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EDITORIAL

The 14th Volume is now in your hand. Till date 28 issues are published regularly with scientific research papers and news of our society. Our Association is making milestones day by day and we are going to organize the 15th National and 3rd International Conference at KLE University's Shri B. M.K. Ayurveda Mahavidyalaya Post Graduate Research Centre, Shahapur, Belgaum,Karnataka,India on 5-7th February 2012.

This institute is an emerging 2nd place in India where C.C.I.M. recognized P.G. in Sangyaharan was started from last year. The 2nd batch is admitted this year. We hope P.G. in Sangyaharan will now started at more places very soon. But it is to be kept in mind that we have not to compromise with quality.

Ayurvedic Sangyaharak –Anesthesiologists are known as most competent anesthetist in the field due to their teaching and training only. We have to maintain the quality and have to produce only safe and competent Sangyaharak. There is no space for 2nd or 3rd grade Sangyaharak at least in Ayurved. Why? Because this is time to prove our self. If we will fail we will lose the confidence of our governing body-C.C.I.M. Therefore please visit in a large number at Belgaum to encourage them, to appreciate them, to evaluate our self and to search out the next goal. Please visit www.kleayurveda.com for conference schedule and Registration. A tentative programme is included in this issue on News pages.

JAI HIND JAI SANGYAHARAN JAY AYURVED

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Role of Padmaka (*Prunus cerasoide*) As Preanaesthetic Agent In Post Operative Pain Management Under Regional Anaesthesia

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Abstract: The concept of pain and its modalities were very well understood to the pioneers of Ayurveda. A large number of herbal analgesics, with their specific indications in various surgical conditions have been described by Sushruta Samhita for the treatment of pain and its complications. Charaka has also mentioned a group of such drugs under the heading of Vedanasthapaka –meaning that to abolish the pain and its ill effect and to establish the pleasant feelings. For the present clinical trial, drugs mentioned in Vedanasthapaka group were thoroughly reviewed and the drug Padmaka was selected .The study was conducted in 60 patients of ASA grade I & II , operated under regional anaesthesia (LSAB) and the efficacy of analgesic property of the trial herbal drug was compared with Tramadol . Padmaka , in the form of Ghansatwa (dried powder of decoction) used orally has shown analgesic properties unlike Tramadol with least or no any serious side effects.

Key Words: Vedanasthapaka, Analgesics, Padmaka, Physiological, Psycological, Trauma, Surgery and Trauma.

Introduction: Pain has been considered as discarded affective state brought into being by chemical or mechanical changes in various body tissues. Pain has its origin along with the life and hence scientists of the whole universe are looking for a noble painkiller. Physical and psychological trauma of the surgical treatment not only causes the pain but also induces a lot of physiological alterations resulting in multidimensional picture of pain. A series of continuous researches are going on to pacify the pain and its consequences but none of the presently available synthetic / semi synthetic drugs are free from their documented ill effects.

The study also supports the concept of pain and its treatment modalities mentioned in our ancient literatures.

Material and Method -

Collection & Preparation of Drug:

The stem bark of Padmaka (Prunus cerasoide) was procured from Ayurvedic Pharmacy, Rajeev Gandhi Post Graduate Ayurvedic College, Paprola, H.P, and its validity was

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confirmed by the Department of Dravya Guna, IMS, BHU. The ghansatva of Padmaka bark was prepared in Ayurvedic pharmacy,I.M.S.,BHU,Varanasi,.The yield of prepared Ghansatva was weighed and dose was calculated as per text. For medication facilities the drug was formulated in the form of vati (Tab) 500 mg each.

Dose of Padmaka Ghanvati: Padmaka Ghanvati in the dose of 1 gm (2 tablet) at 10 p.m. of preoperative night and 1 gm (2 tablet) 2 hours before the induction of anaesthesia was the standard dose regime for the trial group.

Selection of the Patients -

In the present study 60 patients of either sex of A.S.A grade I and II undergoing, Herniotomy with Herniorraphy, Hernioplasty, Skin grafting, Scrotoplasty, pPeniloplasty ,Primary threading in Fistula in ano, Haemorrhoidectomy, and Pilonidal sinus were selected from the Sangyaharan OPD, Department of Shalya Tanta, S.S. Hospital, Institute of Medical Sciences, Banaras Hindu University, VARANASI. The patients, selected were of the standard population i.e. of narrow age, weight, height and physique differences. The patients were examined before giving premedication to ensure that no serious pathological conditions existed, which could influence the various parameter of this study. Patients of both the groups were given regional anaesthesia (LSAB). The patients with deformities of spinal cord, neurological and mental disturbances, hepatic diseases, renal diseases, cardiovascular diseases, hypersensitive to local anaesthetics, Tramadol and with local infection were excluded. The study was conducted after proper written consent of individual patients explaining the methodology and aim of the study.

Grouping of Patients

Total 60 patient selected for the present clinical study were randomly divided in two equal and identical groups consisting of 30 patient in each group.

Group- I (CONTROL) – The patients of group I (Control group) were given tablet Tramadol (50mg) at 10 p.m. of preoperative night and 2 hours before operation orally with an ounce of plain water and surgery was done under spinal anaesthesia.

Group- II (TRIAL) – The patients of group II (Trial group) were given 2 tablets of Padmaka ganvati(500mg each) at 10 p.m. of preoperative night and 2 hours before operation orally with an ounce of plain water and surgery was done under spinal anaesthesia. However injection Glycopyrrolate 0.2 mg I.M. was given 60 minutes before operation to the patients of each groups.

The clinical assessment of patients in the present study was made under the following parameters:

1. Evaluation of psycho-physiological effect on the patients before and after premedication.
2. Effects during peri operative period
3. Observations during immediate post operative recovery period.
4. Requirement time of 1st dose of analgesic drug
5. Any other complication / ill effects of both the premedicants

Observation and Result -

1. Age, Weight and Height -

After proper pre anesthetic check up, when patient were found clinically fit for regional anaesthesia, they were randomly divided in two equal groups consisting of 30 patients in each group. It was observed that in both the groups mean age, weight and height of the patients were statistically comparable .

2. Effect on Mean Blood Pressure -

The observations show that mean of MBP in-group I (Control) before and after premedication was 93.7767 ± 7.1856 and 99.600 ± 5.5931 (mmHg) respectively, while in group II (Trial) it was 93.9000 ± 6.34 and 100.003 ± 5.559 (mmHg) respectively. Again mean of MBP in group I during Intraoperative and post operative was 90.667 ± 4.1556 (mmHg) and 85.7 ± 5.370 (mmHg) while in group II it was 92.007 ± 6.5251 (mmHg) and 88.067 ±0.667 (mmHg) respectively. The comparison of mean of M.B.P. (mm Hg) between

the groups (I and II) at the level of study - before premedication, after premedication, during Perioperative period and in post operative was insignificant.

However alteration in the mean of M.B.P during the whole course of the observation compared within the group was found statistically insignificant except before premedication vs. During peri operative period, before premedication vs after premedication in the both groups. As per the data of observation the mild increase in the M.B.P, after premedication in the patients of both groups is because of known pharmacological action of the drug used as premedicant (anticholinergic drug). However mild fall in blood pressure during perioperative period in patient of both groups is because of sympathetic block induced by spinal analgesia. Though in both the conditions mild fall and rise in M.B.P is statistically significant but it is not that much which can harm the patients. Further observation on M.B.P during post operative period was insignificant and comparable to that of before premedication in patients of both the group.

On the basis of the above observations it can be attributed that trial drug Padmaka did not produce any serious CVS ill effects during the course of study.

3. Effect on Pulse Rate:

Study shows that mean pulse rate/min in group- I, before and after premedication was 87.266 ± 5.28 and 94.733 ± 5.768 respectively while in group- II, it was 86.866 ± 5.76 and 91.233 ± 3.22 respectively. Again mean pulse rate/min in group- I during Intra operative and Post operative period was 97.566 ± 13.0929 and 88.400 ± 1.8494 while in group- II it was 91.533 ± 22.4918 and 87.433 ± 5.991respectively. The acceleration in the mean pulse rate in patients of both the groups (I and II) after premedication is a well known pharmacological response of anticholinergic drug (Glycopyrrolate) used along with other (control and trial) premedicant.The comparison of mean pulse rate between the groups (I and II) at the level of before premedication, after premedication, during Perioperative and in post operative period was statistically insignificant.

The acceleration in mean pulse rate after premedication in patient of both the groups was induced by glycopyrrolate .However comparatively less and insignificant acceleration of mean pulse rate during perioperative period was observed in patients of group-

II which was significant in patients in group-I as compare to before premedication. The insignificant rise in the pulse rate in group-II during perioperative period may be because of the trial drug which might be capable to keep doshas in homeostatic status and kept the CVS toward the normal status. Further there was no any significant variation of mean pulse rate during post operative period in patients of both groups. Above observations of trial drug Padmaka on mean pulse rate during the course of study support the view (Kaphapitta shamak properties) the ancient scholars.

4. Effect on Respiratory rate:

The observations show that mean respiratory rate/min in group- I at all the four level before premedication (A), after premedication (B) durin Intra operative (C) and Post operatively (D) is 17.26 ± 1.014, 17.266 ± 1.655 and 17.200 ± 1.0303, 17.133 ± 1.0742 respectively, while in group II it is 17.433 ± 1.655, 17.433 ± 1.65 and 17.16 ± 1.01, 17.40 ± 0.93, respectively. The comparison of mean respiratory rate/min between the groups at the level of before premedication, after premedication during peri operative period and in postoperative period was observed identical and statistically insignificant. As per mean respiratory rate/min within the group at the level of before premedication vs. after premedication, before premedication vs. Intra operative and before premedication vs. Postoperative period were identical in patients of both the groups. The above observations prove that there is no untoward effect of trial or control drugs on the respiratory system.

5. Effect on Body temperature (Axillaries):

The observations of the study show that mean Axillaries temperature (^{o}F) in group-I, at all four levels- before premedication (A), after premedication (B), during Intra operative (C) and post operative (D) are 98.12 ± 0.59, 99.50 ± 0.51, 98.42 ± 0.43 and 98.27 ± 0.33, respectively, while in group-A II it was 98.38 ± 0.55, 99.72 ± 0.95, 98.46 ± 0.41 and 98.35 ± 0.25, respectively. The observation recorded reveal that changes in mean axillary temperature at different steps of the study in patients of group I and group II were almost identical and insignificant when compared between groups.

However, a statistically significant mild rise in temperature after premedication was observed in patients of both the groups which is a known pharmacological

action of drug (anticholinergic drug) used as premedicant. The observations unfold the fact that trial drug Padmaka was alsocapable to control the rise of body temperature unlike tab. Tramadol, which mie ofght be because of analgesic its properties and thus supporting the view of Ayurvedic references (.Vadanasthapana).

6. Effect on Oxygen saturation (SPO2):

Study show that mean SPO2 percentage in group- I, before and after premedication was 98.30 ± 0.466 and 98.95 ± 0.94, respectively while in group- II, it was 98.40 ± 0.563 and 99.10 ± 0.79, respectively. Again percentage of mean Oxygen saturation in group- I during Intra oprative and Post oprative was 98.066 ± 0.2533 and 98.233 ± 0.431 while in group- II it was 98.6335 ± 0.4903 and 98.033 ± 0.183 respectively. While observing the response of both the premedicants on mean arterial saturation during full course of study it was noted that both the premedicant did not exert any significant untoward effects.

Desirable and Undesirable Effects:

The observations made on during the course of study suggest that the desirable effects of both the premedicant viz-.**sedation** 39.3% and 28.1% in patient of group I & II respectively, which was statistically identical and insignificant between the groups. **Lack of apprehension** was found 21.3% and 9.4%in patient of group I&II respectively the difference between the group was statistically insignificant. **Lack of excitement** was 35.5% and 15.5 % in patient of group I&II respectively which was statistically insignificant when compare between the groups. Sedation, allaying of apprehension and excitement are the desired property of any drug used as premedicant. The observation recorded as desirable effect of both premedicant fulfill the demand upto some extant.

Further it was also noted that trial drug Padmak was capable to produce such qualities comparable to that of Tramadol. Further on analyzing the undesired response of both the premedicants it was found that dizziness 7.1%, nausea 10.3% and vomiting 3.6% in control group patients and none of the patients in trial group complained dizziness however nausea in one patient and vomiting in one patient was observed in trial group. The undesired response like dizziness, nausea and vomiting in control group is a documented pharmacological action of Tramadol which was almost absent or negligible in patient's premedicated with Padmaka the trial drug.

8. Total Surgical and Anesthetic Time

Mean surgical time in group-I and group-II expressed in minutes were 38.6429 ± 13.2426 and 40.65 ± 11.856, respectively. The statistical comparison between the groups is insignificant. Mean duration of anaesthesia in minutes in group-I and II was 184.2851 ± 22.67 and 183.12 ± 17.67 respectively. The response of analgesic premedicant plays a definite role during post operative period, with reference to nature of surgery, duration of surgery and action duration of regional anesthetic. Observations recorded suggest that total surgical and

anesthetic duration was identical in both groups and statistically insignificant when compare between the groups.

9. Post Anesthetic Sequel:

Common post anesthetic sequel are psycho-physiological surgical intervention, anesthetic drugs and technique used, common of them are nausea, vomiting, dizziness and sedation etc. The observations recorded during postoperative period sedation 25% and 15.6% and nausea 8.2% and 3.1% in patients of groups I and II respectively. However, complaint of vomiting 7.1%, dizziness 14.3% was observed only in patient of group I. None of the patient of both the groups complained other complications like dyspepsia. On the basis of the above observations the post operative sequel were minimal and insignificant develop because of either region. These untoward effects did not show any serious impact which can jeopardize the life of patients.

10. Requirement time of first dose of analgesic drugs:

The observations show the difference of mean requirement time (minutes) of the first dose of the analgesic drug between groups I (Control) vs. II (Trial) and was insignificant statistically. The requirement of post operative analgesia is felt under regional anaesthesia when the effect of anesthetic drug becoming wash out and patients start feeling pain. The observation recorded suggest that the first dose of analgesia 223 ± 42.30 and 239 ± 39.65 in patient of group I and group II respectively which was comparable and insignificant.

This observation also suggests Vadanasthapaka properties of Padmaka as mentioned in the text of Ayurveda.

Conclusion:

On the basis of the above observations made on patients operated under lumbar subarachnoid block this can be concluded-

- The trial drug Padmaka in the form of Ghanvati has shown Vedanahar (analgesic) properties most like tabTramadol used as premedicants.

- Padmaka in the form of Ghanvati did not produce any significant untoward effects when used as premedicant.
- No significant changes were observed in mean blood pressure, pulse rate, respiratory rate, temperature, oxygen saturation and during the whole course of the clinical study and thus safe to CVS and respiratory system.
- The trial drug Padmak in the form of Ghanvati is equally effective analgesic for post operative pain management as with that of Tramadol.
- Further, a more detailed study on a large number of samples is required to evaluate analgesic and unfold other properties of trial drug used as premedicant.

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Anesthetic Management in Diabetic Patients

**** Pandey K K, ** Vimal Kumar , *** Singh Shailendra***

Introduction

Diabetes is a multisystem disorder caused by a relative or absolute lack of insulin. The prevalence of diabetes is approximately 7%. and the majority (85%) have type II diabetes. With increasing obesity, reduced exercise and alterations in dietary habits and life style the prevalence of diabetes is increasing. For every case of diagnosed type II diabetes, there is another undiagnosed individual. Diabetic patients undergoing for surgical procedure may encounter the problems related to autonomic, peripheral, cardiovascular, respiratory, GIT, renal, immunological and endocrinal (metabolic) systems which are commonly involved

Types of Diabetes

Type-I- insulin dependent or juvenile onset diabetes, where insulin is required to prevent hyperglycaemia.

1. Type-II- maturity onset or noninsulin dependent diabetes, where there is relative deficiency of insulin or insulin resistance. This is usually seen in obese individuals and managed with diet control, weight loss and oral hypoglycaemic.
2. Type-III-gestational diabetes-it occurs during pregnancy, strict control of blood sugar is essential to prevent foetal and maternal complications.
3. Type-IV-secondary to pancreatic disease (pancreatitis) or endocrinopathies (cushing syndrome, acromegaly).
4. Pathophysiology :The cleaving of pro insulin from the beta cells of the pancreas produces the peptide hormone insulin. Insulin has both excitatory and inhibitory effects. For example, it simultaneously stimulates lipogenesis from glucose whilst inhibiting lipolysis. It is the *inhibitory* actions, such as the tonic inhibition of lipolysis, proteolysis, glycogenolysis, gluconeogenesis and ketogenesis, which are physiologically more important. Thus, the fasting hyperglycaemia of diabetes is due to predominantly overproduction of glucose by the liver as opposed to the commonly thought, underutilisation of glucose by peripheral tissues. In effect, insulin "keeps the brakes on" a number of key metabolic processes which prevent over-secretion of the "anti-insulin" hormones viz.-glucagon, cortisol, growth hormone and catecholamines. These hormones also happen to be released as part of the "stress response" to surgical procedures.

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In the absence of insulin, the "brake" is removed and a sort of metabolic mayhem ensues. The resulting hyperglycemia leads to an osmotic diuresis and dehydration with associated sodium and potassium loss. In the absence of insulin (type 1 DM), ketogeneis also occurs with associated metabolic acidemia – a state of diabetic ketoacidosis (DKA). If there is some residual insulin activity (type II DM), enough to inhibit lipolysis and ketogenesis but not gluconeogenesis then a hyperosmolar non-ketotic (HONK) diabetic coma can ensue. Both the situations are medical emergencies with a high mortality; the specific treatments are beyond this review.

Chronic hyperglycaemia results in microvascular (including proliferative retinopathy and diabetic nephropathy), neuropathic (autonomic and peripheral neuropathies) and macrovascular (accelerated atherosclerosis) complications. Improved glycaemic control has a beneficial effect on the microvascular and neuropathic complications in type II diabetes. Blood pressure control is particularly important to prevent macrovascular complications. It is the chronic complications that need a careful assessment during preoperative period**.**

Complications of diabetes:

Microvascular complications are commoner in type I diabetes whereas macrovascular complications are commoner in type II DM.

Microvascular Complications- Eye disease- Retinopathy, macular edema, cataract, glaucoma, Neuropathy:- Sensory and motor , autonomic neuropathies and Nephropathies .

Macrovascular Complications- Coronary artery disease, peripheral vascular disease, cerebrovascular disease, Gastrointestinal- gastro paresis, diarrhoea, Genitourinary-uropathies, sexual dysfunctions and dermatological problems

Anesthesia Standpoints for Diabetics

Preoperative Assessment

A standard assessment is required with specific attention to the following-

Autonomic Neuropathy

- Detectable in up to 40% of type 1 diabetics ,Signs of postural hypotension,Gastroparesis, Gustatory sweating,Nocturnal diarrhoea,
- Increase in Heart rate < 10 beats/minute (Normal- >10 beat/min) in response to deep breathing.
- Absence of warning sign of hypoglycaemia, hypovolaemia and hypothermia because of absence of sympathetic nervous system response.

- Decrease in core body temperature -may cause silent MI or sudden cardiac death in perioperative period.
- Hypertension, .Painless myocardial ischemia, .Orthostatic hypotension, .Reduced heart rate increament response to atropine, Resting tachycardia, Neurogenic bladder and Lack of sweating.
- Impotence.

Peripheral Neuropathy -

- "Glove and stocking" type of neuropathy.
- Mononeuritis multiplex ,
- Painful sensory neuropathies.
- Pressure sores
- likely to develop new neurological deficits after the spinal or epidural anesthesia.

Cardiovascular System-

- More prone to ischemic heart disease (IHD),
- Hypertension,
- Peripheral vascular disease,
- Cerebrovascular disease,
- Cardiomyopathy and
- Perioperative myocardial infarction.
- Ischaemia may be "silent" as a result of neuropathy.
- Autonomic neuropathy can result in sudden tachycardia, bradycardia, postural hypotension and profound hypotension after central neuraxial blockade.

Respiratory System-

- More prone to respiratory infections
- Abnormal spirometry.
- Chest physiotherapy, humidified oxygen and bronchodilators should be considered.

Airway

Glycosylation of collagen in the cervical and temporo-mandibular joints (stiff joint syndrome) .Difficulty in intubation to 90 degrees at the wrist joint.

Gastrointestinal System-

- Gastroparesis- characterised by a delay in gastric emptying.
- Increased gastric contents increase the risk of aspiration.
- Prescribe an H_2 antagonist such as Ranitidine 150mg and Metoclopramide 10mg, at least 2 hours preoperatively. .

Immune system

- Prone to all types of infection.
- Perform all invasive procedures with full asepsis.

Metabolic Disorders -

- Osmotic diuresis,
- Hypovolaemia,
- Keto acidosis.

Others-

Autonomic neuropathy predisposes to hypothermia under anaesthesia. Diabetics are prone to cataracts and retinopathy. Prevent surges in blood pressure, for example at induction, as this might cause rupture of the new retinal vessels.

Control of Blood Sugar Level (Hypoglycemic Therapy) –

Type 1 diabetics always require insulin.

- Insulin can be extracted from bovine or porcine pancreas, or more commonly now, synthesised using recombinant DNA technology.
- There are three types of insulin preparation, each classified by its duration of action.
- Soluble insulin has a rapid onset and short duration of action. Intermediate and longer acting insulin's are mixed with protamine or zinc to delay absorption, are insoluble and should only be given S/C.

Type 2 diabetics can be managed with diet alone.

- Diet and oral agents or insulin, depending on the degree of insulin resistance and residual insulin activity.

Dietary advice and weight loss is the mainstay of therapy

Oral Hypoglycemic	Drugs	Mechanism of action	Usage	Watch for
Sulphonylureas	Gliclazide, *t1*/2=8-20hrs Tolbutamide *t1*/2= 6-8hrs	Increases insulin release	Variable half-lives. Common	Drug interaction

Biguanides	Metformin *t1*/2= 1.5-3hrs	Potentiates insulin	Commonest 1st line if obese	Lactic acidosis
Thiazolidinediones	Rosiglitazone *t1*/2= 4hr	Peripheral insulin action	Add on therapy	Liver function
Glucosidase Inhibitors	Acarbose *t1*/2=4-8hrs	Delays rise in postprandial	Add on therapy	Liver function

Relevant Pre-Operative Investigations-

- Fasting blood suger-126 mg% or more
- Random blood suger-200 mg% or more
- Glycosylated haemoglobin-9% or more indicates bad response to therapy.
- Other related investigations viz.-blood urea, serum creatnin, sr.electrolyte, urine RM, ECG, CBC, LFT, RFT.X ray chest , BT,CTand HIV.

Anesthesia Technique -

Regional anaesthesia should be preferred whenever feasible because of extra advantages as- Patient can alert the anesthesiologist if he/she feels any discomfort. Decreased stress response to surgery.

Peri-operative management

Premedication-

- Should be scheduled as first case to avoid metabolic complications.
- Prophylaxis against aspiration should be given (metoclopromide) to cope up delayed gastric emptying.
- Other anxiolytics, antisalagogues can be given.

Baseline Monitoring Prior to Induction of Anaesthesia-

- ECG-to detect any myocardial complications.
- Blood Sugar-to be maintained between 120 to 180 mg% to avoid hypoglycaemia.
- Other routine monitoring-BP,PR,RR,SPO2, EtCO2,Temperature and urine output.

Induction of Anaesthesia-

- Thiopentone
- Propofol
- Avoid ketamine as it raises blood sugar level.

Maintinance-

- N2O+O2
- Isoflurane/halothane/desflurane can be used.

- Avoid ether, trielene and chloroform as they increase blood sugar level.
- Perioperative bradycardia and hypotension if developes - I.V. adrenalin remains choice of drug as atropine and ephedrine sometimes do not respond in autonomic neuropathies.

Management of Blood Glucose level -

Glucotoxicity –*Glucose itself may be toxic because high levels can promote nonenzymatic glycosylation reactions that lead to the formation of abnormal proteins. These proteins may weaken endothelial junctions and decrease elastance, which is responsible for the stiff joint syndrome (difficult intubation secondary to fixation of the atlanto-occipital joint), as well as decrease wound-healing and tensile strength.*

1. *Furthermore, elevations in glucose may increase macroglobulin production by the liver (which would increase blood viscosity) and promote intracellular swelling by favouring the production of non diffusible, large molecules (such as sorbitol). Some drug therapies (e.g., aldose reductase inhibitors) endeavour to decrease intracellular swelling by inhibiting the formation of such large molecules.*
2. *Glycaemia also disrupts autoregulation. Glucose-induced vasodilatation prevents target organs from protecting against increases in systemic BP. A glycosylated hemoglobin level of 8.1% is the threshold at which the risk for microalbuminuria increases logarithmically. A person with type 1 diabetes who has microalbuminuria of greater than 29 mg/day has an 80% chance of experiencing renal insufficiency. The threshold for glycemic toxicity differs for various vascular beds. For example, the value of glycosylated haemoglobin threshold for retinopathy is 8.5% to 9.0% (12.5 mmol/L or 225 mg/dL), and that for cardiovascular disease is an average blood glucose value of 5.4 mmol/L (96 mg/dL).*

Thus, different degrees of hyperglycemia may cause different vascular damages or certain degrees of glycaemia are associated with other risk factors for vascular disease. Another view is that perhaps severe hyperglycemia and microalbuminuria are simply concomitant effects of a common underlying cause. For instance, diabetics in whom microalbuminuria develops are more resistant to insulin, insulin resistance is associated with microalbuminuria in first-degree relatives of type II diabetics, and persons who are normoglycemic but subsequently have clinical diabetes are at risk for atherogenesis.

The primary goal of perioperative blood glucose maintenance is to avoid hypoglycaemia. However loose blood sugar control (more than 180 mg%) has been associated with hyperosmolarity, infection and poor wound healing. More important metabolic control may be lost particularly in type II DM patients.

1. For minor procedures (upto 20 min.) -Where patient is likely to be allowed oral intake in couple of hours postoperatively, oral hypoglycaemic to be allowed omitting morning dose before operation.

2. For major procedures - Patients should be shifted on insulin 48 hours before operation as following fashions-

A- Classic : "Non–Tight Control" Regimen:
Aim: To prevent hypoglycemia, ketoacidosis, and hyperosmolar states.
Protocol:
1. On the day before surgery, the patient should be given nothing by mouth (NPO) after midnight; a 13-oz glass of clear orange juice should be at the bedside or in the car for emergency use.
2. At 6 AM on the day of surgery, infuse a solution of intravenous fluids containing 5% dextrose through plastic cannula at a rate of 125 mL/hr/70 kg body weight.
3. After starting the intravenous infusion, give half the usual morning insulin dose (and the usual type of insulin) subcutaneously.
4. Continue 5% dextrose solutions through the operative period and give at least 125 mL/hr/70 kg body weight.
5. In the recovery room, monitor blood glucose concentrations and treat on a sliding scale.
Such a regimen has been found to meet its goals.
"Tight Control" Regimen
Aim: To keep plasma glucose levels at 79 to 120 mg/dL. Maintenance of such levels may improve wound healing and prevent wound infections, improve neurologic outcome after global or focal CNS ischemic insults, or improve weaning from cardiopulmonary bypass.
Protocol:
1. On the evening before surgery, determine the pre-prandial blood glucose level .
2. Through a plastic cannula, begin an intravenous infusion of 5% dextrose in water at a rate of 50 mL/hr/70 kg body weight.
3. "Piggyback" an infusion of regular insulin (50 units in 250 mL or 0.9% sodium chloride) to the dextrose infusion with an infusion pump (Fig. 35-1). Before attaching this piggyback line to the dextrose infusion, flush the line with 60 mL of infusion mixture and discard the flushing solution. This approach saturates insulin binding sites on the tubing.
4. Set the infusion rate by using the following equation: Insulin (U/hr) = plasma glucose (mg/dL)/150. (Note: The denominator should be 100 if the patient is taking corticosteroids, e.g., 10 mg of prednisolone a day or its equivalent, not to include inhaled steroids, or has a body mass index of ≥35.)
5. Repeat blood glucose measurements every 4 hours as needed, and adjust insulin appropriately to obtain blood glucose levels of 100 to 200 mg/dL.
6. On the day of surgery, intraoperative fluids and electrolytes are managed by continued administration of non–dextrose-containing solutions, as described in steps 3 and 4.
7. Determine the plasma glucose level at the start of surgery and every 1 to 2 hours for the rest of the 24-hour period. Adjust the insulin dosage appropriately.

B: An alternative method to administer regular insulin as a continuous infusion.the advantage of this technique is more precise control of insulin delivery. Here 250 units of regular insulin is added to 250 ml of NS and administered according to following formula-

Unit/hr=plasma glucose (mg/dl)/150

Post-operative-management

Careful monitoring of –

Blood sugar level,BP,PR,RR,sPO2,input/output charting, etc.

- Reason for close monitoring is to avoid progression of stress hyperglycaemia in recovery period.
- If large volume of lactate containing IV fluid has been administered intraoperatively, blood sugar will tend to rise 24 to 48 hrs post operatively as liver convert lactate to glucose.
- Close monitoring of PONV as these patients era very much prone to nausea and vomiting because of pre existing gastro paresis.

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Diagnosis of Breast Cancer in Ayurveda

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Abstract: Cancer is a very common pathological condition leading to death. It occurs in any part of Body and generally male are more vurnable to cancer then female. Even are though females are also victim for some special cancer ie Breast and cervical cancer. Cervical cancer is more common in India but breast cancer also play a major role in cancer death. There are different presentations of breast disorders according to Ayurveda. There are many tool and Techniques also present to diagnose cancer pathology of breast. In this we discuss the diagnostical aspects of breast cancer in integrated way.

Keyword: Cancer, Breast cancer, Diagnosis

Introduction:

There are many causes of Breast lump (***Stana Vriddhi***). Breast cancer (***Stanarbuda***) is also a condition in which Breast lump is found. That's why it is important to evaluate all the condition in which there is Breast enlargement or Breast lump.

There are many causes of breast lump and similar disease which are given the related sign & symptoms. Surgeon should examine the case of breast lump thoroughly before declaration of breast cancer. He should consider all aspects of ***Trividha pareeksha*** *ie* ***Darshana***(Inspection), ***Sparshana***(Palpation) *and* ***Prashna***(History).

Prashna pareeksha (History)-

First of all take a proper history (***Prasna Pareeksha***) to know about the diseases. Sign & Symptom play a major role in diagnosis of any disease. Breast lump, breast pain (*Mastalgia*) and breast discharge are main presentations.

(A) **Breast Lump:** If patient complains breast lump it may has sudden or gradual onset. Breast lump appears often a sudden or slow repetitive trauma then it may be haematoma or fat necrosis (***Vasa Parigalna***). In Ayurveda it may be correlated with

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(B) ***Mamsarbuda.***

If breast lump is slow growing and gives a long history then it may be categorised under ***Saumya Arbuda*** *or* ***Kaphaya Arbuda***.

It breast lump is fast growing and gives the recent history of onset. Then there is fair chance of breast cancer and this condition resembles to ***Raktarbuda*** in Ayurveda.

(C) **Breast Pain /Mastalgia:** Breast pain is second most common symptom in Breast Disorders. Pain is index of underlying breast inflammation. ***Stana Vidradhi*** (Breast Abscess) and ***Stana shotha*** (Mastitis) are two common disease followed by inflammation.

In initial stage of breast cancer no pain at all but in advance stage of cancer, pain is a commoner symptom. This condition can be correlated with ***Sannipatic Stana roga.***

(D) **Breast discharge:** Beside Breast lump & pain breast nipple discharge is anther presentation of breast disorder. Then are different types of discharge coming out on pressing the breast nipple it fresh blood, pus, serous, milk or other secretion.

In Ayurveda ***Vataj Stanaroga*** manifest with clear serous discharge, it may correlate with fibroadenosis. Whitish pus discharge may found in chronic breast Abscess (***Stana Vidradhi***) or galactocele.

Darshan **&** ***Sparshana*** **(local examination)**

After a thorough history, local examination (***Darshan*** & ***Sparshana***) has its own importance in diagnosis. To examine the breast disorder, both breast should be properly exposed. In examination one should give his more attention to skin, position and shape of breast, nipple, areola and axilla. After inspection, with the help of palpation we can able to know about temperature of breast skin, size of breast lump, site, margin, surface, consistency of breast lump. By the fingers we know about pitting oedema (***Nimna darshanam***), fluctuation (***Pooya pratiti***) and fixity of lump with skin and muscle of chest wall, beside this we can palpate the lymph node of axillary region.

By the history and local examination we can reach up to gross diagnosis of breast disorder. To conform the condition there are some advance tool and techniques for actual diagnosis. These are -

(I) FNAC- Fine Needle Aspiration Cytology
(II) Mammography
(III) USG
(IV) X-ray
(V) C.T. Scan
(VI) Tumour Markers

With help of these investigations we can know the nature, actual size, and site of growth, stage, grade of breast cancer and in addition to this, can also know about metastasis by liver scan, bone scan etc.

Differential diagnosis

There are a list of disease occur in breast, in this paper we discuss in detail about following conditions.

(i) Traumatic fat necrosis (*Vasa Parigalana)*
(ii) Acute Mastitis (*Stana shotha*)
(iii) Breast abscess (*Stana Vidradhi*)
(iv) Breast cyst (*Stana Granthi*)
(v) Breast Tumour (*Stana Arbuda*)

(A) Traumatic fat Necrosis (*Aghataja Vasa Parigalana*)

In modern science it's cause is trauma. Due to this reason there is skin discolouration and there is painless breast lump. On palpation this is hard in consistency and surface is uneven. Occasionally it may resemble to benign tumour. On dissection of this kind of breast lump, whitish choky tissue appears.

According to *Acharya Sushruta* this condition is correlated with ***mamsarbuda***. After Trauma (***Musthi prahara***) the regional breast tissue get vitiated and a *shotha* is appeared which is characterised by mild pain, normal coloured, non suppurative, stony hard breast lump.

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(B) Acute Mastitis (*Stana Shotha*)

This condition is more common in lactating mother. Bacteria are main cause of this disease; these bacteria may spread from local milk duets or from systemic blood born infection. That's why in *Ayurveda* this condition categorised in two from *Nija* & *Agantuja*. In initial stage breast pain, swelling, skin discoloration, lymphadenopathy may present. This stage can be told as *Amavastha* of *Ekdeshiya Shotha* according to Ayurveda.

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If above situation can not treat properly it may lead to fulminant inflammation (***Pachyamanawastha***) and ultimately suppuration (***Pakvawastha***). Sever breast pain is main presentation. Prompt tenderness (*Sparsh Asahyata*) & brown radish discoloration (*Udumbarphala sadrish*) of breast are special presentation. Above symptoms can be categorised under *Pachyamanawastha* and *Pakvawastha.*

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(C) Chronic Abscess (Stana Jeerna Vidradhi)

An acute breast abscess may convert to chronic breast abscess, in absenc of proper treatment and excess use of antibiotics may also leads to chronic abscess formation. In this condition there is hard, slow growing painless breast enlargement. In Ayurveda this disease correlated with ***Kaphaja Vidradhi.***

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Sometimes there are great difficulty to differentiation between chronic abscess and malignancy of breast. To conform chronic breast abscess surgeon press the lump by finger, if there is dimpling and soft touch it conform the chronic breast abscess, breast cancer touch is hard in consistency. Aspiration by syringe is another tool to diagnose the breast abscess.

(D) Breast Cyst (*Stana Granthi*)-

There are many types of *Stana Granthi*-

1) Fibroadenosis
2) Haematoma
3) Galactocele
4) Hydatid Cyst
5) Lymph Cyst
6) Sero-cystic disease of Brodle etc.

These cystic diseases can be easily diagnosed by palpation and investigation procedure like FNAC.

(E) Breast Tumour (*Stana Arbuda*)

There are two types of breast tumour; Benign & malignant. In benign breast tumour fibroadenoma is commonest which is mainly found in teenagers and young females. It is mobile in nature axillary lymph nodes are not palpable. In Ayurveda this condition may correlated with ***Kaphaja Arbuda.***

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In other benign condition, cystosorcoma phylloides is common in adult lady at age of forty. In this condition there is whitish discharge from nipple, superficial veins appeared in breast.

Sometimes there is accumulation of fat in breast tissue condition known as lipoma. It is characterised by painless, soft, spongy and slow growing lump. It can be correlated with ***Medo Arbuda*** in Ayurveda.

Breast malignancies have many varieties. These are

- Schirrhous Carcinoma ,Atrophic schirrhous,Medullary Carcinoma,Ductal Carcinoma,Acute lactation Carcinoma
- Paget's Disease .These breast tumours are generally painless, stony hard, diffuse margin, uneven surface and may fix to skin and muscles of chest wall. Due to this region breast skin may resembles to skin of orange (Peud's Orange). In advance stage metastasis occurred in axillary lymph nodes, liver, lung and bones, due to this reason systemic manifestation of breast cancer appeared. This denotes poor prognosis of breast cancer. In Ayurveda this condition resembles to ***Sannipatic Stana Roga.***

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If there breast cancer ruptured a big ulcer formation occurred on breast due to this reason there is continuous bleeding. This condition can be told as ***Raktarbuda*** in Ayurveda.

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In Ayurvedic text there are few more term used for cancer ie ***Dwi-Arbuda, Adhi-Arbuda.*** Another tumour develop nearby to a tumour, condition known as ***Adhi-Arbuda.*** If there is formation of new tumour simultaneously or one by one conditions known as ***Dwi-Arbuda.*** These two conditions are index of metastasis of Breast tumour.

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Conclusion-

There is an elaborative description of breast disease (***Stana Roga***) in Ayurveda. Breast diseases are mainly inflammatory (***Stana Shotha, Stana Vidradhi***) and solid & cystic tumour (***Stana Granthi, Stana Arbuda***) in nature. In Ayurvedic texts, the detail descriptions of symptoms of these diseases are present. Apart from symptomatology, a systematic method of examination of diseases documented in different Ayurvedic texts. There are many kind of examination methods ie ***Trividh Pareeksha, Shadavidh pareeksha, Ashtavidh pareeksha, Dashvidh pareeksha***. ***Trividh Pareeksha*** includes ***Darshana***(Inspection), ***Sparshana*** (Palpation) and ***Prashna*** (History). Ayurveda gives their special attention on diagnosis.

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MANAGEMENT OF FISTULA IN ANO BY UDUMBER KSHEERSUTRA

Varshney S.C.* Chaukhande M.S. ** Waghmare R.U. * Gupta S.J. **** TripathiA.K.******

Abstract: Bhagander is a pathological condition of perennial region. In modern science it is known as Fistula in _ Ano, it is abnormal communication between anal canal & rectum and perinial skin. It is generally begin with creptoglandular infection leading to peri – anal abcess. There are many modalities for treatment of fistula in ano but with higher recurrence rate. Kshar Sutra therapy is well established therapy, in which kshar Sutra preparation and pain during Kshar Sutra application are two most important factors. Udumber Sheers Sutra is a unique type of Kshar Sutra Which overcome above two problems. Preparation of this thread is very simple. A pilot study was done and cutting rate was observed during this study.
Keywords – Bhangander, Fistula in –Ano, Kshar Sutra, Udumber Ksheer Sutra.

INTRODUCTION:-Management of Fistula in – Ano by ksharsutra is now accepted all over the world and known as Despande P.J. Ksharsutra. It was prepared by latex of euphorbia nerifolia, turmeric and achyranthus aspera kshar and surgical lenin thread No. 20 through the result of above kshar sutra was very promising but some undesired effect. During course of treatment were observed by workers in most of the patients. Some times patients, develope severe inflammation around the fistulous track therefore keeping envied these problems on study was conducted to find out some other thread which can minimize th apain other undesired effect, Pilot study in the department of V.A.M has shown encouraging result by using Udumber Kshir Sutra. Preparation of this thread is very simple.

METHODS AND MATERIALS:- For the preparation of Udumber Kshir Sutra the Udumber Kshir is required and was obtained as stated below:

In the early morning with the help of sharp knife. cuts are given on a stem of Udumber tree. After that the milky, juice (Latex) comes out through it which was collected. A surgical linen thread No. 20 was smeared by above Udumber Kshir. The 11 coating of Udumber Kshir were applied. Such coat was applied. After 11 coating measured 0.91mm.

The preparation Sutra was then put into Kshar sutra cabinet to make it free from any contamination and for sterilization.800 subjects of fistula in Ano were selected for the study from O.P.D. of Shalya Department of Vidarbha Ayurved Hospital, Amravati from (1-1-1990 to 1-1—07)jan 1990to jan 2007 diagnosis was based on History of pain, pus discharge, swelling etc. local examination confirmed by proctoscopy and probing of Fistulas track. Fistulogram was also done; chest X- ray was done if a particular patients was suspected to have tuberculosis. The findings were recorded on standard proforma. On the preceding evening of the threading the patients was purt on herbal purgative power (Panshsakar churna, 6 gm with milk or hot water for bowel clearance) the subject was kept in

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lithotomy position and the perineum was cleaned with antiseptic solution. Left index finger was introduced into the rectum and with the help of right hand standard malleable probe was inserted into the fistulous track through external Fistula and canal and finally brought out of the anal opening. In blind external Fistula and canal was pierced by slight pressure at the most bulging part of area of mucous membrane which looked hyperemic and edematous on proctoscopy

The eye of the probe was threaded and taken out in the same direction and ends of threads were tied outside the anus. After threading and dressing, patients were discharged with advice to take panchsakar churna, (panchsakar churna constitutes of siny, Harad, sunth, saunf and sendhav) and hot sitz bath at least twice a day. Patients were subsequently followed up a weekly interval for changing the thread one ends of the fresh thread was tied to the hold thread, outside the knot. Old thread was cut on the inner side and gradually the thread easily pulled out by rail road techniques. The fresh thread was tied in a similar manner the process was repeated till the subject was cured completely. The length of the thread was measured every week and recorded to access the recovery.

The cutting rate per week (C.R.W.) was measured as –

$$CRW = \frac{\text{Total length of the Fistula}}{\text{Total treating day}} \rightarrow X7$$

OBSERVATIONS:-

Table –I: sex wise distribution of patients:

Table –I shows that out of 800 patients 690 were males and 110 females.

Sex	**No. of Patients**
Male	690
Female	110
Total	800

Table II: Age wise distribution of patients :-

Table II shown that out of 800 patients maximum number of patients are were from the age group 31-40 and 21 to 30, 3 patients were from the age of 0-10

S.N.	**Age**	**No. of Patients**
1	0-10	3
2	11-20	4
3	21-30	47
4	31-40	322
5	41-50	314
6	>51	107
TOTAL		800

Table – III: Distribution of patients according to duration of Fistula in –Ano :- Table III shown reveals that out of 800 patients 545 patients had the history of diseases less than 1 year, 193 had the history of diseases more than 1 year or 240 had the diseases from ¾ years and least 23 patients had the problem from than 5 years.

Duration of Fistula in Ano (in yrs)	**No. of Patients**
<1yr	545
1-2 yrs	192
3-4yrs	40
≤ 5yrs	23
Total = 800	

Table IV : diet wise distribution of patients :-

Table IV shows that out of 800 patients 225 patients were vegetarian and 575 were non- vegetarian. **Type of Diet**	**No. of patients**
Vegetarian	225
Non – Vegetarian	575
Total = 800	

Table- V: Area wise Distribution of patients:-

Table – V shows out of 800 patients 120 were from nural area and 680 from urban area.

Area	**No. of patients**
Rural	120
Urban	575
Total = 800	

Table VI: Distribution of patients according to type of fistula :-

Table VI shows that 240 patients low anal fistula 560 patients of high anal fistula.

Type of fistula	**No. of patients**
High anal	560
Low anal	240
Total = 800	

Table VII: fistula opening wise distribution of patients:-

Table VII shows that most of patients i.e 487 having only fistulous opening.

No. of Fistula opening	**No. of patients**
1	487
2	151
3	80
≤	82
Total = 800	

Table – VIII: cutting rate per week (CRW) in relation of number of fistulous openings:

Table VIII shows that cutting rate per week (CRW) was faster with increasing number of fistulous opening.

No. of Opening	**No. of patients**	**No. of tracks**	**Total Length**	**Mean length ± SD**	**CEW**
1	487	487	2561cm	5.25cm ± 4.25	0.58
2	151	302	2460.5cm	8.15cm ±1.57	0.91
3	80	240	1852cm	7.71cm ±2.54	1.30
4	82	360	2835cm	7.87cm ± 2.65	2.64

Table – IX regularity in attending the clinic and cutting rate per week (CRW):-

Table IX reveals that theCRW among the patients who attended the clinic regularly was significantly faster (P<0.05) compared to those irregular in follow up.

Regularity	No. of patients	CRW
Regular	506	1.08
Irregular	294	.66

Out of 800 patients 13 patients had recurrence

Discussion:- Application of Ksharsutra in fistulous track had been practiced by various workers [1.8] earlier and due to high rate of recurrence the practice was discontinued. Rochke et al[8] reported use of prolene threads but he also observed 50% recurrences.

In present study by Ksharsutra treatment out of 800 patients 13 patients had recurrences. The patients who had the recurrences in our study started cycling and bike against medical advice and irregular in treatment.

In the present study cutting rate per week was from .088 to 2.64 cm per week. This is very simple and safe technique it does not need any hospitalization, this treatment can be carried out even in the rural setup.

CONCLUSION:-

1. This is the very simple and safe technique.
2. It does not need nay hospitalization.
3. This treatment can be carried out even in the rural set up also.
4. Udumber Kshirsutra has been found very much effective.
5. It doesn't produce any discomfort.
6. This study will be helpful to find out efficacy of Udumber Kshirsutra with other type of Ksharsutra in cases of fistula in -ano

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AGNIKARMA FOR PAIN MANAGEMENT- CLINICAL STUDY

***D.N.Pande ** Dipak Poman ***S.Bhat *** Y.K.Mishra**

Abstract: A study was planned under two headings: Conceptual study & Clinical study. In Conceptual study a detailed study of the literature related to Agnikarma , vedana , pain, agnikarma procedure and drug had been carried out to have clear idea about the mechanism of the pain pathway and available procedure of management. Further Clinical study had been carried out by dividing patients in two groups :In Group A-Control – Minimum 20 cases & in Group B-Trial – Minimum 20 cases were selected randomly. The following line of management were carried out-

Group A Patients – With Allopathic line of treatment

Group B Patients – With Agnikarma Therapy.

Key words: Agni karma, pain pathway, vedana, parasurgical procedure.

Introduction: Ayurvedic text book has mentioned various parasurgical procedures useful in the diseases of *Vata* and *Kapha* disorders where patients conditions are not life threatening. '*Agni karma'* is one amongst these parasurgical procedure- *Anushasta Karma*.*Acharya Sushrut* in 2 A.D. before evolution of other medical aids indicated '*Agni karma'* in various disorders of skin, muscles, vessels, ligaments joints and bones. He has also explained that the diseases treated with *Agni karma* modality don't reoccur.

***Agnikarma* or** *Tau-dam* is a basically a traditional Himalayan therapy practiced by the rural Himalayan people for liver troubles, stomach troubles, backache, etc.

AIMS AND OBJECTIVES OF THE STUDY:

The present study has been undertaken to fulfill the following aims and objectives:-

- To explore the literature regarding *Agnikarma* in Ayurvedic and modern text.
- To evaluate the importance of *Agnikarma*.
- To establish whether *Agnikarma* is a suitable conservative treatment for pain management
- To make a comparative study of efficacy of *Agnikarma* in comparison to Diclofenac sodium

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- To reduce the severity and duration of painful condition.
- To study associated benefits as well as side effects of Agni karma which are not mentioned in ancient classics?
- To standardize an Ayurvedic line of treatment which may prove effective in the management of the pain?

CLINICAL STUDY

Clinical study has been carried out by dividing patients in two groups:

- Group A Control : Minimum – 20 cases -With Allopathic line of treatment
- Group B Trial : Minimum – 20 cases- With *Agnikarma* Therapy.

Selection of patients

All the patients attending Sangyaharan Vedanahar clinic suffering from *Sandhivat, Gridhrasi, Kativat* were selected for this study.

Inclusion criteria

- Patients having typical clinical features pertaining to above condition.
- Patients willing to undergo trial.
- Patients between age group 20-70 years, of either sex.

Exclusion criteria

- Patients below 20 years and above 70 years of age.
- Patients not willing to undergo trial.
- Patient suffering from diabetes mellitus, tubercular arthritis, rheumatoid arthritis etc.
- Patients of *Paittik Prakriti, Alpa Satva, Avar Sahanam*, Pregnant woman.

Criteria for assessment

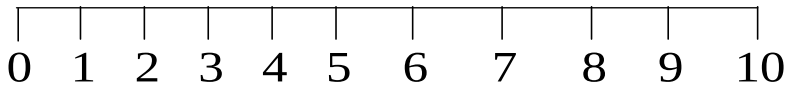
Improvement in the patient has been assessed mainly on the basis of relief in the cardinal signs and symptoms. To assess the effect of therapy objectively, all the signs and symptoms were given scoring depending on their severity as below:

- Pain
- Radiation of pain
- Tenderness
- Ability to do daily routine work
- Change in the range of movement

1. Pain (*Ruja*)

Visual Analogue scale – 0 to 10

0 = **no pain,1 - 3** = **mild** pain,**4 - 7** = **moderate** pain, **8 - 10** = **severe** pain



2. Pricking sensation (*Toda*)

a)	No pricking sensation	0	
b)	Occasional pricking sensation		1
c)	Constant mild pricking sensation		2
d)	Constant moderate pricking sensation	3	
e)	Constant severe pricking sensation		4

3. Unable to do daily routine work by affected part (*Daurbalyata*)

a)	Can actively do all the routine work	0
b)	Can do daily routine work but have to take rest intermittently	1
c)	Can do daily routine work but have to take rest Very often	2
d)	Can't do daily routine work	3

Karnofsky performance scale

a)	Normal activity with no special care		1
b)	Unable to work but able to live at home	2	
c)	Needs hospital care		3

4. Radiation of pain

a)	No radiation of pain		0
b)	Pain radiates up to thigh	1	
c)	Pain radiates up to knee joint		2
d)	Pain radiates up to leg	3	

e) Pain radiates up to ankle 4

f) Pain radiates up to foot 5

5. Tenderness

a) No pain on palpation 0

b) Pain occurs on deep palpation 1

c) Pain occurs on light palpation 2

d) Patient does not allow to touch the affected part 3

GROUPING OF PATIENTS

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

Groups	No. of Patients	Treatment
Group A (Control)	20	Tab. Diclofenac sodium 50 mg BD for 7 days. Exercise – Simple exercise of affected joint for a few minutes at a time but several times a day.
Group B (Trial)	20	*Agnikarma* – On most tender area of painful part of the body. Exercise – Simple exercise of affected joint for a few minutes at a time but several times a day

2. AGE, WEIGHT AND HEIGHT

Table 2. a: The statistical comparison of mean age, mean weight and mean height of the patients between the groups.

Group		Age (years) Mean ± SD	Weight (Kg) Mean ± SD	Height (cm) Mean ± SD
Group A (Control)		48.85 ± 14.61	57.70 ± 7.45	166.45 ± 6.60
Group B (Trial)		48.50± 14.46	57.95 ± 7.38	167.45 ± 5.57
Comparison between groups unpaired 't' test	t value	t = 0.07	t =-0.44	t = -0.11
	p-value	p > 0.05	P > 0.05	P > 0.05
Remark		NS	NS	NS

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

OBSERVATIONS:EFFECT ON VISUAL ANALOGUE SCALE (VAS)

Table 3. a The statistical comparison of difference in mean of visual analogue scale

GROUP		VAS Before Treatment Mean ± SD	VAS After treatment Mean ± SD
GROUP A		6.55 ± 1.05	4.40 ± 1.09
GROUP B		7.20 ± 0.76	4.55 ± 1.14
Comparison between groups unpaired 't' test	t value	t = -2.29	t = -0.42
	p-value	p > 0.05	P > 0.05
REMARK		NS	NS

Table shows that mean of visual analogue scale in-group A (Control) before and after treatment was 6.55 ± 1.05 and 4.40 ± 1.09 respectively, while in group B (Trial) it was 7.20 ±

0.76 and 4.55 ± 1.14 respectively. The above statistical comparison represents that difference in mean of visual analogue scale between group A and group B at corresponding timings are statistically insignificant.

Table 3. b : The statistical comparison of visual analogue scale before treatment and aftertreatment within the group by applying paired t-test, p-values and remarks are as follows

GROUP		**GROUP A**	**GROUP B**
VAS Before Treatment Mean ± SD		6.55 ± 1.05	7.20 ± 0.76
VAS After treatment Mean ± SD		4.40 ± 1.09	4.55 ± 1.14
Comparison within the group	t value	t = 11.83	t = 9.67
	p-value	p < 0.05	P < 0.05
REMARK		S	S

From Table 7b it is observed that changes in visual analogue scale is significant in both groups observed at before treatment vs. after treatment.

EFFECT ON KARNOFSKY SCALE (KSKY) - Table 4. a : The statistical comparison of difference in mean of Karnofsky pain scale between

the control and trial groups at corresponding time i.e. before treatment and after treatment by

applying student t-test, p-values and remarks are as follows:

GROUP		**KSKY Before Treatment Mean ± SD**	**KSKY After Treatment Mean ± SD**
GROUP A		0.40 ± 0.50	0.05 ± 0.22
GROUP B		0.35 ± 0.48	0.10 ± 0.30
Comparison between groups unpaired 't' test	t value	t = 0.33	t = -0.57
	p-value	p > 0.05	P > 0.05
REMARK		NS	NS

Table 4a shows that mean of Karnofsky pain scale in-group A (Control) before and

after treatment was 0.40 ± 0.50 and 0.05 ± 0.22 respectively, while in group B (Trial) it was 0.35 ± 0.48 and 0.10 ± 0.30 respectively.

The above statistical comparison represents that difference in mean of Karnofsky pain scale between group A and group B at corresponding timings are statistically insignificant.

Table 4. b : The statistical comparison of Karnofsky pain scale before treatment and after treatment within the group by applying paired t-test, p-values and remarks are as follows

GROUP		**GROUP A**	**GROUP B**
KSKY Before Treatment Mean ± SD		0.40 ± 0.50	0.35 ± 0.48
KSKY After treatment Mean ± SD		0.05 ± 0.22	0.10 ± 0.30
Comparison within the group	t value	t = 3.20	t = 2.52
	p-value	p < 0.05	P < 0.05
REMARK		S	S

From Table 4b it is observed that changes in Karnofsky pain scale is significant in both groups observed at before treatment vs. after treatment.

EFFECT ON PRICKING SENSATION (PRICKING SCALE)-Table 5. a : The statistical comparison of difference in mean of Pricking scale between thecontrol and trial groups at corresponding time i.e. before treatment and after treatment by applying student t-test, p-values and remarks are as follows:

GROUP		**Before Treatment Mean ± SD**	**After treatment Mean ± SD**
GROUP A		2.35 ± 0.67	0.75 ± 0.71
GROUP B		2.70 ± 0.57	1.05 ± 0.68
Comparison between groups unpaired 't' test	t value	t = 1.75	t = -1.55
	p-value	p > 0.05	P > 0.05
REMARK		NS	NS

Table 5a shows that mean of Pricking scale in-group A (Control) before and after treatment was 2.35 ±

0.67 and 0.75 ± 0.71 respectively, while in group B (Trial) it was 2.70 ± 0.57 and 1.05 ± 0.68 respectively.

The above statistical comparison represents that difference in mean of pricking scale between group A and group B at corresponding timings are statistically insignificant.

Table 5. b : The statistical comparison of pricking scale before treatment and after treatment within the group by applying paired t-test, p-values and remarks are as follows

GROUP		**GROUP A**	**GROUP B**
Before Treatment Mean ± SD		2.35 ± 0.67	2.70 ± 0.57
After treatment Mean ± SD		0.75 ± 0.71	1.05 ± 0.68
Comparison within the group	t value	t = 8.72	t = 7.91
	p-value	p < 0.05	P < 0.05
REMARK		S	S

From Table 5b it is observed that changes in Pricking scale is significant in both groups observed at before treatment vs. after treatment.

EFFECT ON PAIN RADIATION

Table 6. a : The statistical comparison of difference in mean of radiation of pain scale betweenthe control and trial groups at corresponding time

GROUP		**Before Treatment Mean ± SD**	**After treatment Mean ± SD**
GROUP A		2.20 ± 1.19	1.30 ± 1.45
GROUP B		2.80 ±1.15	1.65 ± 0.87
Comparison between groups unpaired 't' test	t value	t = -1.58	t = -0.91
	p-value	p > 0.05	P > 0.05
REMARK		NS	NS

Table 6a shows that mean of radiation of pain scale in-group A (Control) before and after treatment was 2.20 ± 1.19 and 1.30 ± 1.45 respectively, while in group B (Trial) it was 2.80 ±1.15 and 1.65 ± 0.87 respectively.

The above statistical comparison represents that difference in mean of radiation of pain scale between group A and group B at corresponding timings are statistically insignificant.

Table 6. b : The statistical comparison of radiation of pain scale before treatment and after treatment within the groups by applying paired t-test, p-values and remarks are as follows

GROUP		**GROUP A**	**GROUP B**
Before Treatment Mean ± SD		2.20 ± 1.19	2.80 ±1.15
After treatment Mean ± SD		1.30 ± 1.45	1.65 ± 0.87
Comparison within the group	t value	t = 4.41	t = 5.88
	p-value	p < 0.05	P < 0.05
REMARK		S	S

From Table 6b it is observed that changes in radiation of pain scale is significant in both groups observed at before treatment vs. after treatment.

EFFECT ON TENDERNESS

Table 7. a : The statistical comparison of difference in mean of tenderness scale between the control and trial groups at corresponding time

GROUP		**Before Treatment Mean ± SD**	**After treatment Mean ± SD**
GROUP A		1.65 ± 0.58	1.00 ± 0.47
GROUP B		1.80 ± 0.52	0.84 ± 0.37
Comparison between groups unpaired 't' test	t value	t = -0.75	t = 1.14
	p-value	p > 0.05	P > 0.05
REMARK		NS	NS

Table 7a shows that mean of tenderness scale in-group A (Control) before and after treatment was 1.65 ± 0.58 and 1.00 ± 0.47 respectively, while in group B (Trial) it was 1.80 ± 0.52 and 0.84 ± 0.37 respectively.

The above statistical comparison represents that difference in mean of tenderness scale between group A and group B at corresponding timings are statistically insignificant.

Table 7b : The statistical comparison of tenderness scale before treatment and after treatment within the groups by applying paired t-test, p-values and remarks are as follows.

GROUP	**GROUP A**	**GROUP B**
Before Treatment Mean ± SD	1.65 ± 0.58	1.80 ± 0.52
After treatment Mean ± SD	1.00 ± 0.47	0.84 ± 0.37

Comparison within the group	t value	t = 4.95	t = 6.54
	p-value	p < 0.05	P < 0.05
REMARK		S	S

From Table 7b it is observed that changes in tenderness scale is significant in both groups observed at before treatment vs. after treatment.

INCIDENCE OF DESIRABLE AND UNDESIRABLE EFFECTS

Incidence of desirable and undesirable effects in patients of both the groups after treatment.

Effects	**Incidence**	**Group- A (Control)**		**Group- B (Trial)**		**Z-value between Group- A vs. Group-B**	**Remarks**
		No.	**%**	**No.**	**%**		
Sedation	Present	0	0	0	0	0	NS
	Absent	20	100	20	100		
Apprehension	Present	3	12.5	3	12.5	z=0	NS
	Absent	17	87.5	17	87.5		
Excitement	Present	0	0	4	20	0	NS
	Absent	20	100	16	80		
Dizziness	Present	0	0	0	0	0	NS
	Absent	20	100	20	100		
Nausea	Present	0	0	0	0	0	NS
	Absent	20	100	20	100		
Vomiting	Present	0	0	0	0	0	NS
	Absent	20	100	20	100		

Shock	Present	0	0	0	0	0	NS
	Absent	20	100	20	100		

Z-value is two proportions form independent groups.

Z value is calculated by

$$\frac{p_1 - p_2}{\sqrt{(\frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2})}}$$

Where $p_1 = \frac{\text{Number of favourable case in control group}}{\text{Total cases in control group}}; q_1 = 1 - p_1$

$$p_2 = \frac{\text{Number of favourable cases in trial group}}{\text{Total cases in Trial group}}; q_2 = 1 - p_2$$

n_1 = Number of patients in group-A

n_2 = Number of patients in group – B

The comparison between the group- A and group-B regarding sedation, apprehension and excitement is statistically insignificant.

The statistical comparison of undesirable effects like dizziness, nausea, vomiting in between group- A and group-B is statistically insignificant.

CONCLUSION

On the basis of the above observations made on patients treated by *Agnikarma Chikitsa* this can be concluded-

- The trial procedure *Agnikarma* has *Vedanahar* (analgesic) and *Shothahar* (anti-inflammatory) properties most like tab. Diclofenac sodium which was used for control group.
- *Agnikarma* is a simple modality of treatment with minimum complication, which can be managed easily.
- *Agnikarma Chikitsa* does not produce any significant side effects.
- *Agnikarma Chikitsa* does not alter normal physiology. No significant changes were observed in mean blood pressure, pulse rate, respiratory rate and oxygen saturation during the whole course of the clinical study.
- The *Agnikarma Chikitsa* is almost equally effective as *Vedanahar* analgesic in comparison to control drug Diclofenac sodium.

- Number of sittings of *Agnikarma* depends upon the chronicity and severity of disease.
- Further, a more detailed study on a large number of samples is required to evaluate biochemical and neurological changes during and after procedure and to unfold other properties of *Agnikarma*.

Generally in day to day practice *Agnikarma* may be performed on the principle like-

यत्र शूलं तत्र दहेत ।

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- ***Ch. Chi. 21/132***
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Sushruta Samhita : ***Su.Su. 7/14,Su.Su. 12/9-10,Su. Su. 27/14***

Chikitsa Sthana:Su. Chi. 4/8,Su. Chi. 6/3,Su. Chi. 7/35,Su. Chi. 4/14,21,24,29,Su. Chi. 7/35,Su. Chi. 8/14.21.24.29,Su. Chi. 9/3,5,7 ,9-11,20,Su. Chi. 12/10)**,*****Su. Chi. 18/14,17,24,39,43,44,. Chi. 19/21-23,50-51,53-5,Su. Chi. 20/10,19,29,32,Su. Chi. 22/7,9,23,27-29,40,***

Kalpasthana*-5/5;7/33,50*.

Ashtanga Hridaya - ***Su. 30***

Harita samhita :***H.S. 1/2/7-8***

ASSESSMENT OF CRITICALLY ILL JAUNDICED PATIENTS PLANNED FOR SURGERY

*Dr.Pankaj.kumar.Bharti

Abstract: Anaesthesia in jaundiced patients is a challenge for anaesthesiologist.Therefore an assessment of patients are to be of much importance.tThis paper include the key points to be kept in mind during anesthesia.

Critically ill Jaundice Patient Scheduled for surgery is gaining increase importance day by day this is only possible by critical care facility and organ support system. This type of patient has change in their Physiology and they should treated First because they are very prone to develop CCF and Ventricular ectopic beat. Oxygen level is low because of diffusion defect. If jaundice patient not treated on real time Pt. develop to Acute Renal failure. Olgiuria is common symptoms if Serum Billuribin- level more than 15%. Platelet count is decreased and Prothrombin time is incrased due to damage the liver cells. Ascitis is very common in chronic jaundice patient. Liver is detoxification centre of our body if it is damage then metabolism and elimination of drug is disturbed. So use of sedative and all hepatotoxic drug should be avoided or use cautiously. Morphine should be avoided because they precipitate Encephalopathy it also aggravated by sedative drug and high protein diet. All NSAIDs are hepatotoxic so use only where necessary.

Key word: C.C.F; Ventricular ectopic beat ,ARF(acute renal failure) , Prothrombin time, Platelet count, Sedative, NSAIDs, Hypokalaemia, Encephalopathy.

Introduction and assessment:

A normal patient undergoing surgery and anaesthesia may affect Liver function because 50% of the oxygen requirement of the body is provided by the hepatic artery. General Anaesthesia and surgery causes a fall in hepatic blood flow so oxygen demand of blood is compromised. A normal liver is a centre for metabolic process detoxification and storage. A patient is suffering from Hepatic diseases all the function are impaired.

Before giving Anaesthesia pre operative assessment and after giving anaesthesia postoperative assessment is necessary to evaluate the Hepatic disease. Some blood test is useful to evaluate the pre and postoperative assessment for the liver disease.

1. Billirubin- If serum bilirebin level is below 2(mg%) then surgical risk are minimal. If serum-bilirubin is more than 3(mg%) than surgical risk is marked and mortality rate is greater than 50%.
2. Alkaline phosphatase- suggestive for billary obstruction.
3. Serum Albumin – Albumin is important for the maintenance of plasma oncotic pressure and as a carrier of drug, harmone and billirubin. If its level is more than 3(g%) than surgical risk is minimal and morality rate is upto 5%. If

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albumin level is below 3(g%) marked surgical risk is minimal and mortality rate is more than 50%.

4. Prothrombin time- Raised due to defective production of fibrinogen.
5. Transminase-When damage occur then leak from liver cells into the blood stream is done.
6. HBsAg-Suggestive for Hepatitis-B

Intraoperative measure: Monitoring and conduction of Anaesthesia-Liver diseased patients vulnerable to hypotension hypovolaemia and hypoxia.

Monitoring-Routine monitoring of central venous pressure, oxygen saturation and Pulse Rate is necessary.

Premedication-No premedication should be given if necessary benzodiazepine or midazolam is suitable for low dose or better avoided. If bleeding problem occur than vitamin-k should be administered pre-operatively.

Induction-Due to decreased clearance require higher dose of drug, their action is prolonged .This is because of decrease level of serum albumin. Choice of induction agent is Thiopentone sodium.

Pseudocholinesterase level is decreased in damaged Liver cell ,so cautiously use of short acting muscle relaxant like succinylcholine is indicated

Choice of long acting muscle relaxant is Atracurium.

The advantage of Atracurium is cardiovascular stability, short duration of action and elimination is independent of Liver and Renal function.

Halothane is better to avoid because it causes Halothane Hepatatitis. The choice of inhalational agent is Isoflurane or Sevoflurane.

Maintance of anaesthesia is done by Entonox (50% O2 + 50% N2O). Atracurium and Isoflurane or Sevoflurane.

During Perioperative period maintain Blood pressure.If Hypotension occurs it should be treated first by vasopressor eg.norepinephrine .Because Hypotension impairs Hepatic blood flow.

If bleeding is more, then fresh frozen plasma and platelets may be given.

Post operative Pain is treated by Pethidine in small doses 10-20mg by I.V.routes.NSAID should be avoided because all NSAID’s have hepatotoxic effect.

Urinary output and renal function should be monitored regularly

If urine output decrease 50ml/hr. Than Intravenous 20% mannitol will be given.

Postoperative hypoglycemia is treated by administration of glucose infusion.

This type of patients is vulnerable to infection so good Antibiotic coverage is necessary.All Aseptic measure will be adopted by surgeon and Anesthetist by immunized for Hepatitis B them self. Wearing gloves, mask, cap and gown etc. Not touch blood, saliva and other fluids directly. All the equipment used for surgery is sterilized by good methods or better to use disposable items. If bleeding disorder not present Regional anaesthesia is better choice over General anaesthesia.

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BHARATIYA SANGYAHARAK ASSOCIATION

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Date: …… Signature _____

Correspondence Address: Bharatiya Sangyaharak Association, Section of Sangyaharan, Deptt. Of Shalya Tantra, I.M.S., B.H.U., Varanasi – 221005

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The News

3rd International & 15th National Conference On Sangyaharan-Anaesthesiology in Ayurveda

Venue: KLE University , Belgaum - 05th to 7th February , 2012

Organized by: KLE University's Shri B. M.K. Ayurveda Mahavidyalaya Post Graduate Research Centre, Shahapur, Belgaum,Karnataka,India, www.kleayurveda.com

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UG students	Rs 500	Rs 750
PG scholars	Rs 700	Rs 1000
Faculty & Practitioners	Rs 900	Rs 1200
Life Member AAIM	Rs 1000	Rs 1000

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Day 1 CONFERENCE 05/02/2012

8.00 A.M. Registration
8.30 A.M. Breakfast
9.30 A.M. Inaugural session
10.30 A.M. Late Dr. S.B.Pande Memorial Oration- Keynote address
11.00 A.M Live demonstration of Anaesthesia Procedures
01.00 P.M. -02.00 P.M. Lunch
02.00 P.M.- 03.00 P.M. LATE R.A.Pande memorial best Paper presentation
03.00 P.M.-03.15 P.M. Tea
03.15 P.M.-05.15 P.M Guest lectures/Scientific session
05.15 P.M.-05.30 P.M. Tea
05.30 P.M.-06.30 P.M. Paper presentation
06.30 P.M.-08.00 P.M. Guest lectures
08.00 P.M. Dinner

07-02-12,Tuesday Day-3, Conference
8.00 A.M.-09.00 A.M Breakfast
9.00 A.M.-10.00A.M Late Dr.B.G.Ghaneker Memorial Oration
10.00 A.M.-10.15 A.M. Tea
11.15A.M- 01.00 P.M. Paper presentation
01.00 P.M. -02.00 P.M. Lunch
02.00 P.M.- 05.00 P.M. Valedictory session
.M.-05.15 P.M Guest lectures/Scientific session
05.15 P.M.-05.30 P.M. Tea
05.30 P.M.-06.30 P.M. Paper presentation
06.30 P.M.-08.00 P.M. Guest lectures
08.00 P.M. Dinner

06-02-12 Monday- Day 2, CONFERENCE
8.00 A.M.-09.00 A.M Breakfast
9.00 A.M.-10.00A.M Late Dr. P.J.Deshpande Memorial Oration
10.00 A.M.-10.15A.M. Tea
10.15A.M.-11.00 A.M Guest lecture
11.00 A.M Live demonstration of Anaesthesia Procedures
01.00 P.M. -02.00 P.M. Lunch
02.00 P.M.- 03.00 P.M. Late Dr. M.N.Chaudhari Memorial Orationn
03.00 P.M.-03.15 P.M. Tea
03.15 P.M.-05.15 P.M Guest lectures/Scientific session
05.15 P.M.-05.30 P.M. Tea
05.30 P.M.-06.30 P.M. Paper presentation
06.30 P.M.-08.00 P.M. Guest lectures
08.00 P.M. Dinner

Minutes of General Body Meeting held on 5th Feb 2011 at 7 pm in NIMA Auditorium, Tilak Ayurveda College, Pune.

A General Body Meeting was held on 5th Feb 2011 at 7 pm in NIMA Auditorium, Tilak Ayurveda College, Pune.The following members attended the meeting (List & Signature in Attendance Register).

Secretary of AAIM, Dr. S. Bhat welcomed all the members of Association and requested the president for Opening Remarks.

President Dr. K. K. Pandey expressed his thankfulness to all the members of AAIM and members of Organizing Committee of Conference for the constant help and support for the development of the Association.

Agenda I: Confirmation of Minutes of previous G. B. Meeting held on 7th Feb 2010

Resolution: Unanimously resolved to approve the minutes of previous G. B. Meeting dated 7-2-2010, presented by Secretary of C. C.

Proposed by Dr. A. Dutt, seconded by Dr.C. B. Verma

Agenda II: Confirmation of Bye-laws, if any

Resolution: Resolved that Ashwinou Award will be conferred to the person working in the field of sangyaharan and attending the Sangyaharan conferences at least 3 in No. out of 5 previous conferences. The name for award will be suggested by General Body of AAIM.

Proposed by Dr. Anil Dutt, seconded by Dr. D. N. Pande

Agenda III: Approval of recommendation of Ashwinou Award.

Resolution: Resolved that the Ashwinou Award conferred on Dr. C. B. Verma is accepted by the General Body.

Proposed by Dr. N.V. Borse, seconded by Dr. S. N. Yadav

Agenda IV : Recommendation of name for next Ashwinou Award.

Resolution: The name of Dr. P. S. Pandey, proposed by U. P. State Branch, was unanimously accepted.

Agenda V : Annual Reports and Accounts.

Resolution: Annual Report of C. C. ,U. P. State Branch and SangyaharanShodh were presented and were accepted unanimously, Accounts of Central Council was presented by Dr. R. K. Jaiswal, Treasurer; U. P. State Branch by Dr. S. Bhat, Secretary C. C. and SangyaharanShodh by Dr. D. N. Pande, Chief Editor,SangyaharanShodh.All the accounts were accepted unanimously with a suggestion to send a copy of Receipts& Payments Account with a photocopy of Pass Book to Dr. D. P. Puranik, Patron AAIM.

Proposed by Dr.ShilpaKhadadekar, seconded by Dr. R. N. Gangal

AgendaVI : Venue for next conference.

Two proposals, one from Belgaum and another from Raniganj were received and it was decided that in 2012, Conference may be organized at Belgaum by Dr.HemanthToshikhane and the subsequent conference will be held by Dr. C. B. Verma at West Bengal.

Meeting was adjourned with Vote of Thanks to the Chairman Dr. K. K. Pandey.

Dr. S. Bhat — Dr. K. K. Pandey

(Secretary) — (President)