd B.A.M.S.

Paper – I -PART – B – 30 Marks

Sangyaharana– Anaesthesia - Definition, Types, anesthetic agents, indications, contraindications, procedures, complications and management.

Fluid, electrolyte and Acid Base Balance, Nutrition –

Introduction to physiology of fluids and electrolytes

Dehydration and over hydration,

Specific electrolyte losses and symptomatology and management of Acidosis, Alkalosis and Acid balance.

Electrolyte changes in specific diseases like pyloric stenosis, intestinal obstruction and anuria.

Various replacement fluids in surgery, mode of administration and complications.

Nutrition – pre-operative, post-operative and intravenous alimentation.

Blood Transfusion –Blood groups, components, compatibility, indications, contraindications and complications with management.

Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

Pain management and palliative care

Shock and its management – C.C.P.R.

Status of AYUSH Practitioner in Maharashtra State

सत्यशोधक समाज
(पाक्षिक)
(Registrar of Newspaper for India Regd. No. MAH MAR / 2001 / 5306)
कार्यालय
महात्मा फुले पॅरामेडिकल कॉलेज, सन्मित्र कॉम्प्लेक्स,
पत्रकार कॉलनी, नविन बस स्टँड मागे, अकोला
फोन नं : (0724) 2424343 / 2431683
Email : ayurvedvishwa@rediffmail.com
महाराष्ट्र संपादक
डॉ. के.सी.त्रिपाठी
संस्थापक संपादक
डॉ. सुधीर ढोणे
वर्ष : ९ वे अंक ५ वा सोमवार दि. ८ फेब्रुवारी २०१

सत्यमेव जयते

महाराष्ट्र शासन राजपत्र

असाधारण

प्राधिकृत प्रकाशन

बुधवार, नोव्हेंबर २५, १९९२ / अग्रहायण ४, शके १९१४

स्वतंत्र संकलन म्हणून फाईल करण्यासाठी या भागाला वेगळे पृष्ठ क्रमांक दिले आहेत

भाग चार - ब

महाराष्ट्र शासनाने महाराष्ट्र अधिनियमांमध्ये तयार केलेले (भाग एक, एक-अ आणि एक-क यांमध्ये प्रसिद्ध केलेले नियम व आदेश यांच्याव्यतिरिक्त) नियम व आदेश

MEDICAL EDUCATION AND DRUGS DEPARTMENT

Mantralaya, Mumbai 400 032, dated the 25th November, 1992

MAHARASHTRA MEDICAL PRACTITIONERS ACT, 1961

No. CIM 1091 / CR - 179/91 (Part V) ACT - In exercise of the powers conferred by the proviso to section 33, read with clause (fa) of section 2 of the Maharashtra Medical Practitioners Act., 1961 (Mah XXVIII of 1961) (here-inafter reffered to as "the said ACT"), the Government of Maharashtra hereby directs that the Ayurvedic Practitioners enrolled on the State Register of Practitioners of Indian Medicine holding qualification specified in Parts A,B and A-1 of the schedule appended to the said ACT, shall be eligible to practise the modern system of medicine which is known as allopathic system of medicine, to the extent of the training they received in that system.

By order and in the name of the Governor of Maharashtra.

SHEELA KARNANI
Section Officer

देशातील कोणत्याही राज्यात भारतीय चिकित्सा प्रणालीच्या (आयुर्वेद, युनानी, सिद्ध) डॉक्टरांना अॅलोपॅथी औषधे वापरण्यास परवानगी देण्याचा अधिकार संबंधित राज्य शासनास असल्याचा महत्वपूर्ण निकाल सर्वोच्च न्यायालयाने दिलेला आहे. महाराष्ट्र शासनाने दि. २५ नोव्हेंबर ९२ रोजी निर्णय जारी करुन भारतीय चिकित्सा पद्धतीच्या महाराष्ट्रातील व्यवसायींना आधुनिक औषधांचा (अॅलोपॅथी) वापर करण्याची परवानगी दिलेली आहे.सदरचा हा शासन निर्णय वर दिला आहे.

सर्वोच्च न्यायालयाने दिलेल्या निर्णयानुसार आयुर्वेद डॉक्टरांना ॲलोपॅथी औषधे वापरण्यास परवानगी.

सुप्रीम कोर्ट ऑफ इण्डिया

(सिविल अपीलेट ज्युरिडिक्शन सिविल अपील नं. ८९ ऑफ १९८७)

वादी व याचिकाकर्ता - डॉ. मुख्तियार चन्द तथा अन्य

विरुद्ध

प्रतिवादी - पंजाब राज्य व इतर

सिविल अपील नं. ८३१/८७, रिट पिटिशन (सिविल) नं. ५/८७, १४८२/८८, ३५९/९१

विशेष अनुमति याचिका (सिविल) नं. ८४२२/९५, रिट पिटीशन (सिविल) २२३/९७ व विशेष अनुमति याचिका (सिविल) नं. २८७९/९८

देशातील आयुर्वेद पदवीधारक डॉक्टरांना ॲलोपॅथी औषधे वापरण्याची परवानगी सर्वोच्च न्यायालयाने दि. ८ ऑक्टोबर १९९८ रोजी दिलेल्या निर्णयानुसार मिळालेली आहे. सर्वोच्च न्यायालयाचे न्यायमूर्ती श्री.एम.एम. पुंछी यांच्या अध्यक्षतेखालील, न्या.थॉमस व न्या.कादर यांच्या खंडपिठाने हा निर्णय दिलेला आहे. देशातील आयुर्वेद पदवीधारकांसमोर ॲलोपॅथी औषधांच्या संदर्भात मोठा प्रश्न निर्माण झाला होता. या डॉक्टरांच्या वतीने न्यायालयात ' निमा ' संघटनेने लढा दिला होता.

देशातील अनेक राज्यात साखळी पद्धतीने आयुर्वेद पदवी घेतलेल्या डॉक्टरांना ॲलोपॅथीची औषधे वापरण्यास बंदी घालण्यासाठी त्यांच्या विरुद्ध खटले दाखल करण्यात आले होते. ' निमा ' संघटनेने सर्व खटल्यांचे एकत्रीकरण करुन सर्वोच्च न्यायालयात प्रतिनिधीत्व केले.

आयुर्वेद डॉक्टर्स देशभरात खेडोपाडी जाऊन गलीच्छ वस्त्या, झोपडपट्ट्यातून आरोग्य सेवा उपलब्ध करुन देतात. ' फॅमिली डॉक्टर ' व ' जनरल प्रॅक्टीस ' ही कल्पना या डॉक्टर मंडळींनी जीवंत ठेवली असा युक्तीवाद न्यायालयात करण्यात आला.

१९४५ साली अस्तित्वात आलेल्या औषधे व सादर्य प्रसाधन कायद्यातील कलम २ (ई.ई.) (३) नुसार नोंदणीकृत वैद्यकिय व्यावसायीकांची व्याख्या करण्यात आली असून त्यानुसार नोंदणीकृत वैद्य व हकीम ॲलोपॅथीचा वापर करीत होते. पंजाब सरकारनेही एका परिपत्रकाद्वारे वरील कायद्यानुसार नोंदणीकृत वैद्यकिय व्यावसायीकांना राज्यात ॲलोपॅथी औषधे वापरण्यास परवानगी दिली होती. परंतु, डॉ. सरबजितसिंग दर्डी यांनी पंजाब उच्च न्यायालयात दावा दाखल केला असता, हरीयाणा उच्च न्यायालयाच्या खंडपिठाने, राज्य शासनाचे वरील परिपत्रक १९५६ च्या भारतीय वैद्यक कायद्यातील तरतुदींचा भंग करणारे असल्याचा निकाल दिला. ही याचिका ॲलोपॅथीक डॉक्टरांचे प्रतिनिधीत्व करणारी ' इंडीयन मेडिकल असोसिएशन ' (आय.एम.ए.) या संघटनेने उच्च न्यायालयात दाखल केली होती.

पंजाब, हरियाणा व राजस्थान या राज्यांमधील उच्च न्यायालयात अशाच प्रकारचे खटले दाखल करण्यात आले होते. त्यांचे स्वरुप जवळजवळ सारखेच असल्याने सर्वोच्च न्यायालयाने हे खटले एकत्रित चालविण्याचा निर्णय घेतला व त्यानुसार दि. ८ ऑक्टोबर १९९८ रोजी निकाल जारी केला. या निकालपत्रात प्रामुख्याने चार गोष्टींबाबत न्यायमुर्तींनी विचार केला आहे. १) औषधे व सादर्य प्रसाधने कायद्यातील कलम २ (ई.ई.) (३) हा संसदेने बनविलेला कायदा आहे. त्याला चुकीचे कसे ठरविणार ? २) राज्य सरकारांनी या नियमाच्या आधारे जी नोटीफीकेशन्स काढलीत ती कायदेशीर आहेत काय ? ३) या नियमांवर आय.एम.सी. ॲक्ट १९५६ व सी.सी.आय.एम. ॲक्ट १९७० यांच्या सापेक्ष काय परिणाम होतो. ४) मिश्रवैद्यकिय पदवीधर ॲलोपॅथीची औषधे लिहून देऊ शकतात काय ?

पहिल्या मुद्याबाबत इंडियन मेडिकल असोसिएशनचे म्हणणे असे होते की, हा नियम फक्त ॲलोपॅथी व्यावसायीकांपुरताच मर्यादित आहे व राजस्थान हायकोर्टानेही इतरांना तो लागू नाही असा निर्णय दिला होता. सर्वोच्च न्यायालयाने पंजाब उच्च न्यायालयाचे म्हणणे चूकीचे आहे, हा नियम फक्त ॲलोपॅथी व होमिओपॅथीच्या व्यावसायीकांसाठी नसून इतरही म्हणजे आयुर्वेद, युनानी व सिद्ध या व्यावसायिकांकरीता ही आहे. असे निः संदीग्ध शब्दात सांगीतलेले आहे.

दुसऱ्या व तिसऱ्या मुद्याबाबत एकत्रित विचार करुन राज्य सरकारांनी आयुर्वेद व्यावसायिकांना या ड्रग रुलच्या आधारे व्यवसाय करण्याची परवानगी देण्याची जी जी नोटीफिकेशन्स काढली होती ती सर्व वैध आहेत असा निर्णय देण्यात आला आणि याकरिता संबंधित व्यावसायिक त्या त्या राज्यामध्ये अधिकृत नोंदणीकृत व्यावसायिक आहेत याचा मुख्य आधार घेण्यात आला.

चौथ्या मुद्याबाबत जे व्यावसायिक त्या राज्यामध्ये नोंदणीकृत आहेत व त्या राज्यांच्या कायद्याप्रमाणे त्यांना संरक्षण असेल, तर तेथे ते व्यावसायिक ॲलोपॅथीची औषधे वापरु शकतात.

इंडियन मेडिकल कौन्सील १९५६ चे कलम १५ (२)(ब) या कलमाचा आधार घेऊन आयुर्वेद पदवीधरांना ॲलोपॅथी औषधे वापरण्यापासून वंचित ठेवण्यात आले आहे. त्या कायद्यातील तरतुदींचा योग्य अन्वयार्थ लावून सर्वोच्च न्यायालयाने कायद्यानुसार आयुर्वेद डॉक्टरांना ॲलोपॅथी औषधी वापरण्यास बंदी करता येणार नाही असा निर्णय जाहीर केला. तसेच औषधे व सादर्य प्रसाधने कायद्यातील कलम २(ई.ई.)(३) हे अबाधित राखून या निर्णय प्रक्रियेतील महत्वाचा अडसर दूर केला.

आपल्या निकालात सर्वोच्च न्यायालयाने हरियाणा आणि पंजाब उच्च न्यायालयाने दिलेले, राज्य सरकारची परिपत्रके रद्द करण्याचे निकाल चुकिचे असल्याचे नमुद केले. त्याचप्रमाणे या प्रश्नाविषयीच्या केंद्र सरकारच्या तटस्थ भुमिकेबद्दलही खेद व्यक्त केला. अशाप्रकारे सर्वोच्च न्यायालयाच्या दि. ८ ऑक्टोबर १९९८ च्या निर्णयानुसार आयुर्वेद, युनानी, सिद्ध डॉक्टरांना ॲलोपॅथी औषधे वापरण्यास परवानगी मिळाली आहे.

Contacts:

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A Comparative Study of Indigenous Compound and Agnikarma for Pain Management

Dr.S.Bhat**Dr.Y,K.Mishra** Dr. D N Pande*

ABSTRACT

A clinical study was conducted on 100 patients to compare the efficacy of an indigenous compound and agnikarma on musculoskeletal pain. The patients were divided into two groups. The Group I patients received indigenous compound (Ghansatva of Nirgundi, Rasna and Parijat) 1000mg tid and Group II patients received agnikarma at weekly intervals. The clinical study was based on observation over a period of three weeks of treatment duration at outpatient clinics of S.S. Hospital, B.H.U., Varanasi.

Keywords:Agnikarma, Indigenous compound, Ghansatva, Bindu, Yield, PanchaDhatuShalaka, Sandhivata

INTRODUCTION

Pain is a complex, multidimensional experience. For many people, it is a major problem that causes suffering and reduces the quality of life. Pain is one of the major reasons that people seek health care. It occurs in all clinical settings and among many different groups of patients. Specific conditions for which patients seek health care include musculoskeletal and gastrointestinal (GI) pain, angina and other types of chest pain, headache and injuries. Chronic pain occurs at epidemic levels all over the world, Back pain, arthritis and migraine headache are the most common causes of chronic pain. Many people with chronic pain have experienced it for more than five years.[1-3]

The financial impact of pain is staggering. Unrelieved and inadequate management of pain costs an estimated $100 billion each year as a result of longer hospital stays, rehospitalization and visits to outpatient clinics and emergency departments. Many people have pain that leads to disability, resulting in economic losses. Lost productive time for common pain conditions (i.e. headache, backache and musculoskeletal pain) costs over $61 billion each year in US alone.[4]Similar figures for other countries exist but difficult to obtain.

MATERIALS AND METHOD

A comparative study of agnikarma and an indigenous compound comprising of Nirgundi, Rasna and Parijat, was planned. These three drugs as well as agnikarma have been studied for their analgesic properties either as single drug or as combinations of two drugs, at different clinical settings by various workers[5-10].

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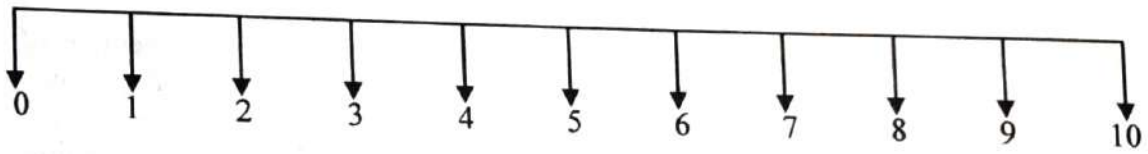
A ghansatva of Nirgundi, Rasna and Parijat were prepared separately at Ayurvedic Pharmacy of B.H.U. The yield was approximately equal at 10% for each of these drugs. Hence equal quantity of each ghansatwa was filled into capsules to obtain 1000 mg of the indigenous drug.The patients suffering from Sandhivata were taken up for the study. An informed consent was obtained. The study was conducted on one hundred patients, randomly divided into two groups of either sex, between the age of 15 to 75 years, with narrow weight and height distribution. The patients of group I (Control group) were treated with indigenous compound 1000 mg tds for three weeks. The patients of group II (trial group) were treated with Agnikarma of Bindu type with Panchadhatu Shalaka, over the site of maximum pain. The patients were observed at weekly intervals as per a proforma prepared for the study.

Criteria for Assessment

The following two criteria were adopted for the study.

1.Pain as recorded on a visual analogue scale.



Mild pain = 1 – 3

Moderate pain = 4 – 7

Severe pain = 8– 10

2. Karnofsky's performance scale

Normal activity with no special care - 0

Unable to work but manages to live at home - 1

Needs hospital care - 2

Grouping of Patients

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

Group	**No. of Patients**	**Treatment**	**Observation**
Group I (Control)	50	Indigenous compound (Nirgundi, Rasna and Parijat) 1000 mg tds for 21 days *Exercise* – Mild exercise of affected joint for a few minutes at a time but several times a day	At Initial visit, First Follow up, Second Follow up and Final Follow up; at weekly intervals
Group II (Trial)	50	Agnikarma on most painful part of body) *Exercise* – Same as above	Same as above

Table 2: The descriptive statistics and statistical comparison of mean age, height and weight in the two groups are as follows

Groups	Mean Age in years± SD	Mean Ht. in cm ± SD	Mean Wt. in Kg ± SD
Group-1	50.78±10.60	157.12±3.84	55.64±2.66
Group-2	45.98±13.12	157.34±3.44	55.44±3.61
Between the Group Comparison	t=-2.012 p<0.05 S	t=1.157 p>0.05 N.S.	t=.315 p>0.05 N.S.

Table 3: The descriptive statistics and statistical comparison of difference in mean of visual analogue scale between the groupsat successive visits by applying student t-test, p-values and remarks are as follows

Groups	V.A.S Mean± SD			
	Initial visit	First follow up	Second follow up	Final follow up
Group-1	5.48± .953	4.86± 1.212	3.82± 1.101	3.36± 1.396
Group-2	5.90± .931	4.34± 1.409	3.30± 1.418	2.46± 1.343
Between the Group comparison unpaired t test	t=2.23 p<0.05 S.	t=1.98 p>0.05 N.S.	t=2.05 p<0.05 S	t=3.29 p=.001 H.S.

Table 4: The statistical comparison of difference in mean of visual analogue scale within the groups at successive visits by applying student t-test, p-values and remarks are as follows

Groups	Within the Group comparison- V.A.S					
	Initial-First follow up	Intiali-Second follow up	Initial-Final follow up	First follow up-Second follow up	First follow up-Final follow up	Second follow up-Final follow up
Group-1	0.62±0.85 t=5.13 p<0.001 H.S.	1.66±1.00 t=11.71 P<0.001 H.S.	2.12±1.30 t=11.50 p<0.001 H.S.	1.04±0.86 t=8.59 p<0.001 H.S.	1.50±1.13 t=9.39 p<0.001 H.S	0.46±0.86 t=3.77 p<0.001 H.S.
Group-2	1.56±1.31 t=8.41 p<0.001 H.S.	2.60±1.48 t=12.38 p<0.001 H.S.	3.44±1.40 t=17.35 p<0.001 H.S.	1.04±1.12 t=6.54 p<0.001 H.S.	1.88±1.08 t=12.30 p<0.001 H.S.	0.84±1.04 t=5.73 p<0.001 H.S.

Table 5: The descriptive statistics and statistical comparison of difference in mean of Karnofsky's scale between the groups at successive visits by applying student t-test, p-values and remarks are as follows

Groups	Karnofsky's Scale Mean± SD			
	Initial visit	First follow up	Second follow up	Final follow up
Group-1	.96± .533	.68± .587	.12± .328	.06± .240
Group-2	.90± .463	.32± .471	.12± .328	.02± .141
Between the Group comparison unpaired t test	t=.601 p>0.05 N.S	t=3.38 P=.001 H.S	t=.000 p>0.05 N.S	t=1.02 p>0.05 N.S

Table 6: The statistical comparison of difference in mean of Karnofsky's scale within the groups at successive visits by applying student t-test, p-values and remarks are as follows

Groups	Within the Group comparison- Karnofsky's Scale					
	Initial-First follow up	Initial-Second follow up	Initial-Final follow up	First follow up- Second follow up	First follow up- Final follow up	Second follow up- Final follow up
Group-1	0.280±5.36 t=3.694 p<.001 H.S.	.84±.51 t=11.66 p<.001 H.S.	.90±.51 t=12.600 p=.001 H.S.	0.56±0.54 t=7.33 p<0.001 H.S.	0.62±0.53 t=8.27 p<0.001 H.S.	0.06±0.31 t=1.35 p>0.05 N.S.
Group-2	.580±.50 t=8.23 p<.001 H.S.	.78±.47 t=11.87 p<.001 H.S.	.88±.48 t=12.99 p<.001 H.S.	0.20±0.40 t=3.50 p=0.001 H.S.	0.30±0.46 t=4.58 p<.001 H.S.	0.10±0.36 t=1.94 p>0.05 N.S

DISCUSSION

All pain treatment is guided by the same underlying principles. Treatment regimens range through a wide spectrum. The chronic pain syndromes require long term multimodal therapy. It should be remembered that pain is a subjective experience. The patient is the best judge of his or her own pain and also is the expert on the effectiveness of each pain treatment. Side effects are a main reason for treatment failure and non-adherence. Nondrug therapies like agnikarma entail no adverse effects and hence achieve better patient compliance.

The Table 1 shows allocation of patients into groups, nature of treatment and observation period. The Table 2 shows statistically similar distribution of height and weight of patients in both the groups. There is a slight significance in mean age difference between the groups. This is possibly due to a patient preference among younger age group for aggressive pain treatment in order to facilitate early return to normal work. The statistical analysis in Tables 3 and 4 shows that the VAS score sharply declines in patients treated with Agnikarma (from 5.90 to 2.46). The decline is slightly less in the control group (from 5.48 to 3.36). The VAS score comparison between the groups in Table 3 at the initial visit indicates that patients with a more severe pain opted for agnikarma therapy. At the first follow up, the patients of agnikarma group had a lower VAS scale indicating quicker pain relief. Therefore the statistical difference between the groups here is not significant. The statistical difference between the groups at final follow up was highly significant. This indicates a better pain control in Group-2. The relief from pain in patients treated with indigenous compound was more gradual. The Table 4 shows that the difference between initial and successive follow up visits was significantly increasing in both groups. This indicates significant pain relief in both the groups. The Table 5 shows Karnofsky's performance scale. The response of patients was similar in both the groups. The decline in Karnofsky's scale was more for patients of Agnikarma group at the first follow up itself. Therefore the statistical difference between the groups at first follow up was highly significant. This again indicates quicker pain relief and earlier return to normal work in Agnikarma group. However the patients show equal scoring at 2nd follow up, indicating gradual but sustained pain relief in the group I as well. The Table 6 shows that the difference between initial and subsequent follow-up visits was significantly increasing in both the groups. This indicates significant pain relief at each follow-up. The last column in Table 6 showing the difference between 2nd and 3rd follow up indicates no significant difference in both groups. This implies that the response to therapy nearly reaches the end point at the time of 2nd follow up. However, this applies to Karnofsky's performance scale only.

CONCLUSION

On the basis of above findings it may be concluded that:

- Agnikarma as a non-drug therapy is very effective in chronic pain management in cases of sandhi-vata.
- The pain relief is quicker in patients treated by agnikarma as observed at first follow up.
- The pain relief is similar in both groups on a prolonged therapy.
- A return to normal work was achieved in majority of patients at the end of two weeks of therapy in both groups.
- Agnikarma therapy has no side effects and therefore has a great role to play in patients of chronic pain requiring multidisciplinary approach.

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RESOURCES

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HAEMODYNAMIC EFFECTS OF AGNIKARMA-A CLINICAL STUDY

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ABSTRACT

Aclinical study was conducted on 50 patients suffering from chronic joint pain (sandhivata) undergoing agnikarma for pain management. The aim of clinical study was to evaluate haemodynamic response due to agnikarma procedure in these patients. The patients received agnikarma therapy at weekly intervals. The pulse rate, mean blood pressure and oxygen saturation in pulsatile blood were measured before and after agnikarma at each sitting. The data were obtained for three consecutive sittings and subjected to statistical analysis.

Key words: Agnikarma, Bindu, PanchaDhatuSalaka,

INTRODUCTION

Agnikarma is a nondrug therapy for the management of pain in many chronic painful conditions like arthritis. While nondrug therapies have very few side effects, some of them may have haemodynamic effects which affect the outcome in several situations. But they are often overlooked to emphasize the efficacy of such therapies. But the norms of Evidence Based Medicine (EBM) require that such therapies be adequately studied for any such unwarranted effects and their practices be established without compromising patient safety. The patients of chronic pain often belong to the group of elderly and have associated underdiagnosed cardiovascular disturbances which can lead to a worse outcome. Hence a study was planned to evaluate the haemodynamic effects due to agnikarma therapy among patients undergoing this procedure.

MATERIALS AND METHOD

The study was conducted on fifty patients, of either sex, between the age of 15 to 75 years, with narrow weight and height distribution. The patients suffering from chronic joint pain (Sandhivata) were taken up for the study. An informed consent was obtained. A conventional method of agnikarma practice was adopted. A PanchaDhatuSalaka was employed to deliver a Bindu type of agnikarma on most tender or painful part as expressed by the patient.

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***Poorvakarma*:**Patients were counseled and explained about the procedure in order to make them mentally aware about the events of treatment. - Before starting the procedure panchdhatushalaka*of Bindu type projection,* artery forceps, sponge holding forceps, gauge pieces, cotton, Triphalakwath, Ghritkumari pulp, Yashtimadhuchurna, adhesive tape, Cotton bandage wereall kept ready. The site of agnikarma application was painted with Triphalakwath.
***Pradhanakarma*:**Patients were kept in a position suitable for the performance of the procedure. ThePanchdhatushalaka was heated to red-hot and bindu type twakvrana were made on the most tender spot of the affected part, by applying it for a fraction of a second, so that samayaktwakdagdhalakshanasoccured i.e. Shabdapradurbhava, Durgandhataetc
***Paschatkarma*:** The vrana was dressed with Ghritkumari pulp and dusting of Yastimadhuchurna with the help of gauze pieces.Patient was advised to keep the area dry, clean, avoid exertion and unwholesome diet.
The procedure was repeated at weekly intervals.

OBSERVATION AND RESULTS

Table No.!: The descriptive statistics of mean age, weight and height of patients undergoingAgnikarma is as follows

	Mean	Standard Deviation
Age in yrs.	45.98	13.12
Weight in kgs.	55.44	3.61
Height in cms.	157.34	3.44

Table No.2: The statistical comparison of difference in mean of pulse rates before and after agnikarma at each visit by applying student t-test, p-values and remarks are as follows

Sittings	Pulse (in beats per second)		't' Value	'p' value	Remarks
	Before Agnikarma	After Agnikarma			
1st Sitting	81.38±11.00	82.20±11.39	-1.28	P >0.05	N.S.
2nd Sitting	80.56±10.29	80.52±10.67	0.06	P >0.05	N.S.
3rd Sitting	80.38±10.48	80.92±10.47	-0.79	P >0.05	N.S.

Table No.3: The statistical comparison of difference in mean of Mean Blood Pressure before and after Agnikarma at each visit by applying student t-test, p-values and remarks are as follows

Sittings	Mean Blood pressure(in mm of Hg)		't' Value	'p' value	Remarks
	Before Agnikarma	After Agnikarma			
1st Sitting	94.60±11.54	96.34±11.87	-3.16	p>0.001	S.
2nd Sitting	93.10±11.84	93.62±11.21	-1.07	P >0.05	N.S.
3rd Sitting	92.52±12.96	92.02±11.34	0.72	P >0.05	N.S.

Table No.4: The statistical comparison of difference in oxygen saturation in pulsatile blood (SPO_2) before and after agnikarma at each visit by applying student t-test, p-values and remarks are as follows

Sittings	SPO2(in percentage)		't' Value	'p' value	Remarks
	Before Agnikarma	After Agnikarma			
1st Sitting	98.02±0.94	98.12±0.87	-1.70	P >0.05	N.S.
2nd Sitting	97.80±0.81	97.98±0.85	-1.84	P >0.05	N.S.
3rd Sitting	97.70±0.84	97.88±0.69	-2.27	p>0.01	S.

DISCUSSION:

The Table No. 1 shows the mean age, weight and height of patients undergoing agnikarma. The standard deviation of mean weight and height are low indicating narrow distribution. The Table No. 2 shows statistical comparison of mean pulse rate before and after agnikarma. It is similar in all the three sittings. The Table No. 3 shows statistical comparison of mean of Mean Blood Pressure before and after agnikarma. The difference in mean is statistically insignificant in second and third sittings. There is small significant difference in first sitting. However, this difference is clinically insignificant.The Table No. 4 shows SPO_2 before and after Agnikarma. It is statistically comparable in 1st and 2nd sittings. There is however a small significant difference in 3rd sitting which again is clinically insignificant.

CONCLUSION

On the basis of above observations, it may be concluded that

- The Agnikarma therapy is a minimally invasive procedure
- The haemodynamic status as measured by pulse rate, mean blood pressure and SPO_2 remain stable through the procedure
- TheBindu type of Agnikarma with PanchaDhatuSalaka is a safe therapeutic procedure.

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Godantyadi- Yoga In the management of Post operative Pain

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ABSTRACT: In the field of pain management with a greater number of analgesic agents and techniques are available, studies shows that a significant number of patients still experience moderate to severe pain post- operatively. Pain management is still inadequate.

In Ayurvedic texts a large number of drugs have been mentioned as Vedanahara and Vatasamak. In modern medicine NSAIDs are used for pain relief. But these drugs have some side effects and contraindication. Keeping in mind their problems a thorough study was planned to search out for an ideal Ayurvedic analgesic.

Keeping in view the above facts and figures of modern day analgesia and their adverse effects, a study of an Aurvedic oral analgesic named " Godantyadi Yoga" was done and the effects on post operative pain relief in relation to oral Diclofenac Sodium was evaluated (over a period of 24 hours post-operatively) in patients undergoing anorectal surgery, as they are relatively homogenous population with relatively standard analgesic requirements.

Key word :- oral analgesic, Godantyadi Yoga, Diclofenac Sodium, anorectal surgery, Vedanahara and Vatasamak.

Introduction:-Pain is a subjective feeling and there may be up to ten fold variation in pain perception among individual. It affects the course of human life. The word pain itself is derived from a Greek word- Poine means a penalty and a Latin word-Poena- means a punishment. In Ayurveda Sula, Vedena, Ruja, Pida and Dukha are used to denote pain.

In Ayurvedic texts a large number of drugs have been mentioned as Vedanahara and Vatasamak. In modern medicine NSAIDs are used for pain relief. But these drugs have some side effects and contraindication. Keeping in mind these problems a thorough study was planned to search out for an ideal Ayurvedic analgesic.

Parental route of administering drug is yet to be fully incorporated in Ayurvedic practice. Through oral drug has its own limitation in immediate post operative period but in certain condition when there is no contraindication for nil orally in the immediate post operative period oral drug can be administered to the patients.

Present research work was done on 20 healthy patients. The patients were divided in two groups. Each group included 10 patients falling under ASA Grade- I. The patients were posted for Ano-rectal surgery under LSAB with Lignocaine heavy 5% and NPO was not an indication in the post operative period. The patients of Group-I were given Diclofenac Sodium in the dose of 50 mg and patients of Group- II were given Godantyadi Yoga in the dose of 250 mg orally.

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Materials and Method :-

In this study Godantyadi Yoga was selected to assess its role in the management of postoperative pain.

Godanti is a known antipyretic analgesic drug. Tagar, Nirgundi also have analgesic property, where as Bhanga has analgesic and sedative effects. So the plan to study Godantyadi Yoga as an analgesic was taken up on ASA grades I patients undergoing Anorectal surgery. Clinical assessments of this study consisted of evaluation of the drug as an Analgesic on the **following Assessment Criteria** :

The patient's response was assessed on the basis of subjective and objective change.

Subjective : Pain on Visual analogue scale

(No Pain) _____ (Worst Pain ever)

Objective :-

Pulse Rate., Respiratory Rate, Blood Pressure, Desirable & undesirable effects.

Collection of Drugs:

The green leaves of Bhanga, Nirgundi and Tagar mool were collected locally from the campus of R.G.G.P.G. Ayurvedic College Paprola Himachal Pardesh. Godanti Bhasma which is main ingredient was obtained from hospital Dispensary.

Preparation of Drug (Godantyadi Yoga):

After collection the ingredient were properly cleansed with fresh water and their saarasa was extracted with the help of Juicer. Shudha Godanti Bhasma was given three Bhavana with Swarasa of Leaves of Bhanga (cannabis sativa), Leaves of Nirgundi (Vitex negundo) and Tagarmool (Valeriana wallichi) separately. Total no. Of Bhavna given were nine. After this the drug was dried in shade and filled up in capsules weighing 250 mg each.

The complete procedure was undertaken in the Pharmacy of Deptt. of Ras Sastra R.G.G.P.G. Ayuvedic college Paprola. Its quality was chected and verified by Deparment of Dravya Guna , Department of rasa Shastra and drug testing laboratory Joginder Nagar Himachal Pradesh.

Drug Presentation:

It was presented in the form of capsule weighing 250 mg.

Dose of Godantyadi Yoga:

Dose- One capsule (250 mg) with a sip of water.

Assessment of Physical status:

The Assessment of patient was done by ASA Grading.

Exclusion Criteria of clinical Trial are:-

1. Patients outside the ASA grade I
2. Patients outside the age 18-60 years.
3. Patient allergic to Diclofenac sodium or other NSAIDs.
4. Pregnant patients.
5. Patients with the history of peptic ulceration.
6. Patients refusal for LSAB.
7. Patients with coagulopathy.
8. Patient suffering from respiratory, cardiac, hepatic or renal disease.
9. Mentally retared patients.

Grouping of the patients:

Twenty patients of both sexes with narrow age and weight distribution proposed for Ano rectal Surgery under spinal anaesthesia with Lignocaine heavy 5% were selected for present study. All the screened and selected cases were divided randomly into two groups as Group-I and Group-II. Patients of Group-I were considered as Control Group and the patients of Group-II were considered as trial group. Consent regarding proposed research work was also obtained.

Group of Patients	No. Of Patients	Premedication	Post operative post Management
Group –I (control Group)	20	Ini Atropine 0.6 mg I/M	Tab Diclofenac Sodium 50 mg
Group-II (trial Group)	20	Ini Atropine 0.6 mg I/M	Cap Godantyadi Yoga 250mg

Preparation:

The relevant routine investigation which were essential prerequisite for the conduct of anesthesia were got done. Before administering the scheduled premedication pulse rate, respiratory rate, blood pressure and psychological condition was recorded these reading were considered as base line reading.

Now a patient intravenous line with Ringer lactate solution was maintained by identical size intravenous cannula No.18. After adequate preloading patients were transferred to the operational table. LSAB was given with 1ml of Lignocaine 5% heavy in sitting position (saddle block) . After waning of effect of anesthesia when patients complained of pain the control and trial drugs were given and assessment were done on following parameters.

Pain, Pulse rate, Respiratory Rate, Blood pressure

The patients were assessed before treatment and after giving control and trial drug at the interval of 30 min., 1hrs. and 2 hrs. Desirable and undesirable effects like sedation, nausea and vomiting were also taken into account.

Total Surgical Time:

The time from starting of surgical procedure to the completion of surgery was recorded as total surgical time.

Requirement of 1st Dose Of Analgesic Drug:

After surgery requirement time of first dose of analgesic drug was recorded in both the groups. The patients were observed carefully to evaluate the analgesic effect and the onset of action of the given drug.

Statistical Analysis:

The incidence of desirable and undesirable effects and incidence of adverse reaction was compared statically between both the groups. All the statical calculations and comparisions were done under the supervision of Sanjeev Kumar visiting Statistician R.G.G.P.G. Aurvedic College Paprola (H.P).

The mean B.P , Pulse Rate, Respiratory Rate, Requirement Time of 1st dose of analgesic, desirable and undesirable effects of drug were compared by 't' value within and between the groups as applicable for comparison.

Technique:

LSAB was performed under all aseptic measures. Lumbar puncture was done with 25 G Spinal needle in sitting position between L3-L4 inters pace and after observing the free flow of C.S.F., 1 ml 5% Lignocaine heavy was given. Needle was withdrawn and area of skin prick was covered with sterile gauze piece. Patient was made to sit for 5 minutes and after that turned into lithotomy postion. The onset of effect was assessed by pin prick and touch sensation at the operative site.

Observations and Result

1. Grouping of patients Premedication and Analgesic:-

The number of groups and patients, nature of Premedication and Analgesic used were:-

Table -1

Groups of patients	No.of Patients	Premedication	Orally given analgesic
Group-I (Control Group)	10	Inj. Atropine 0.6 mg I/M 60 minutes before surgery	Tab Diclofenc sodium 50 mg with a sip of water.
Group-II (Trial Group)	10	Inj. Atropine 0.6 mg I/M 60 minutes before surgery	Cap Godantyadi yoga 250 mg with a sip water

1. Selection of Patient:-

The patents of ASA grade-I of either sex selected for the present study undergoing An rectal Surgery are mentioned in Table-2 and were randomly divided into trial and contr group, 10 patients from each group.

Table no.2 shows distribution of ASA grade-I patients posted for surgery which is equ and identical in both groups.

Table-2

S. No.	Types of Operation	No. Of Patients distributed in	
		Group –I Control group	Group-II Trial group
1.	Haemorrhoidectomy	1	3
2.	Fistulectomy,	2	5
3.	Fissurectomy.	3	2

Table 3A: Age-

The statistical comparison of mean age within the groups (mean± SD)

Table No. 3A

Groups	Age(Years) Mean	S.D. ±
I-Control group	40.4	12.11
II- Control group	35.5	12.61

The mean age of control group and Trial group is 40.4 and 35.5 respectively.

Table No. 3B. The statistical comparison of mean age within the groups (unpaired 't' test)

Group-I Vs Group-II	
't' Value	-167
'p' Value	<0.05
Remarks	N.S

Table No. 3B shows that the statistical comparison of mean age within the groups is insignificant.

Table-4:The mean surgical time of all patients in group-I and group-II were recorded and statistically compared.

Group	Mean+S.D.	t value	p value	Remarks
Group-I (Control)	48.0±20.3			
Group-II (Trail)	51 26.8	1.68	>0.05	N.S

Table No. 4 shows that the statistical comparison of the mean surgical time of all patients in group is insignificant.

Requirement time of 1st dose of Analgesic:

Table-5:The mean of 1st Analgesic dose requirement (in min.) of all patient in group-I and group-II were recorded and statistically compared.

Group	Mean+S.D.	't' value	p value	Remarks
Group-I (Control)	30.7 + 22.46			
Group-II (Trail)	36.4 + 24.68	0.96	>0.005	N.S

Table No. 5 shows that the statistical comparison of mean requirement time(in min.) of 1st dose of analgesic between the group is insignificant.

Table no. 6 A: Effect on Pulse Rate:-

Statistical comparison of mean pulse rate (per min.):- (A) before premedication. (B) after premedication (C) after onset of pain (D) after 30 min. of giving the analgesic drug. (E) after 1 hour of giving the analgesic drug. (F) after 2 hour of giving the analgesic drug.

Group	Mean Pulse Rate/minute (mean±S.D.)					
	A	B	C	D	E	F
Group-I	82.1±2.13	84.8±1.96	85.8±1.54	82.7±1.51	80±2.21	79.5±1.87
Group-II	82 ± 2.67	86.3±2.51	85.1±1.48	81.6±1.43	80.6±1.73	79.8±2

Table no. 6 A shows mean pulse rate (per min.) in group-I (control group) before premedication(A), after premedication(B), after onset of pain(C), after 30 min(D), 1hr.(E) And 2 hrs(F) of giving the analgesic drug.

Table No. 6B: Paired't' test (statistical comparison with in group)

	Group-I (Control)					Group-II (Trial Group)				
	A vsB	A VS C	C VS D	C VS E	C VS F	A vs B	A VS C	C VSD	C VS E	C VS F
Mean Diff.	2.7	3.6	2.9	4.6	6.3	4.3	3.3	3.5	4.5	5.3
S.D	1.96	1.54	1.51	2.21	1.87	2.51	1.48	1.43	1.73	2.0
S.E	O.62	0.49	0.47	0.69	0.59	0.79	0.46	0.44	0.54	0.63
't'	4.35	7.34	6.17	6.66	10.5	8.77	7.17	7.95	8.3	8.30
P value	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Remarks	S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S

Table 6B shows that comparison of mean Pulse rate within groups are statistically significant.

Table No 6 C: Unpaired 't' (statistically comparison between the group)

	Group-I VS Group-II				
	A vsB	A VS C	C VS D	C VS E	C VS F
't' value	-0.54	0.09	0.04	0.54	0.15
P value	>0.05	>0.05	>0.05	>0.05	>0.05
Remarks	N.S	N.S	N.S	N.S	N.S

Table No 6 C shows that variation in pulse rate was found statistically insignificant during each step of the study, when compared between the groups.

Effect on Respiratory Rate:-

Table No.7A: Statistical comparison of Respiratory Rate (:- (A) before premedication. (B) after premedication (C) after onset of pain (D) after 30 min. of giving the analgesic drug. (E) after 1 hour of giving the analgesic drug. (F) after 2 hour of giving the analgesic drug.

Group	**Mean Respiratory rate (per min.)**					
	A	B	C	D	E	F
Group-I	15±1.68	16.9±1.36	15.6±1.29	14±2.09	14.7±1.53	14.8±1.91
Group-II	15.8±1.76	17.0±1.55	16.2±0.87	14.4±0.73	14.7±2.23	14.8±1.74

Table No.7B: Paired't' test (statistical comparison with in group)

	Group-I (Control)					**Group-II (Trial Group)**				
	A vsB	A VS C	C VS D	C VS E	C VS F	A vs B	A VS C	C VSD	C VS E	C VS F
Mean Diff.	1.3	0.4	1.1	0.9	1.0	1.3	0.4	1.3	1.5	5.3
S.D	1.36	1.29	2.09	1.53	1.91	1.55	0.87	1.73	2.23	2.0
S.E	0.43	0.40	0.66	0.48	0.60	0.49	0.27	0.54	0.54	0.63
't'	3.2	0.98	1.66	1.87	1.66	2.65	1.48	2.40	8.3	8.30
P value	<0.05	>0.05	>0.05	>0.05	>0.05	<0.05	>0.05	<0.05	>0.05	<0.05
Remarks	S	N.S	N.S	N.S	N.S	S	N.S	S	N.S	S

Table 7B shows that Statistical comparison of mean Respiratory rate within the groups is statistically significant in A vsB in group-I and A vsB, C VS D and C VS F in Group-II . All comparison is Statistical insignificant.

Table No.7C: Unpaired't' (statistically comparison between the group)

	Group-I VS Group-II				
	A vsB	A VS C	C VS D	C VS E	C VS F
't' value	-0.29	0.85	-0.14	-0.70	0.20
P value	>0.05	>0.05	>0.05	>0.05	>0.05
Remarks	N.S	N.S	N.S	N.S	N.S

Table No 7 C shows that variation in Respiratory rate was found statistically insignificant during each step of the study, when compared between the groups.

Effect on Mean Blood Pressure:-

Table No.8A:Statistical comparison of Mean Blood Pressure :- (A) before premedication. (B) After premedication (C) after onset of pain (D) after 30 min. of giving the analgesic drug. (E) After 1 hour of giving the analgesic drug. (F) after 2 hour of giving the analgesic drug.

Group	Mean Blood Pressure (mean ± S.D)					
	A	B	C	D	E	F
Group-I	93.25±5.38	94±1.59	93.7±1.54	91.76±1.17	91.12±1.40	90.4±1.47
Group-II	90.02±7.56	91.76±1.23	91.08±1.29	89.9±1.24	89.6±1.24	89.6±1.16

Table no. 8A shows Mean Blood Pressure group-I (control group) before premedication, after premedication, after onset of pain, after 30 min, 1hr. And 2 hrs of giving the analgesic drug which is 93.25±5.38, 94±1.59 , 91.76±1.17 , 91.12±1.40 and 90.4±1.47 respectively while in Group-II (Trial group) mean Respiratory rate is 90.02±7.56, 91.76±1.23 , 91.08±1.29, 89.9±1.24 , 89.6±1.24 and 89.6±1.16 respectively.

Table No.8 B: Paired't' test (statistical comparison with in group)

	Group-I (Control)					Group-II (Trial Group)				
	A vsB	A VS C	C VS D	C VS E	C VS F	A vs B	A VS C	C VSD	C VS E	C VS F
Mean Diff.	1.15	1.36	1.99	2.78	2.95	1.34	1.06	1.12	1.59	1.28
S.D	1.59	1.54	1.17	1.40	1.47	1.23	1.29	1.24	1.24	1.16
S.E	0.50	0.48	0.37	0.44	0.46	0.39	0.40	0.39	0.39	0.36
't'	2.3	2.7	5.34	6.3	6.04	3.43	2.65	2.87	4.07	3.5
P value	<0.05	<0.05	<0.001	<0.001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remarks	S	S	H.S	H.S	S.	S.	S.	S.	S.	S.

Table 8B shows that Statistical comparison of Mean Blood Pressure within the groups is statistically significant.

Table No.8 C: Unpaired 't' (statistically comparison between the group)

	Group-I VS Group-II				
	A vsB	A VS C	C VS D	C VS E	C VS F
't' value	0.57	0.48	-0.13	0.47	0.52
P value	>0.05	>0.05	>0.05	>0.05	>0.05
Remarks	N.S	N.S	N.S	N.S	N.S

Table No 8 C shows that variation in Blood Pressure was found statistically insignificant during each step of the study, when compared between the group.

Effect of treatment on VAS (Visual Analogue Scale):-

Table No.9A: Statistical comparison of Mean pain score after onset of pain :- (A) after 30 min. of giving the analgesic drug. (B) After 1 hour of giving the analgesic drug. (C) After 2 hour of giving the analgesic drug.

	(mean±S.D.)			
Group	A	B	C	D
Group-I	8.8±1.68	4.8±1.11	3.9±1.18	3.5±2.13
Group-II	9±1.86	4.7±1.97	3.7±1.82	3.6±1.58

Table 9 B: Paired't' test (statistical comparison with in group)

	Group-I (Control)			**Group-II (Trial)**		
	A vsB	A VS C	AVS D	A vs B	A VS C	AVS D
Mean Diff.	4.2	4.9	5.1	3.9	5.9	5.4
S.D	1.11	1.18	2.23	1.97	1.82	1.58
S.E	0.86	1.29	1.8	0.62	2.07	1.68
't'	4.88	3.79	2.8	6.2	2.56	3.2
P value	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Remarks	H.S	H.S	H.S	H.S	H.S	H.S

Table 9B shows that Statistical comparison within the groups is Highly significant.

Table No.9 C:Unpaired 't' (statistically comparison between the group)

	Group-I VS Group-II		
	A vsB	A VS C	A VS C
't' value	-1.20	-0.93	0.86
P value	>0.05	>0.05	>0.05
Remarks	N.S	N.S	N.S

Table No 9 C shows statistical comparison between the group after onset of pain, after giving analgesic drug at 30 min, 1 hour and 2 hrs is statistically insignificant.

Desirable and Undesirable Effects:-

Table -10: Incidence of desirable and undesirable effects in patients of both groups after taking drugs.

Effect	Incidence	Group-I		Group-II		't' value between Group-I VS Group-II	Remarks
		No	%	No	%		
Sedation	Present	00	0	02	20	't'=0.33	N.S
	Absent	10	100	08	80	p>0.05	
Nausea	Present	02	20	01	10	't'=0.21	N.S
	Absent	08	80	09	90	p>0.05	
Vomiting	Present	00	00	00	00		
	Absent	10	100	10	100		

Sedation- Incidence of Sedation in group-I was 0% and in group-II was 20% which is statically insignificant.

Nausea- Incidence of nausea in group-I (trial) was 20% and in group-II (control) was 10% which is statically insignificant.

Discussion:-

The average pain grtading done on visual analogue scale was 8.8 and 9 in the groups I & II respectively before administration of control and trial drugs. The average pain grading came down to 3.5 3.7 in group I and II respectively after the administration of drugs. The analgesic effect of Godantyadi Yoga can be attributed to Vednahar (anaigesic) property of Godanti, Nirgundi and Tagar mool.

Pain is specifically due to Vata Dosa. Tagar, due to its Snigdha and Usna guna is Vatasamak. Whereas Godanti and Nirgundi are also Vatasamak due to there Usna guna. So we can say that combined action of ingredients of Godantyadi Yoga is capable of relieving pain produced by surgical trauma.

The average pulse rate after premedication in group-I was 82.1 to 84.8 and group – II was 82 to 86.3 respectively which is identical and due to pharmacological effect of Atropine. This Pulse Rate: Increase in the pulse rate came down to base line during the course of surgical procedure. After waning of effect of spinal anaesthesia and at the onset of pain there was increase in pulse rate which can be attributed to anxiety associated with pain. Pulse rate came down after administration of control and trial drugs.This probably was due to antianxiety (Udweghar) property of Tagar and Bhanga combined with analgesic property of all the ingredients of Godantyadi yoga. They helped in reducing anxiety arising out of pain at operative site in all the patients.

Respiratory Rate:

The average increase in respiratory rate after premedication in group I and II was 15.4 to 16.6 and was 15.9 to 16.6 which was not in line with pharmacological effect of atropine but can be attributed to certain level of anxiety and apprehension in the patients.

This increase in respiratory rate came down to base line during the course of surgical period .At the onset pain an increase in the respiratory rate was noted which came down after administration of drug suggesting effective control of pain in the post operative period . Udweghar property of Tagar & Bhanga was also helpful in reducing anxiety and apprehension in the patients.

Blood Pressure:

The average blood pressure increased in the patients after premedication in both the groups was identical and in line with Pharmacological effect of Atropine. This increase in the blood pressure came down to base line during the course of surgical procedure. At the onset of pain there was increase in the blood pressure. This increase in blood pressure could be due to sympathetic stimulation resulting from post operative pain. The decrease in blood pressure after administration of drug can be attributed to their analgesic effect resulting in decrease in sympathetic activity.

Desirable and undesirable effect:-

(a) Sedation :

Udweghar property of Tagar and Bhanga subdues excitement and calm the patients without inducing sleep. Sedation was observed in two patients of group (II) and there is no sedation observed in group (I) control group.

(b)Nausea:

It was observed in two patients of group (I) and one patients of group (II) suggesting less gastric irritation with Godantyadi Yoga.

(c)Vomiting:

There was no incidence of vomiting in both group.

Summary & Conclusion

On the basis of observation made in both the group of the patients we can conclude that:-

1. The Trial drug Godantyadi Yoga has Vednahar property.
2. The trial drug Godantyadi Yoga produces satisfactory level of Analgesia in postoperative period.
4. Godantyadi Yoga has negligible side effects.
5. Though Godantyadi Yoga is a good analgesic but less effective than Diclofenace Sodium when compared with each other.

Thus it can be concluded that Godantyadi Yoga possesses analgesic properties without any side effects which are common with NSAIDS. However, this is a preliminary study and requires more comprehensive observation and investigation to reach the final conclusion.

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Leech therapy in Thrumbosed Hemorrhoid- A better remedy

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Abstract: Thrombosed hemorrhoid is very painful complication of hemorrhoid. Anyone therapy is not very useful so surgeons left the patient for natural thrombolytic with symptomatic treatment. Leech application is very effective in this condition. Bloodletting from congested pile mass with thrombolytic, anti inflammatory and some anesthetic agent in leech saliva is responsible for therapeutic effect.

Keywords-Thrombosed hemorrhoid, Thrombolytic, Leech, Blood-letting.

Introduction-

Etiology- Thrombosed hemorrhoid (clotted hemorrhoid) is a complication of external or internal hemorrhoid. One of the most common etiologic associations of thrombosed hemorrhoids is the maintenance of a straining in the toilet. Virtually every patient who experiences recurrent thromboses will harbor such a home resource. Patients who strain while defecating or when lifting heavy objects, those who have frequent bowel actions, such as occurs with inflammatory bowel disease or mal absorption, and those who sit for long periods of time (e.g., long-distance truck drivers, motorcycle policemen, airline pilots, operators of heavy construction equipment) are the common victim of thrombosed hemorrhoid.

Pathogenesis- Theoretically, direct trauma to the area creates an inflammatory response, which leads to thrombosis. Additionally, the Valsalva action during straining can lead to protrusion, which, if irreducible, can precipitate this complication. In uncomplicated hemorrhoid, turbulent less flow in the sacculated venous plexus of heamorrhoidal mass. Due to constricted anal ring and prolapsed of pile mass there is turbulent blood flow which leads to clot or thrombus formation. Stasis of the blood flow during straining is another possible explanation.

Clinical feature- Diagnosis is usually clinical. Thrombosed haemorrhoied characterized by considerable swelling of pile mass, sever anal pain and discomfort, pile become blackish in colour, tender and some short of mucous discharge too.

Treatment-

Most patients can be reassured that natural thrombolysis will restore the circulation and result in resolution in about 10 days. Nitroglycerin ointment is reported to provide dramatic relief from the pain. Topical nifedipine (0.3% nifedipine and 1.5% lidocaine ointment, every 12 hours), a calcium channel antagonist, has also been demonstrated to afford excellent pain relief. If ulceration or rupture has occurred, or if the patient is seen within 48 hours, it is usually advisable to excise the lesion. Certainly, if the pain is severe, excision is preferred. The hemorrhoid should be excised, not incised. Making a small incision and shelling the clot out like a pea from a pod often results in recurrent hemorrhage into the subcutaneous tissue and clot reaccumulation.

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Bleeding is controlled with pressure, topically applied epinephrine, or electrocautery. Another option is Monsel's solution, a chemical styptic agent (ferric subsulfate). A pressure dressing is used.

In internal haemorrhoid operative intervention for the acute problem is rarely indicated, sitz baths are recommended, as well as a mild systemic analgesic and a topical anesthetic cream or suppository. A stool softener is also advisable. If the patient has concurrent extensive hemorrhoids, tags, hypertrophied papillae, or associated anal fissure, a surgical approach is usually advocated.

Postoperative Care

The patient is instructed to maintain the pressure dressing in place for a few hours. By this time there is usually some discomfort, and the dressing is then removed. Sitz baths are then commenced. If bleeding occurs, it can usually be controlled by the application of direct pressure on the wound with a cloth or compress. A small dressing or pad can be used to avoid soiling clothing. Twice-daily sitz baths are recommended until the wound heals (i.e., 7 to 10 days). A mild analgesic and a topical anesthetic cream are usually salutary.

Precaution-

An important predisposing factor for the development of recurrent thrombosed hemorrhoids is spending too much time on the toilet. Counseling should also include the suggestion of removing the library from the bathroom as a prophylactic measure. This also consists of appropriate counseling in the use of sitz baths and stool softeners.

Material & method –

Fresh leeches, storage pot, purification trays, turmeric powder, rice, *Saindhava* salt, sterile needle, dressing materials were basic requirements for leech therapy After selecting a case for leech therapy by proper history (specially bleeding disorder, infectious disorder ie HIV etc), general examination and local examination.

Pre-Application preparation-first of all leeches purified by putting in the solution of turmeric powder and normal water for some time (till leeches move here and there), then rinsed by normal water. Before the application of leech diseased area should be prepared by scrubbing with fresh gauze piece soaked with normal water.

Leech application-Leech should be held with a dry gauge piece. First try to stabilize it with it's posterior sucker then attach it's mouth on target spot. If it does not bite, a few drops of milk, ghee, butter or fresh blood should be poured at that site. If then also it does not bite, take a prick with a sterile needle and try to attach the leech.After knowing that it has started to suck the blood it should be covered with wet gauge except the mouth and the gauge should be kept wet by continuously pouring water on it.When the patient complains of *pricking pain* and *itching* at the site of bite, leech should be removed from the site.Generally leech leaves the site by itself but if it does not, then apply some honey or powder of *Saindhava* salt at its mouth.

Post Application care - When leech fallen away, its body should be massaged by rice and mouth should be bathed with common salt added oil.Its tail should be held by left hand in between thumb and index finger. Then squeeze the leech by opposite hand slowly and gently. Put the **leech in storage pot and don't reuse same leech before 7days. If blood-letting is proper – clean** the bite site with cold water, apply ointment and honey locally.

Method & Follow up – 2-3 leeches apply according to strength and severity of disease, at alternate day succession. Generally one leech applied at one thrombosed mass.

Observation & result –

Leech therapy in thoumbosed hemorrhoid is very effective in different parameters. Patient's relief from pain and burning sensation immediately after first sitting. Mucous discharge and prolaps grade gradually decreases with three or more sitting of leech application. It was observe that recurrence and other complication of hemorrhoid also reduces in severity.

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Role of Herbal Immunomodulator Drugs Ashwagandha (W. somnifera), Guduchi (T. cordifolia), Yashtimadhu (G. glabra) and Kustha (S. lappa) in Cancer Patients –as an Adjuvant Therapy

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Abstract-

In the present clinical trial immumodulatory effect of herbal drugs Viz.-Ashwagandha , Guduchi, Yastimadhu and Kustha was evaluated as an adjuvant with standard treatment of cancer. A total of 50 patients suffering from Ca cervix and Ca breast attending to Radiotherapy and Radiation OPD S S Hospital BHU,Varanasi were selected and randomly divided in two equal and identical groups . Patients of group I, (Trial group) were given trial drug compound in the form of Ghanasatva in the dose of two capsules (500 mg each) twice in a day with plain water ,where as patients of group II (Control group) were given two capsules of starch powder (500 mg each) twice in a day orally with plain water as placebo. Before starting the treatment schedule an informed and written consent of patients was taken.

The response of both the treatment regimen during three successive follow ups of 15 days interval was analysed and compared. The trial drug compound showed a better role in minimizing the ill effects of standard treatment regimen and was capable to improve the quality of life of terminally ill cancer patients.

Key Words- Tridosha,Arbuda, immumodulatory, anxiety, apprehension, depression, insomnia, confusion, anorexia, nausea, vomiting and constipation.

Introduction-

The approach of Ayurveda towards diseases is mainly based on its unique principal which plays an important role in prevention and management of cancer. Major problem of treatment expenses also getting up steeply and the average people find these measures untouchable. The treatment modalities are also not very feasible to patients as it include surgery, radiation, chemotherapy and many such painful procedures. Hence, people have started thinking about other treatment options in Ayurveda .

Recent studies reveal that herbal drugs can play a better role. Use of Rasayana drugs along with the modern cytotoxic drugs will definitely minimize the ill effects of chemotherapy drugs.

In a terminally ill cancer patients common problems often arise due to disease itself and treatment modalities-Insomnia, Pain, Anorexia, Nausea, Vomiting, Dysphasia, Dyspnoea, Diarrhea, Edema, Ascetic, Plural Effusion, Hemorrhage, Weakness, Drowsiness, Paralysis, Cough, Hiccup, Bedsore, Loss of social role, Social isolation, Dependency, Personality changes, Sadness, Depression, Anger, Fatigue and Financial difficulties etc..

Palliative care refers to the medical or comfort care that reduces the severity of a disease, slows its progress rather than providing a cure. This helps for the management of pain and other distressing symptoms.

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A symptomatic relief to terminally ill cancer patients can improve the quality of life. Ayurveda can play a better role in this regard through enhancing the immunity of the patients and thus improving the overall well being.

In the text of Ayurveda a large number of drugs have been mentioned to enhance Immunity or BALA (Sharir and Manas Bala) and are categorised under Medhya and Urjaskar (rejuvenative and restorative) group of drugs viz,- Brahmi, Ashwagandha, Shankhapushpi, Jatamansi, Guduchi, Tulsi, Madhuyasti, Kustha and Shunthi etc. Many experimental and clinical researches done so far by the previous research scholars in the field of palliative medicine and immunology have proved their efficacy in this regard. These drugs not only improve immunity of the patients but some of them have anti cancerous properties also.

Material and Methodos

For the present clinical research Medhya and Balya drugs- Ashwagandha (W. somnifera) Guduchi (T. cordifolia) Yashtimadhu (G. glabra) and Kustha (S. lappa) were selected and used in the form of Ghanasatwa (dried powder of decoction) .

Prior to registration of patients for present clinical study patients attending Radiotherapy and Chemotherapy OPD of S. S. Hospital of BHU, Screening of 50 Ca- cervix and Ca- breast patients was done. The patients suffering from symptoms of pain, nausea, vomiting, constipation, anorexia, anxiety, insomnia, depression, apprehension, giddiness, and confusion were taken into proper consideration. However patients suffering from any cardio respiratory and renal disorder were excluded from the study.

After obtaining the conformed histological diagnosis of Ca cervix and Ca breast patients were evaluated individually and randomly divided into two equal and identical groups consisting of 25 patients in each group. Patients of group I were given 2 capsules (500mg each) of trial drug compound twice a day where as patients of control group (group II) were given 2 capsules of starch (500 mg each) as placebo twice in a day with plain water.

A detailed enquiry was made regarding their symptoms of illness and personal history. Before starting the treatment an informed consent of the patients was taken on prescribed proforma. Observations were made on following parameters before starting the treatment and during three successive follow-ups of 15 days interval each in patients of both the groups.

Discussion-

As per the observation made on it is obvious that patients of both the group were statistically identical in respect to age, height and weight.

According to the observation incidence of anxietywas gradually reduced in trial group patients where as it was increased in patients of control group during successive follow ups. Observation so far suggest that, trial drugs possessing rejuvenative, restorative and nootropic properties (Medhya and Balya) were able to control this psychological behaviour in a better way in patients of trial group.(Table 1)

Table No.1. Effect on Anxiety in both the groups.

Groups	Anxiety								Within the group comparison Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	19	76	15	60	11	44	5	20	Q = 0.45 P < .05 S
	Absent	6	24	10	40	14	56	20	80	
Control No.25	Present	19	76	21	84	22	88	24	96	Q = 3.9 P > .05 NS
	Absent	6	24	4	16	3	12	1	4	
Between the groups comparison Chi-Square test		Chi = 0.00 P > 0.05 NS		Chi = 3.57 P > 0.05 NS		Chi = 10.78 P < 0.05 S		Chi = 29.63 P < 0.05 S		

Insomnia being a major problem in terminally ill patients which not only detoriatre general condition of patients but also can create other psychological complications. It is obvious from Table 2, that a better improvement was observed in patients of trial group as compare to control group during follow ups interval. This can also be attributed in favour of trial drugs possessing Medhya and Balya properties, already being used in practice of Ayurveda for the purpose.

Table 2. Effect on Insomnia in both the groups.

Groups	Insomnia								Within the group compariso n Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	22	88	13	52	7	28	5	20	Q = 29.5 P < .05 S
	Absent	3	12	12	48	18	72	20	80	
Control No.25	Present	22	88	25	100	24	96	23	92	Q = 3.75 P > .05 NS
	Absent	3	12	0	0	1	4	2	8	
Between the groups comparison Chi- Square test		Chi = 0.00 P > 0.05 NS		Chi = 15.78 P < 0.05 S		Chi = 24.53 P < 0.05 S		Chi = 26.29 P < 0.05 S		

Depression is another problem in cancer patients which is not only because of disease itself but also due to other psychophysical complications of the patients. Patients in both the groups were significantly recovered after treatment schedule but it was more marked in patients of trial group as compare to control group. Observation suggest that a better psychophysical well being was achieved with improving health and other systemic disorders. Trial drug compound have played a better role in this regard. (Table 3)

Table 3.Effect on Depression in both the groups.

Groups	Depression									Within the group comparison Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	21	84	9	36	4	16	1	4	Q = 57.1 P < .05 S
	Absent	4	16	16	64	21	84	24	96	
Control No.25	Present	24	96	19	76	15	60	18	72	Q = 26.8 P <.05 S
	Absent	1	4	6	24	10	40	7	28	
Between the groups comparison Chi- Square test		Chi = 2.00 P > 0.05 NS		Chi = 23.72 P < 0.05 S		Chi = 12.57 P < 0.05 S		Chi = 14.28 P < 0.05 S		

Loss of appetite or anorexia is a major problem in cancer patients, which may aggravate after conventional standard treatment like chemotherapy, and radiotherapy. Table 4,suggest that there was a gradual decrease in complaint of anorexia in patients receiving trial drug compound as compare to patients of control group receiving only placebo.

Table 4- Effect on Anorexia in both the groups.

Groups	Anorexia								Within the group comparison Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up	
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	25	100	14	56	4	16	2	8	Q = 50.8 P < .05 S
	Absent	0	0	11	44	21	84	23	92	
Control No.25	**Present**	**25**	**100**	**24**	**96**	**23**	**92**	**23**	92	**Q = 4.7 P > .05 NS**
	Absent	0	0	1	4	2	8	2	8	
Between the groups comparison Chi- Square test		Chi = 0.00 P > 0.05 NS		Chi = 10.96 P < 0.05 S		Chi = 29.06 P < 0.05 S		Chi = 35.28 P < 0.05 S		

The incidence of nausea is also another problem in cancer patients which was significantly decreased in patients of trial group during follow up observations. This may be because of better gastrointestinal improvement and reduction of ill effects in patients of group I. (Table 5)

Table 5 - Effect on Nausea in both the groups.

Groups	Nausea									Within the group comparison Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	23	92	20	80	11	44	5	20	Q = 39.0 P < .05 S
	Absent	2	8	5	2	14	56	20	80	
Control No.25	Present	24	96	25	100	23	92	23	92	Q = 3.00 P > .05 NA
	Absent	1	4	0	0	2	8	2	8	
Between the groups comparison Chi- Square test		Chi = 0.35 P > 0.05 NS		Chi = 5.5 P < 0.05 S		Chi = 13.24 P < 0.05 S		Chi = 26.29 P < 0.05 S		

The incidence of vomiting during 1st follow up was observed identically in both the groups however it was significantly decreased during 2nd& 3rd follow up in patients of trial group as compare to control group. This also supports the beneficial effects of trial drug compound as an adjuvant in cancer patients. (Table 6)

Table 6 - Effect on Vomiting in both the groups.

Groups	Vomiting									Within the group comparison Cochran's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	2	8	7	28	1	4	0	0	Q = 12.43 P <.05 S
	Absent	23	92	18	72	24	96	25	100	
Control No.25	Present	2	8	9	36	11	44	4	16	Q = 13.82 P < .05 S
	Absent	23	9	16	64	14	56	21	84	
Between the groups comparison Chi- Square test		Chi =0 .00 P > 0.05 NS		Chi = 0.368 P > 0.05 NS		Chi = 10.97 P < 0.05 S		Chi = 4.35 P < 0.05 S		

The observation made on Table 7 suggest that significant reduction in complaint of constipation was observed in patients of both the group but it was more marked in patients of trial group as compare to control group which received only placebo.

Table 7 - Effect on Constipation in both the groups.

Groups	Constipation									Within the group comparison Cochran 's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up		
		No.	%	No.	%	No.	%	No.	%	
Trial No.25	Present	23	92	16	64	12	48	9	36	Q = 28.6 P < .05 S
	Absent	2	8	9	36	13	52	16	64	
Control No.25	Present	19	76	19	76	14	56	14	56	Q = 10.0 P < .05 S
	Absent	6	24	6	24	11	44	11	44	
Between the groups comparison Chi- Square test		Chi = 2.38 P > 0.05 NS		Chi = 0.85 P > 0.05 NS		Chi = 0.32 P > 0.05 NS		Chi = 2.01 P >0 .05 NS		

Pain may aggravate because of the progression of disease itself, complications of treatment regimen or even the psychological factors and hence any device which can improve the detoriating psychophysical problems of the patients can be helpful in minimizing the intensity and nature of pain (radiation of the pain). The trial drugs used in this regard have shown a better role in minimizing the intensity of pain during 2nd& 3rd follow ups along with the nature of the radiating pain. (Table 8)

Table No. 8: The statistical comparison of difference of mean visual analogue scale (VAS)

Groups	Visual analogue scale				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	4.84±1.95	2.64±1.4	1.88±1.3	1.44±1.0	t= 9.0 P < 0.05 S
Control	4.67±2.02	3.68±1.4	3.32±1.2	3.24±1.2	t= 5.1 P < 0.05 S
Unpaired t-test	t = 0.14 P > 0.05 NS	t= 2.5 P > 0.05 NS	t= 3.9 P < 0.05 S	t= 5.6 P <0.05 S	

A good appetite, better gastrointestinal function and good psychological status is helpful for proper digestion and assimilation of food taken. Relief from the complication of the disease and improvement in aspects of health can improve the haemoglobin percentage and vice versa. It is obvious from Table-9 that a significant increase in haemoglobin percentage observed in patients of trial group at the end of treatment regimen as compare to the control group patients.

Table 9:. The statistical comparison of difference of mean hemoglobin (gm percent) between both the groups

Groups	Hb (gm %)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	11.78±1.72	12.10±1.28	12.78±1.08	12.89±0.90	t= 3.28 P < 0.05 S
Control	10.70±2.96	11.16±1.42	11.25±1.16	11.90±1.17	t= 0.37 P > 0.05 NS
Unpaired t test	t = 1.56 P > 0.05 NS	t = 2.45 P < 0.05 S	t = 4.8 P < 0.05 S	t = 6.72 P < 0.05 S	

Leukocytes and polymorphs are one of the important component of immune system of our body and it is a well known fact that after chemotherapy and radiotherapy the total leukocyte and polymorph count decreases markedly, which was observed in patients of control group where as there was no any decrease in total leukocyte and polymorph count in patients of trial group. This observation suggests that the trial drug compound has proven immunomodulatory response and supported the results of previous workers on these drugs. (Table 10)

Table No. 10: The statistical comparison of difference of mean total leukocyte count (per mm^3)

Groups	TLC (per mm3)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	8684±3005	8628±1752	8390±982	8482±855	t= 0.35 P > 0.05 NS
Control	8180±3518	7574±2886	6846±2436	6352±2357	t= 2.94 P < 0.05 S
Unpaired T test	t = 0.54 P > 0.05 NS	t = 1.56 P > 0.05 NS	t = 2.93 P < 0.05 S	t = 4.24 P < 0.05 S	

Table No11-. The statistical comparison of difference of mean polymorph count (per mm^3)

Groups	Polymorph (per mm3)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	64.96±10.0	66.20±6.31	65.28±3.95	64.52±3.13	t= 0.20 P > 0.05 NS
Control	62.32±9.7	61.20±7.82	59.96±4.61	60.16±4.8	t= 1.15 P > 0.05 NS
Unpaired T test	t = 0.94 P > 0.05 NS	t = 2.6 P < 0.05 S	t = 4.37 P < 0.05 S	t = 3.79 P < 0.05 S	

It has been presumed that metabolic functions get detoriated in terminally ill patients with advancing stage of disease and side effects of drugs used for the treatment. Observations made on function of liver like SGOT, SGPT, serum bilirubin and alkaline phosphate, it is obvious from table No. 12 that there was a significant decreasing pattern of SGOT values in patients of trial group during successive follow ups where as in patients of control group observed significantly increased during 2^{nd}& 3^{rd} follow ups. Similarly SGPT was also observed significantly decreasing pattern in patients of group I during follow up observations where as it was found significantly increased in patients of control group during all follow ups. The comparison of SGOT and SGPT between the groups as well as within the group was statistically significant. While observing the response of the treatment regimen in both the groups, it was found that serum bilirubin was significantly raised during follow ups in patients of control group as compare to trial group patients; however table shows a slight decrease in serum bilirubin level in patients of trial group but it was not found statistically significant.

Table No. 12:. The statistical comparison of difference of mean SGOT (IU)

Groups	SGOT (IU)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	32.68±17.4	28.04±9.4	22.08±8.25	20.44±7.15	t= 3.6 P < 0.05 S
Control	33.32±15.39	36.44±18.28	45.96±21.84	48.28±18.09	t= 3.66 P < 0.05 S
Unpaired t test	t = 0.13 P > 0.05 NS	t = 2.04 P > 0.05 NS	t = 5.11 P <0.05 S	t = 7.15 P < 0.05 S	

Observations made on serum alkaline phosphate suggest that there was an apparent decreased serum alkaline phosphate level during follow ups in patients of both the groups but it was statistically insignificant. However on statistical comparison between the groups significant decreased level of alkaline phosphate was observed in patients of trial group as compare to control group during follow ups. (Table 12,13,14)

Table No. 13: The statistical comparison of difference of mean SGPT (IU)

Groups	SGPT (IU)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	34.92±17.12	27.13±8.90	20.76±5.37	18.64±4.2	t= 5.2 P < 0.05 S
Control	37.44±21.3	42.40±19.22	61.08±23.1	70.96±24.8	t= 5.8 P < 0.05 S
Unpaired t test	t = 0.64 P > 0.05 NS	t = 3.6 P < 0.05 S	t = 8.4 P < 0.05 S	t = 10.36 P < 0.05 S	

Table No. 14: The statistical comparison of difference of mean alkaline phosphate (IU)

Groups	Alka PO4 (IU)				Paired t test
	Before treatment	1st follow up	2nd follow up	3rd follow up	
Trial	454.37±718	245.05±102	197.08±61	185.40±49	t= 1.90 P >0.05 NS
Control	358.26±555	323.24±400	329.16±377	317.08±251	t=0.61 P > 0.05 NS
Unpaired t test	t = 0.52 P > 0.05 NS	t = 0.94 P > 0.05 NS	t = 1.73 P > 0.05 NS	t = 2.56 P < 0.05 S	

As per motive of supportive and palliative care of the terminally ill patients is to improve their quality of life by means of allaying anxiety, apprehension, depression and insomnia etc. and improving their metabolic functions. The observations made on general condition of patients it was found that patients receiving trial drug compound were significantly improved during all successive follow ups as compare to patients of control group receiving only placebo along with standard anti-cancerous therapy. The table also reflects a significant improvement in all category(poor, average and fair) of general condition of patients in trial group as compare to patients of control group. However general condition of patients was no doubt improved significantly in both the groups but better result was observed in patients of trial group. (Table 15)

Table 15: Effect on General Condition in both the groups.

Groups	General condition								Within the group comparison Friedman's test
	Incidence	Before treatment		1st follow up		2nd follow up		3rd follow up	
		No.	%	No.	%	No.	%	No.	%	
Trial No.-25	Poor	14	56	0	0	0	0	0	0	F = 50.53 P < 0.05 S
	Average	10	40	14	56	8	32	5	20	
	Fair	1	4	11	44	17	68	20	80	
Control No.-25	Poor	12	48	0	0	2	8	0	0	F = 22.88 P < 0.05 S
	Average	11	44	23	92	21	84	21	84	
	Fair	2	8	2	8	2	8	4	16	
Between the groups comparison Chi- Square test		Chi = 0.53 P > 0.05 NS		Chi = 8.24 P < 0.05 S		Chi= 19.67 P < 0.05 S		Chi= 20.51 P < 0.05 S	

On the basis of the observations made during entire course of study reveal that trial drug compound (Ghanasatva of Ashwagandha, Guduchi, Yastimadhu and Kustha) possessing Medhya and Balya properties (nootropic, rejuvenative, restorative and immune enhancing) have shown a better response in terms of psychophysical, immunomodulator and metabolic functions of terminally ill patients. The trial drug compound did not show any cardiorespiratory and hepatorenal ill effects which can jeopardise the life of the patients.

Summary and Conclusion:

On the basis of observations made on 50 Ca cervix and Ca breast patients receiving chemotherapy and radiotherapy along with trial drug compound in the form of Ghanasatva and placebo therapy (starch). This can be concluded as-

The trial drug compound possessing Medhya and Balya properties (nootropic, rejuvenative and restorative) has shown a better response in allaying the anxiety, apprehension, depression, giddiness and confusion etc.

The trial drug compound did not produce any cardiovascular and respiratory depressant effect.

The trial drug compound was capable to minimize the common gastrointestinal problems associated with cancer patients and ill effects of their standard treatment regimen i.e. chemotherapy and radiotherapy.

The trial drug compound showed a better improvement in metabolic, hepatobiliary and renal functions of the patients.

The trial drug compounds were capable to improve the general condition of the patients with a better immunomodulatory response.

In nut shell this can be concluded that trial drugs (Ashwagandha, Guduchi, Yastimadhu and Kustha) can play a better and supportive role in terminally ill cancer patients as an adjuvant with chemo and radiotherapy to enhance the immunity and improve the quality of life of the patients and upto some extent minimise the well known ill effects of chemo and radiotherapy.

The present study unfolds the scope and application of herbal immunomodulator drugs in the field of terminally ill patient care. Further a more detailed study on a large number of patients be carried out to explore the efficacy of these drugs in other aspects of supportive and palliative care.

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MINUTES OF GENERAL BODY MEETING HELD ON 6TH FEB 2012 AT BELGAUM, KARNATAKA

A General Body Meeting was held on 6\2\2012 at 8 p m at conference venue at KLE's B M K Memorial Ayurvedic Medical College, Belgaum.
The following members attended the meeting (Signatures in Register):
Secretary of AAIM, Dr. S. Bhat welcomed all the members of Association and requested the president for Opening Remarks.

The Acting President Dr.Sanjeev Sharma expressed his thankfulness to members of AAIM and Organizing Committee for the success of the Conference.

Agenda 1. Confirmation of minutes of previous G B Meeting
Resolution: Unanimously resolved to approve the minutes of previous G B Meeting dated 5th Feb 2011 .presented by Central Council.
Proposed by Dr. Anil Dutt
Seconded by Dr. P. K. Bharti

Agenda 2: Presidential Address.
Resolution: Resolved that presidential address presented by Acting President Dr.Sanjeev Sharma be accepted unanimously.
Proposed by Dr.N.C.Gujarathi
Seconded by Dr.Hemanth Kumar

Agenda 3: Nomination for Ashwinou Award
Resolution: Resolved that due to absence of Dr. P S Pandey to receive the Ashwinou Award as per Bye-laws, the award will be given to him in the next conference.
Proposed by Dr. Anil Dutt
Seconded by Dr.Shilpa Khadadekar

Agenda 4: Venue of next conference.
Resolution: Resolved that the venue of next conference to be finalized by next Executive Body Meeting since there were two requests pending for evaluation-one from Raniganj by Dr. C B Verma and another from Paprola by Dr.AnilDutt. A third proposal came up during meeting by members of Varanasi (U P) Branch.
The meeting ended with vote of thanks by Dr.SBhat, Secretary.

Sd
Dr. S Bhat

Sd
Dr.Sanjeev Sharma

Monitoring of Anaesthesia in Patients of Different Deha Prakriti under General Anaesthesia with Special Reference to Sevoflurane

*Pande D. N. ** Pandey K.K.*** Jaiswal R.K. ****Bharti P.K. *****Kumar Vimal

Abstract: In practice of anesthesia**Deha Prakriti- Psychophysical constitution** of patient plays an important role .The state of mind prior to induction like anxiety and apprehension not only influences the dose and nature of anesthetic drug requirement but also effects peri-operative monitoring parameters viz.-NIBP, Respiratory rate, Pulse rate, Depth of anesthesia(BIS) and Post operative recovery time and nature.

According to principles of Ayurved people of different Deha Prakriti (Psychophysical Constitution) have different Physiological, Psychological and physical functions and hence the induction and motoring of anesthesia also varies accordingly. The present clinical study was conducted to evaluate the response of different Deha Prakriti patients during subsequent course of anesthesia.

For the present clinical study 45 patients of ASA grade II of both sexes, with a narrow age, weight and height were selected. The patients were selected from Sangyaharan PAC posted for Anorectal surgery-Haemorrhoidectomy and Fistula in ano. An informed consent of the patient was taken prior to study. The observations were recorded and analysed.

Key Words- Deha Prakriti, Vataja, Pittaja , Kaphaja, Apprehension, BIS and Sevoflurane.

Introduction – Assessment of the depth of anaesthesia is fundamental to anaesthetic practice. Prior to the use of muscle relaxants, maintaining the appropriate depth of anaesthesia was a balance between abolishing movement to pain whilst maintaining adequate respiration. In the continuous clinical monitoring of patients' physiological parameters evolved to include the measurement of real-time airway gas volatile agent concentration and more recently the analysis of neurophysiologic parameters derived from the electroencephalogram (Bispectral Index and evoked potentials).In applying it clinically a value of 65 to 85 is recommended for sedation and 40 to 65 as general anesthesia. It has been found to correspond linearly with the hypnotic dose of intravenous or volatile agents used, correlating well with the hypnotic state and importantly is agent independent.

There are various ways to measure or monitor depth of anesthesia based on clinical/conventional monitoring and/or brain electrical activity monitoring.

A. ***Clinical techniques and conventional monitoring-***. Clinical sign, Skin conductance, isolated forearm technique, Spontaneous surface Electromyogram (SEMG), Lower esophageal contractility and Heart rate variability.

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Co authors: * Professor ***S.M.O. ****M.O. *****S.R.*, **Department of Sangyaharana,Faculty of Ayurveda, Institute of Medical Sciences, Varanasi 221005.**

B. Brain electrical activity monitoring-

1.Spontaneous EEG activity monitors: EEG, Compressed spectral analysis, EEG with compressed spectral analysis ,Cerebral function monitor (CFM) ,Cerebral function analysis monitor (CFAM), Bispectral index, Entropy, Narcotrend ,Patient state analyzer ,SNAP index and Cerebral state monitor/Cerebral state index

2. Evoked brain electrical activity monitors: Somatosensory evoked potential (SSEP), Visual evoked potential (VEP) and Auditory evoked potential (AEP).

BIS is a proprietary algorithm that converts a single channel of frontal EEG into an index of hypnotic level (BIS). To compute the BIS, several variables derived from the EEG time domain (burst suppression analysis), frequency domain (power spectrum, bi spectrum: inter frequency phase relationships) are combined into a single index of hypnotic level.

Sevoflurane: volatile liquid for inhalation, a non-flammable and no explosive liquid administered by vaporization, is a halogenated general inhalation anaesthetic drug. Sevoflurane isofluoromethyl 2, 2,2,-trifluoro-1-(trifluoromethyl) ethyl ether .

Physical Constants are-Molecular weight 200.05,Boiling point at 760 mm Hg 58.6°C,Specific gravity at 20°C 1.520 - 1.525,Vapor pressure in mm Hg,157 mm Hg at 20°C,197 mm Hg at 25°C,317 mm Hg at 36°C

Distribution Partition Coefficients at 37°C- Blood/Gas 0.63 - 0.69, Water/Gas 0.36,Olive Oil/Gas 47 – 54,Brain/Gas 1.15

The observations of previous workers on halothane anesthesia in relation to Dehaprakriti reveal that Vata Prakrit patients consume more halothane as compared to Pitta and Kapha Prakrit ,however Kapha Prakrit patient consumed less amount in all to achieve optimum level of surgical plane of anaesthesia. Keeping in view of the above observations the present clinical trial was carried out.

Methodology: A total of 45 patients of ASA grade II of both the sex, with a narrow age, weight and height were selected. The patients were selected from Sangyaharan PAC, posted for Anorectal surgery-Haemorrhoidectomy and Fistula in ano. An informed consent of the patient was taken prior to study. Patients were randomly divided into three groups according to their predominant doshaja Deha-Prakriti (Vataja Gr-I, Pittaja-Gr-II and Kaphaja-Gr-III) consisting of 15 in each.

Inj.Glycopyrrolate was given I.M. to all the patients 40 min. As premedicant, prior to commencement of anaesthesia.Base line parameters of Blood pressure, Respiratory rate and Pulse rate were recorded. After 3-5 min.of pre oxygenation patients were induced with Sevoflurane 2% along with O2:N2O in a ratio of 2:3L/min. The surgical procedure was allowed after careful assessment of clinical signs of balanced general anaesthesia .Induction Time,psychophycal variations in Blood pressure, Respiratory rate and Pulse rate and depth of anaesthesia by observing BIS was recorded during course of anaesthesia .After completion of surgery ,total surgical time , recovery time and nature was also recorded .The observations were analyzed using statistical comparison.**Observations and Result**:

Table No. 1. A- Mean Age (yrs), Height (cm) and Weight (kg) between the groups.

Groups	Age (yrs)	Height (cm)	Weight (kg)
Vataja group	48.26±9.62	150.04±8.39	49.56±7.39
Pittaja group	49.35±8.32	149.75±7.99	50.04±8.52
Kaphaja group	51.29±9.28	148.16±7.04	52.12±7.26

Table No. 1. B-Statistical comparison of mean Age (yrs),) between the groups.

Groups Compared	T value	P value
Group I vs II	t = 0.12	P > 0.05NS
Group II vs III	t = 0.14	P > 0.05NS
Group I vs III	t = 0.15	P > 0.05NS

Table No. 1. C- Statistical comparison of mean Height (cm) between the groups.

Groups Compared	T value	P value
Group I vs II	t = 0.66	P > 0.05NS
Group II vs III	t = 0.68	P > 0.05NS
Group I vs III	t = 0.79	P > 0.05NS

Table No. 1. D- Statistical of mean Weight (kg) between the groups

Groups Compared	T value	P value
Group I vs II	t = 1.18	P > 0.05NS
Group II vs III	t = 1.10	P > 0.05NS
Group I vs III	t = 1.09	P > 0.05NS

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

Table No.2A-Mean Pulse rate /min (Before Induction, During Anaesthesia &During Recovery) between the groups.

Groups	Before Induction	During Anaesthesia	During Recovery
Vataja group	90.04±11.15	98.92±7.98	92.92±7.92
Pittaja group	88.8±10.23	91.44±10.85	90.72±10.50
Kaphaja group	87.8±10.23	90.44±10.85	88.72±10.50

Table No.2B - Statistical comparison of mean Pulse rate /min Before Induction between the groups.

Groups Compared	T value	P value
Group I vs II	t = 0.33	P > 0.05NS
Group II vs III	t = 0.92	P > 0.05NS
Group I vs III	t = 0.26	P > 0.05NS

Table No.2C - Statistical comparison of mean Pulse rate /min during anaesthesia between the groups.

Groups Compared	T value	P value
Group I vs II	t = 1.48	P > 0.05NS
Group II vs III	t = 1.36	P > 0.05NS
Group I vs III	t = 1.39	P > 0.05NS

Table No.2D - Statistical comparison of mean Pulse rate /min During Recovery between the groups.

Groups Compared	T value	P value
Group I vs II	t = 1.37	P > 0.05NS
Group II vs III	t = 1.32	P > 0.05NS
Group I vs III	t = 1.28	P > 0.05NS

It is obvious from the above table that there was no any significant alteration in mean pulse rate was recorded in all the groups during the subsequent course of anaesthesia However an insignificant acceleration in pulse rate was observed in patients of Vataja prakriti as compare to other two groups which is because of prorerties of Vata according to principles of Ayurveda. Minimum increase in pulse rate was noticed in patients of Kaphaja Dehaprakriti (Table No.2 A- 2D)

Table No. 3.A-Mean of Mean Blood Pressure mmHg (Before Induction, during anaesthesia and during Recovery) between the groups.

Groups	Before Induction	During anaesthesia	During Recovery
Vataja group	98.5±9.42	97.99±8.77	96.2±8.93
Pittaja group	97.9±12.1	96.71±11.26	97.76±11.10
Kaphaja group	97.9±12.1	94.41±11.12	96.72±11.10

Table No. 3.B-Statistical comparison of Mean Blood Pressure mm Hg Before Induction between the groups.

Groups Compared	T value	P value
Group I vs II	t = 2.10	P > 0.05NS
Group II vs III	t = 1.44	P > 0.05NS
Group I vs III	t = 0.98	P > 0.05NS

Table No. 3.C-Statistical comparison of Mean Blood Pressure mmHg During anaesthesia between the groups.

Groups Compared	T value	P value
Group I vs II	t = 0.89	P > 0.05NS
Group II vs III	t = 0.92	P > 0.05NS
Group I vs III	t = 0.76	P > 0.05NS

Table No. 3.D-Statistical comparison of Mean Blood Pressure mmHg During Recovery between the groups.

Groups Compared	T value	P value
Group I vs II	t= 0.82	P > 0.05**NS**
Group II vs III	t= 0.79	P > 0.05**NS**
Group I vs III	t= 0.71	P > 0.05NS

No any significant alteration in the mean Blood pressure was observed in patients all the groups during the subsequent course of anaesthesia However an insignificant fall in Blood pressure was observed in patients of Kaphaja prakriti as compare to other two groups which is because of properties of Kapha as per the principles of Ayurveda. (**Table No.3 A- 3D**)

Table No. 4.A- Mean Respiratory Rate/min (Before Induction, During anaesthesia and during Recovery) between the groups.

Groups	Before Induction	During anaesthesia	During Recovery
Vataja group	18.42±3.37	17.24±2.19	17.46±2.21
Pittaja group	17.22±2.52	16.53±2.48	16.62±2.43
Kaphaja group	16.36±3.60	15.20±2.19	16.26±2.21

Table No. 4.B Statistical comparison of mean Respiratory Rate/min Before Induction between the groups

Groups Compared	T value	P value
Group I vs II	t = 3.47	P > 0.05NS
Group II vs III	t = 3.39	P > 0.05NS
Group I vs III	t = 3.22	P > 0.05NS

Table No.4.C- Statistical comparison of mean Respiratory Rate/min Duringanaesthesia between the groups

Groups Compared	T value	P value
Group I vs II	t = 1.94	P > 0.05NS
Group II vs III	t = 1.89	P > 0.05NS
Group I vs III	t = 1.86	P > 0.05NS

Table No. 4.D- Statistical comparison of mean Respiratory Rate/min During recovery between the groups

Groups Compared	T value	P value
Group I vs II	t= 1.18	P> 0.05NS
Group II vs III	t= 1.12	P> 0.05NS
Group I vs III	t= 1.09	P> 0.05 NS

The observations made on table no.4 (A-D) suggest that there was an insignificant fall in respiratory rate in patients of all the groups during course of anaesthesia while maintaining proper depth of surgical anaesthesia. No any respiratory upset was noted in any patient .

Table No. 5.A Mean Induction and Surgical time (min) in both the groups.

Groups	Induction Time (Min)	Surgical Time (Min)
Vataja group	5.16±3.40	21.40±2.59
Pittaja group	4.27±2.10	20.52±3.48
Kaphaja group	3.32±3.60	20.60±2.19

Table No. 5.B-Statistical comparison of mean Induction Time between the groups

Groups Compared	T value	P value
Group I vs II	t = 2.42	P < 0.05S
Group II vs III	t = 2.65	P < 0.05S
Group I vs III	t = 2.87	P < 0.05S

Table No.5.C-. Statistical comparison of mean Surgical Time between the groups

Groups Compared	T value	P value
Group I vs II	t = 0.12	P > 0.05NS
Group II vs III	t = 0.14	P > 0.05NS
Group I vs III	t = 0.09	P > 0.05NS

It is obvious from the above table that patients of Kaphaja prakriti were inducedsignificantly in less time as compared to the patients of other group .Patients of Pittaja prakriti took more time in comparison to Kaphaja prakrit and less time in comparison to Vataja prakriti.These significant variation in induction time supports the principles of Ayurveda . As per modern medicine the psychophysical constitution also affects the estimation of MAC value of volatile anaesthetics . There was no any significant difference in surgical time in patients of all the three groups.(Table No. 5.(A-C)

Table No. 6.A-Mean concentration of Sevoflurane for Induction of Anaesthesia toattain BISbetween 45-60 in both the groups.

Groups	concentration of Sevoflurane
Vataja group	7.13±3.60
Pittaja group	6.26±2.42
Kaphaja group	5.29±3.66

Table No.6 B-Statistical comparison of mean Mean concentration of Sevoflurane for Maintenance between the groups

Groups Compared	T value	P value
Group I vs II	t= 7.02	P < 0.05S
Group II vs III	t= 5.83	P < 0.05S
Group I vs III	t= 5.6	P <0.05S

The induction of anesthesia was done with Sevoflurane in concentration of 4-8% along with the free gas flow of O2:N2O (2:3L/min). The concentration of Sevoflurane was regulated as per the need of the patient to achieve the BIS at a level of 45-60.It is obvious from the above table that patients of Vataja Prakriti took significantly more concentration as compared to other groups where as patients of Kaphaja Prakriti had taken significantly less concentration to achieve the BIS level (45-60) of anesthesia . **(Table No.A-B)**

Table No. 7.A-Mean concentration of Sevoflurane for Maintenance of Anaesthesia toattain BISbetween 45-60 in both the groups.

Groups	concentration of Sevoflurane
Vataja group	4.13±3.14
Pittaja group	3.20±2.82
Kaphaja group	2.66±2.14

Table No.7.B-.Statistical comparison of mean concentration of Sevoflurane for Maintenance between the groups

Groups Compared	T value	P value
Group I vs II	t = 2.28	P < 0.05S
Group II vs III	t = 2.63	P < 0.05S
Group I vs III	t = 2.24	P <0.05S

The anesthesia was maintained with Sevoflurane in concentration of 2-4% along with the free gas flow of O2:N2O (2:3L/min). The concentration of Sevoflurane was regulated as per the need of the patient to achieve the BIS at a level of 45-60.It is obvious from the above table that patients of Vataja Prakriti took significantly more concentration as compared to other groups where as patients of Kaphaja Prakriti had taken significantly less concentration to maintain the BIS level (45-60) of anesthesia . (Table No.7 A.B)

Table No. 7. A Recovery Time (min) in both the groups.

Groups	Time of recovery (Min)
Vataja group	4.15±2.19
Pittaja group	3.32±2.48
Kaphaja group	2.60±2.19

Table No. 7 –B Statistical comparison of mean **R**ecovery Time (min) in both the groups.

Groups Compared	T value	P value
Group I vs II	t = 3.58	P < 0.05S
Group II vs III	t = 2.08	P < 0.05S
Group I vs III	t= 4.41	P < 0.05S

It is obvious from the above table that the patient responded the nature of induction and recovery at per the principles of volatile anesthetics.The role of psychophysicalcharacters and their functions plays an important role in this regard. Patients taken more time and concentration to attain required level of BIS recovered from anesthesia comparatively late as they have consumed more amount of anesthetics.Patients of Kaphaja prakriti recovered early and vataja prakriti recovered comparatively late.**(Table No. 7. A-B)**

Occlusion: According to Ayurveda Psychophysical constitution (Dehaprakriti) of a person plays an important role in making diagnosis and treatment .This very same fundamental principle is also applicable in practice of anesthesia for regulating dose of anesthetic drugs and monitoring of anesthesia and post anesthetic care.

As a matter of fact psychophysical activities of Vataja prakriti patients are comparatively more dynamic as compared to others where as it is less in Kaphaja prakriti patients .The observations of the above study also support the principles of Ayurveda in following ways-

Patients of vataja prakriti taken more time for induction and consumed more amount of concentration of anesthetic drug Sevoflurane for induction and maintenance of anesthesia at a BIS level of 45-65.

Patients of Kaphaja prakriti taken lowest time for induction and consumed less amount of concentration of anaesthetic drug Sevoflurane for induction and maintenance of anesthesia at a BIS level of 45-65.

Patients of Pittaja prakriti taken less time for induction and consumed less amount of concentration of anesthetic drug Sevoflurane for induction and maintenance of anesthesia at a BIS level of 45-65 as compared to Vataja prakriti patient and comparatively more to Kaphaja Prakriti patient.

However recovery from anesthesia in different Deha prakriti patients strictly followed the principles of volatile anesthetics. Patients consumed comparatively more concentration and longer duration of anesthetic drug recovered latter.

The perusal of the above observations suggest that application of fundamental principles of Ayurveda can play an important role for a safe practice of anesthesia..However a detailed study on a large number of patients is required.

Acknowledgment: We wish to acknowledge to the Department of Science & Technology for assistance made through D.S.T. PURSUE Programme in the execution of this study.

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Pashchat karma in Radiodiagnosis & Imaging

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Abstract - In Ayurvedic classics all the major procedures are categorized under three karmas i.e. Poorva karma, pradhan karma and pashchat karma, in the same manner all the procedures of radiology can also be classified under three karmas,Poorva karma includes all the pre procedure preparations and precautions; Pradhan karma includes the main procedure.Pashchat karma includes all post procedure care. Post procedure care of the patient is very important for better patient care as well as for better outcome of imaging

Key word- Poorva karma ,Pashchat karma, Pradhan karma

Pashchat karma after ultrasonography-

Ultrasonography is one among the most commonly advised imaging modality, for the diagnosis of various disorders.ost procedure care of the patient is very important for better patient care as well as for better outcome of imaging. After the examination, clean the body surface properly, which was applied by gel. If the patient was having any communicable skin disease, clean the probe and examination table properly. Patients are usually advised to be nil orally at least 8 hours prior to the abdominal scan, after the examination is complete, advice patient to take his regular diet. Instruct the patient to void the urine after the examination is over.If the tube of Foley's catheter is tied prior to examination that knot should be removed after the examination is complete. If follow up scan is needed then give proper information regarding the date and time of the examination. During interventional ultrasonography, if patient undergoes shock, that should properly managed and patient's vitals should be monitored. If the patient is known case of Diabetes mellitus, Hypertension or any other chronic illness, instruct patient to take medicine in prescribed doses. Give proper instruction regarding the availability and collection of report.

Pashchat karma after IVP-

IVP is a procedure in which contrast agent is injected intravenously, after the examination is over, patient should be monitored for few hours to avoid any adverse reaction due to contrast agent.Remove scalp vein set after the examination is complete and patient is stable.Advice the patient to lie in bed and rest for a while after IVP.

Advice to start drinking liquids to get rid of the dye.Drinking liquids: Men 19 years old and older should drink about three Liters of liquid each day (about 13 eight-ounce cups). Women 19 years old and older should drink about two Liters of liquid each day (about 9 eight-ounce cups). For most people, healthy liquids to drink are water, juices, and milk. If patient is used to drinking liquids that contain caffeine, such as coffee, these can also be counted in your daily liquid amount. Try to drink enough liquid each day, and not just when you feel thirst. Medicines: patient may need any of the following:Antihistamines: These are medicines used to treat allergic reactions or allergies. Antihistamines may also be given to help decrease itching. Antinausea medicine: This medicine may be given to calm stomach and prevent vomiting. Pain medicine: may be given to take away or decrease the pain.Vital signs: check the blood pressure, heart rate, breathing rate, and temperature of the patient.Take a post void radiograph to get an idea regarding the presence of remaining contrast agent in Urinary bladder.If adverse reactions are encountered during examination ask patient to make a note of that and should inform doctor during future examinations.

Pashchat karma after Fistulogram-

Fistulogram is a radiograph of fistulous tract injected with contrast agent.Advice patient to take sitz bath after examination, to avoid local inflammation due to reaction with contrast agent.All the instruments and attachments should be removed carefully.Clean the area properly with sterile gauze piece.If there is discharge from the wound apply adhesive dressing.Clean instruments and examination table properly.If there is any adverse reaction due to contrast, that should managed accordingly.

Pashchat karma after HSG-

HSG is also a radiographic technique in which contrast agent is injected into the uterus using HSG cannula.After the examination clean the area properly and remove all the instruments carefully.Advice to change the cloths and patient should take proper rest after the examination is complete.Apply fomentation to lower abdomen to reduce pain.

If required, analgesics may also be used.Reactions due to administered contrast should be monitored accordingly if encountered.

Pashchat karma after angiography-

Assist the patient in positioning for their comfort while on bed rest, keeping the affected

extremity straight.Monitor vital signs as ordered on the post cath orders by physician.

Check the patient's colour, temperature and peripheral pulses below the puncture site.

Keep patient's limb straight while on bed rest to reduce the risk of bleeding if a groin site was used.Have a 5 pound sand bag available along with a single use covering for manual pressure to the site for 10-15 mins if bleeding occurs at the site.

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CONFERENCE CALENDER:

Title	Location	Start Date	End Date
Society of Academic Anesthesiology Associations SAAA 2012 Annual Meeting	San Francisco, California United States of America	November 02, 2012	November 04, 2012
Ophthalmic Block Hands-On workshop	Orlando, Florida United States of America	November 03, 2012	November 04, 2012
XXI Venezuelan Congress of Anesthesiology Valencia 2012	Valencia, Other Venezuela	November 06, 2012	November 09, 2012
XXI Venezuelan Congress of Anesthesiology Valencia 2012	Valencia, Other Venezuela	November 06, 2012	November 09, 2012
Anesthesia Update	Sydney, Other Australia	November 06, 2012	November 17, 2012
23rd Annual UC Davis Anesthesiology Upate	Monterey, California United States of America	November 09, 2012	November 11, 2012
Midwest Anesthesiology Conference	Chicago, Illinois United States of America	November 10, 2012	November 10, 2012
Medical Spanish for the Busy Health Care Professional	Guanacaste, Other Costa Rica	November 12, 2012	November 16, 2012
Topics in Anesthesia	Ft. Lauderdale, Florida United States of America	November 17, 2012	November 24, 2012

SANGYAHARAN SHODH

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Form IV (See Rule 8)

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