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Editorial

Dear Colleague,

On behalf of the organizing committee and Department of Sangyaharan, Faculty of Ayurved, I.M.S., B.H.U., Varanasi, I feel honored to invite you to join us for **'' 21st National & 6th International conference on Mahamana vision of integrated Health System and its Outcome"** to be held in Varanasi on 15th -17th January, 2021. It will be our endeavor to update you with recent developments and new modalities in the fields of Sangyaharan, Pain, and Palliative Care & Intensive care in Ayurveda. Distinguished faculty from different part of India and abroad will participate in truly interactive discussions.

The venue of conference is the cultural and religious center of India since time immemorial. Its presiding deity is Lord Shiva. Gautam Buddha delivered his first sermon at Sarnath, which is not too far off from Varanasi. The city is situated on the bank of the Holy River Ganges and a visit to the Ghats makes us think of our heritage. Banaras Hindu University is the immortalized dream of Bharat Ratna Mahamana Pandit Madan Mohan Malaviya.

For accompanying persons, Varanasi offers many places of natural, archeological and cultural significance to visit. The weather in January is almost pleasant with temperature ranging between 9^0 to 24^0.

We are eagerly awaiting your arrival in Varanasi. Your presence and active participation will actually result in success of the Conference. For programme details and update please visit our website: www.aaim.co.in

Looking forward to see you at Varanasi.

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Manuscripts must be prepared in accordance with "Uniform requirements for Manuscripts submitted to Biomedical Journals" developed by the International Committee of Medical Journal Editors (October 2006). The uniform requirements and specific requirement of AYU JJournal are summarized below. Before submitting a manuscript, contributors are requested to check for the latest instructions available. Instructions are also available from the website of the journal (www.aaim.co.in).

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Key words: A list of up to six relevant keywords should be given.

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Introduction: A concise account is required about the background to the subject, its significance and its

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Articles in Journals

1. Standard journal article (for up to six authors): Meena Sarita, Jaiswal R K, Pande D N. Current Excoriation of Leech Therapy. Sangyaharan Shodh Int J. 2019;22(2):11-14.

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Books and Other Monographs

1. Personal author(s): Pande D.N., Anushastra Karma. 1st ed. Chaukhambha Visvabharati Publishers; 2009.
2. Editor(s), compiler(s) as author: Pande D.N. Chief editor. Apada rabandhan. AAIM; 2010.
3. Chapter in a book: Pande D.N.. Ayurvedic Pain Management. Integrated Ayurvedic Pain Management. 1st ed. Chaukhambha Visvabharati Publishers; 2020.

.***Electronic Sources as reference***

Journal article on the Internet

Abood S. Quality improvement initiative in nursing homes: the ANA acts in an advisory role. Am J Nurs [serial on the Internet]. 2002 Jun [cited 2002 Aug 12]; 102(6):
[about 3 p.]. Available from: http://www.nursingworld.org/AJN/2002/june/Wawatch.htm

Monograph on the Internet

Foley KM, Gelband H, editors. Improving palliative care for cancer [monograph on the Internet]. Washington: National Academy Press; 2001 [cited 2002 Jul 9]. Available from: http://www.nap.edu/books/0309074029/html/.

Homepage/Web site

Cancer-Pain.org [homepage on the Internet]. New York: Association of Cancer Online Resources, Inc.; c2000-01 [updated 2002 May 16; cited 2002 Jul 9]. Available from: http://www.cancer-pain.org/.

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A Case Study- Application of Leech Therapy In Janusandhigat Vat (Knee Joint Pain)

***Dr. Sarita Meena **Dr. R.K.Jaiswal ***Dr. D.N.Pande**

Abstract : Ayurveda is science of life. That life is depend upon concept of balanced Tridosh (Vata, Pitta and Kapha) . Acharya Sushrut explain rakta as fourth dosha and Leech therapy is main effective treatment of Raktpittaj vyadhi and diseases like Gulma (Abdominal swelling), Arsha (Piles), Kushtha (Skin disease), Vatarakta (Gout), Krostruka shirsha (Infective arthritis), Sandhigata roga (Arthritis), Kantharoga (Goiter), Netraroga (Eye diseases), Granthi (Nodular swelling) . In Ayurveda, primary attention is given to re-establish or balance the dosha. 'Balance of dosha is life and imbalance means illness.

Keywords:-Leech Therapy, Hirudo Therapy, Jalauka Avacharan , Sandhigata vata.
Conflict of interst: None
Ethical clearance: Approved.

Introduction:

Raktmokshan (Leech therapy) is an ancient blood letting technique firstly described in Ayurveda named as Jalaukavacharan.[1]

Raktamokshana is consist of two words *Rakta-w*hich mean blood and *Mokshana* -means to leave and with combining these words it makes the word *Rakta-mokshana .I*t means 'to let out blood'.[2]

Raktamokshana is a scientific term employed to indicate a Parasurgical method to throughout the vitiated blood from selected areas of the body by specific methods. In Ayurvedic Sushruta Samhita which is the oldest available manual on surgery has devoted an entire chapter for the description of *Raktamokshana* and a chapter on *Raktamokshana* for the purpose of bloodletting.[3]

Leech Therapy commonly used in Pittaj and Raktaj Vikar due to its sheet in nature.[4] Lecches are used for treatment of deferent disease like varicose vein ,pain management ,wound ,skin disease etc.

The Leech (*Hirudo medicinalis*) is commonly used in traditional medicine for relief of localized pain, and Leech Therapy has been used for treatment of pain for many centuries. It is still widely used in traditional healing procedure in Asia and Africa. There is a great interest in Leech Therapy in pain treatment as a complementary medicine. Leeches have been mostly studied in the treatment of osteoarthritic pain. [5]

The term Jalauka originate from two words : Jala + Oka;(water dwelling animals).
Jala (Water) + Ayu (Life) = Jalayu i.e. animals having water as the life. ."(Su. Sutra. 13/9)
Avacharana means ―Application.
So; Jalaukavacharan means the application of Leeches Ayurveda,

Osteoarthritis (OA) is observed owing to faulty diet and lifestyle. The disease usually affects in the fourth decade, and the occurrence increases linearly with age. Unilateral OA of Knee is more prevalent in male and bilateral OA in Knee in female. It is a degenerative disease characterized by loss of articular cartilage and synovial inflammation, joint stiffness, swelling, pain, and loss of mobility being its hallmark symptoms. The disease has a propensity to affect the weight-bearing joints such as the

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knee and hip most commonly and is hence a potent cause of disability.[6] The symptoms of OA correlate with Sandhigata Vata explained under Vatavyadhi. Sandhigata vata is first described by Acharya Charaka as Sandhigata Anila with symptoms of Shotha (swelling) which on palpation feels like a bag filled with air and Shula (pain) on Prasarana and Akunchana (pain on flexion and extension of the joints).Acharya Sushruta also mentioned Shula and Shotha in this disease leading to the diminution (Hanti) of the movement at joint involved.Madhavakara adds Atop (crepitus in joint).*[7]*

Mechanism of action of leech therapy:

More than 100 bioactive compounds have been isolated from medicinal leeches. Therefore, possible mechanisms of action in knee osteoarthritis are anti inflammatory action of leech's bioactive substances, relieving oedema and stiffness by reducing blood congestion, improving blood circulation, facilitating the nutrition and biological substances to reach the deceased site by its spreading activity and relieving the pain by its anaesthetic activity.[8]

The bioactive substances present in leech saliva produce different effects in the host. Proteinase inhibitors are mainly responsible for its anti-inflammatory action in the host, such as bdellins (inhibitors of trypsin, plasmin, and acrosin), tryptase inhibitor, eglins (inhibitors of alpha chymotrypsin, subtilisin and chymasin and the granulocyte proteinases, elastase and cathepsin G).

When the leech therapy is performed in the knee joint immediate observable action is sucking blood from the site of its attachment. Especially it sucks venous blood which is congested in that area. Thus, by relieving congestion, it reduce the oedema, thus eliminate the pain and other inflammatory mediators and also by relieving congestion it increases the fresh blood supply to that area. [9]

A Case Report

A female patient age 50 years old MRD 3385497 came in OPD 15 Ayurveda wing in S.S hospital B.H.U. complained pain in Left knee joint pain with swelling and tenderness since 1 year.

She had no any previous medical or accidental history.

On examination: All vitals normal (BP-122/82 mm Hg, Pulse 68/min , S1 & S2 heard, no murmur sound, chest bilateral normal adequate air entry, Wt- 80kg visual analogue scale 8-9 (intense pain), intensity of pain moderate to sever

Local examination:swelling with tenderness and warmth was present on knee joint .

Following investigations were done:

INVESTIGATIONS :

Hb-11.2 gm/dl. TLC- 9400 /mm3 HIV- negative HBsAg-negative
DLC- P57 L 30 E4.3 M 7.9 B 0.3 CT- 4:40min BT- 3 min CRP-negative
ESR- . FBS- 111.7mg/dl. BU-19 mg/dl. RA Factor-negative Sr. Uric acid- 4.4 mg/dl
X Ray Lt Knee joint –osteoporosis, osteophytes present.

After proper investigation Leech Therapy was planned for four follow up.

MATERIAL

Jalauka (Leech), Haldi, Pond for Jalauka cultivation, sterile needle, wet Cotton, Ghrit, Madhu

POORVE KARMA

Method Proper Snehana (oleation) and Swedana (sudation) of the patient Purification of Leech by pouring the Leech in water mixed with turmeric powder. Part preparation – Cleaning of part of the body to which Leech is going to be applied.[10]

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Fig. No. 1-Purification of Leech in turmeric mix water before application.

PRADHAN KARMA

Before application prick the skin with sharp and sterile needle so that drop of blood comes out then applied the Leech through its front end and covers the Leech by wet cotton. If the Leech is not ready to suck the blood from the body part then application of Madhu, Ghrita, or butter should be done.

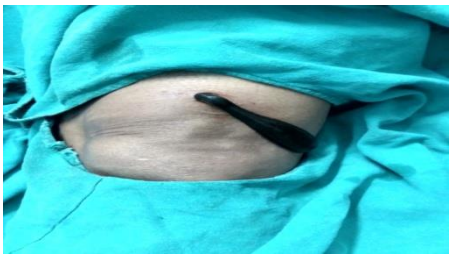

Fig.no.2-Application of Leech on Knee Joint.

Fig.no.3- Covering of leech with wet gauge piece during blood sucking procedure.

OBSERVATION OF LEECH :

– Gradual distension in the central portion of the body.
– Itching and burning sensation at the site of bite.
– Pulsations on the body of Leech may be visible.

Fig.no. 4- distention in central portion of Leech.

REMOVAL OF LEECH

After 30-40 minutes the Leech is removed by itself or by application of Turmeric Powder on the mouth of Leech body part. Then application of Madhu, Ghrita, or Butter should be done.

CARE OF WOUND

After detachment of Leech there is triangular wound created by mouth of Leech. The blood comes out from the wound. The bleeding from wound is checked by application of tight bandaging with the use of Yastimadhu or Turmeric powder.

INDUCTION OF EMESIS IN LEECH

The Leech that is applied to the lesion under goes process of Vaman so that the same leech can be applied next time to the same patient. For the Vaman of Leech turmeric powder is applied over mouth of leech. The Leech vomits out all the blood sucked by it to get purified. Sometimes pressing of Leech from caudal to front end is required for proper emesis. After proper Vaman Leech should be put in fresh water, where it swims swiftly and than settles down. Replace the Leech in a clean.[11]

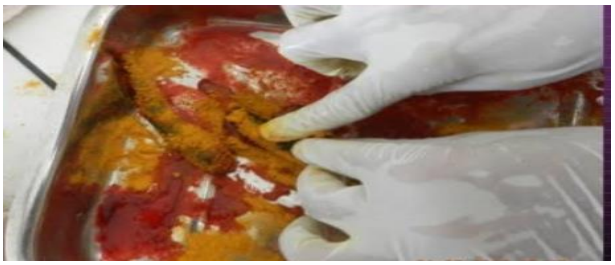

Fig.no.5- Induction of emesis in Leech with Turmeric Powder.

ADVANTAGES OF LEECH

No need of O.T. always.
No need of any type of Anaesthesia neither general or local .
No requirement of Antibiotics, Pain Killer.
No need of Suturing.
Pain management.
Application of Leeches creates local aesthetic action.
Jalouka has Ability to suck up only impure blood and also from Bottom deep level.
Ability to purify doshas, decreases Swelling, Hastens ripining of swelling.[12]

OBSERVATION AND RESULT

During the study of this case it has been observed that pain and stiffness start decreasing after first sitting of leech therapy and after last follow up significant change occurred in the symptoms of pain, tenderness and stiffness .A scare is observed on the site of leech bite but disappears in 2-3 weeks after completion of last sitting . Itching is also observed at the time of blood sucking which was subsided in 2-3 hours after removal of leech .overall the complaints of the patient were found reducing and feeling of improvement in routine work (which was restricted) was present after completion of Leech therapy .

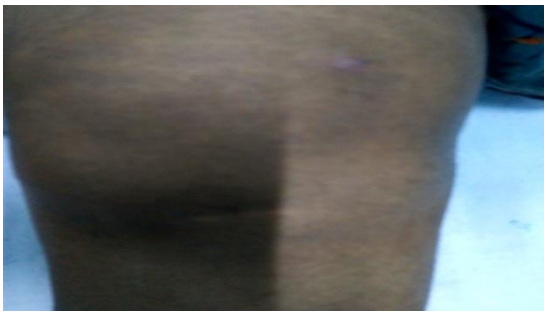

Fig. No. 6 – A scar on Knee joint after leech application which clears in 2-3 weeks.

DISCUSSION: Leech therapy is Anushashtra karma which is used in human to treat different disease also those which are contraindicated of Shashtra karma. According to dosha various modes of bloodletting procedure used but Leech live in cold and fresh water and sheet in nature used in pittaj vyadhi. How the Hans bird separates milk from water and drinks only milk, like wise *Jalauka*s sucks impure blood first then pure blood.[13] Leeches suck about 10-15ml of blood approx 30-35 minutes and inject saliva into blood through triangle shape wound created by it. Whatever the blood sucked by the leech venous as proved in laboratory that, the co2 of blood sucked by leech and of patient's venous blood are observed to be same.[14] Leech saliva presents different type of enzymes which works like anticoagulant ,vasodilation and anaesthetic action due to such type of action Leech therapy improved in pain stiffness and tenderness.

CONCLUSION: Leech Therapy is Anushastra Chikitsa that is used mainly in Pittaj Raktaj dosha diseases. Its action is localised and very effective in knee joint pain management due to its anaesthetic and analgesic effect . Its enzymes relieve oedema , inflammation of knee joint and stiffness through nutritive support of joint and improving blood circulation. It protects knee joint from further injuries and some inflammatory mediators.

Thus Leech therapy is less time taking procedure and easily adopted for patients and improve their quality of life.

Acknowledgment: I acknowledge to my Supervisor Prof. D. N. Pande and Co supervisor Dr. R. K. Jaiswal for their guidance for this work and to my patient for giving the consent for conducting the work to her.

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Management of Peri-operative Anxiety with Certain Specific Poorva Karma in Relation to Anesthesia

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Abstract: Back ground and Aims: *Peri-operative anxiety is an unpleasant experience which should be mitigated in surgical patients. The Poorvakarma measures described in Sushruta Samhita could be used suitably to overcome this adverse situation. Hence this study was planned.*

Material and Methods: *60 patients of either sex undergoing elective abdominal operations were selected for this study. They were grouped into two, the trial group and control group. The trial group was treated with mriduvirechana for one day followed by basti karma for four days. Further the patients were observed for desirable effects pre-operatively and after premedication.*

Results: *The trial group had significantly higher incidence of calm & sedated patients pre-operatively than in control group (83.33% vs 63.33%). The p value was significant at 0.1 level.*

Conclusion: *Poorvakarma measures applied to major surgical operations reduce pre-operative anxiety and improve anesthetic outcome*.

Conflict of interest: None. **Ethical Clearence: Yes.**

Key words: *Virechana, basti karma, poorvakarma, Pradhana Karma, Asthapanabasti,*

Introduction: Ayurvedic approach to maintenance of health is holistic[1]. Numerous therapeutic modalities are described in the management of each and every disease[2]. Sushruta, the father of surgery in ancient India has scientifically described copious clinical material and the principles of their management[3]. They are valid even today[4]. There are descriptions of pre operative preparations in Sushruta Samhita for a favourable surgical outcome[5]. They are known by the name Poorvakarma. Apprehension about unpleasant surgical outcome, post-operative pain and prolonged post-operative phase is frequently experienced by patients in peri operative days. It may adversely affect the anesthetic induction and patient recovery, as well as decrease patient satisfaction regarding peri operative experience.[6] This situation enhances peri operative morbidity. The Poorvakarma procedures described by Sushruta can be used here with great advantage. These procedures are aimed at stabilizing the patients' general condition[7], thus allaying anxiety.

Samshodhana therapies like Virechana and Basti render the doshas, agni and mala into a state of balanced equilibrium.[8] Further the patients become calm and composed. Hence the procedures of mridu virechana and basti karma were selected as Poorvakarma for anesthesia. Their effects were studied with special focus on evaluating the patient to premedication response.

Material and Methods:

Sixty adult patients of either sex who were proposed to undergo elective abdominal surgery were recruited into this study. They were allocated into groups I and II. The group II patients served as control group. The group I patients were given trial of mridu virechana for one day followed by basti karma for four days.

The mridu virechana was administered by using five grams of Shat Sakara Churna at bed time before undertaking basti karma. Basti karma was achieved by administering Asthapana Basti and Anuvasana Basti alternatively for four days. Dashamooladi Quatha 120 cc and NarayanaTaila 50 cc were used for Asthapana Basti and Anuvasana Basti respectively.

All patients of groups I and II were administered Injection Atropin sulphate 0.6mg and Injection Promethazine 25mg intramuscularly as premedication 60-90 minutes before surgery. The final assessment of psycho-physiological effects of Poorvakarma on premedication was done in a quiet surrounding before surgery. The age and body weight as well as degree of sedation were recorded in a proforma for evaluation.

Results: The mean age distribution and weight of patients in both groups were statistically comparable ($p < 0.10$)

Table I **Mean age and weight of patients in whom the effects of Poorvakarma were evaluated**

Group	Mean age in yrs	Mean weight in kg
I/Trial group	39.67 ± 9.79	53.83 ± 6.88
II/Control group	39.67 ± 8.34	51.77 ± 5.05

The degree of sedation was assessed at 60-90 minutes after the administration of premedication. They were recorded as ‘present’ or ‘absent’. Comparatively sedation was higher in group I (trial group) 83.33% while only 63.33% of patients achieved this level in group II.

Table II Premedication response desirable effects

Sedation	Group I/Trial group		Group II/Control group		Row Total
	No.	%	No.	%	No.
present	25	83.33	19	63.33	44
absent	5	16.67	11	36.67	16
Column Total	30	100	30	100	60

By applying chi square test in 2x2 contingency table, the x^2 statistic is 3.0682. The p-value is 0.0798. Significant at $p< 0.10$

Discussion : Anxiety is commonly experienced by virtually all human beings[9]. It is a subjective sense of unease, dread or foreboding which can be a component of, or reaction to, a primary circumstance or a medical disease[10]. A person's genetics, biochemistry, environment and psychologic profile all seem to contribute to anxiety[11].

Caraka[12] mentions two types of diseases viz. Mano adhisthana and Sareera adhisthana. The dosha involved in the latter are Rajas and Tamas. One of the diseases produced by them is Udvega[13] which may be correlated to anxiety. Caraka describes three types of therapy for Mano adhisthana and Sareera adhisthana diseases[14]:

1. Daivavyapasraya- Spiritual therapy
2. Yuktivyapasraya- Physical therapy
3. Sattwavajaya- Mental therapy

Virechana and basti are among many other forms of treatment in Yuktivyapasraya.

Great importance was given to the preparation of a patient before surgery by Sushruta. This preparation was described as Poorvakarma[15]. It includes twelve measures carried out before the patient is taken up for surgery[16,17]. Mridu virechana and basti are procedures which subdue the vitiated vata. A state of equilibrium of all dosha, dhatu and mala is achieved by controlling vitiated vata. The aim of Poorvakarma includes maintenance of this healthy state of balanced equilibrium and restoration of the same in case of any imbalance or derangement. Thus it was thought useful for the patients to perform the Poorvakarma procedures before anesthesia (Pradhana Karma). An earlier study conducted with basti karma before anesthesia (Pande et al 1986)[18] showed definite advantage in terms of smooth and safe induction and maintenance of anesthesia and uncomplicated recovery from anesthesia. This prompted further study on Poorvakarma in relation to anesthesia. In this study the premedication response was chosen as a parameter for assessment. The presence of sedation was considered favorable outcome after premedication. This desirable effect of premedication was due to promethazine hydrochloride

used as a premedicant. The higher incidence of sedation in trial group than in control group was achieved due to Poorvakarma procedures.

Conclusion : The Poorvakarma procedures, viz. mridu virechana and basti, applied to patients before administering anesthesia facilitates the Pradhana karma of anesthesia and surgery by rendering the patient calm & sedated. There were no adverse effects either during or after anesthesia & recovery of these patients.

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Cardio-Pulmonary Resuscitation (CPR)

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Introduction: Cardiopulmonary resuscitation (CPR) is required when the supply of oxygen to the brain is insufficient to maintain function. Oxygen delivery is dependent upon cardiac output, hemoglobin concentration and saturation of haemoglobin with oxygen; this depends predominantly on respiratory function. CPR is required most commonly after cardiac arrest, respiratory arrest or a combination of the two[1].

The brain is more sensitive to hypoxia than any other organ, including the heart. It has a limited facility for anaerobic metabolism and cannot store oxygen. The cerebral cortex is damaged permanently by ischaemia of more than 3-4 min duration. Thus, although a patient may survive an episode of circulatory arrest, permanent impairment of cerebral function may result if cerebral oxygen delivery is not restored within 3-4 min of the initial cessation of blood flow. The commonest cause of brain damage after cardiac arrest is delay in starting resuscitation. Therefore, when circulatory arrest has occurred, it is essential to start CPR as ra rapidly as possible Guidelines for the performance of cardiopulmonary resuscitation have been published by the European Resuscitation Council (1998a) and the Resuscitation Council (UK). These guidelines were developed from the 1997 International Liaison Committee for Resuscitation advisory statements that were based on specific scientific evidence, where available, or supported on the basis of common sense or ease of teaching and skill retention.

Kee word:- CCPR, CPR.ALS BLS oxygen ,cardiac arrest ,respiratory arrest .

Conflict of interest: None. **Ethical Clearence: NA.**

Abbreviations: -CPR- Cardiopulmonary resuscitation, CCPR -Cerebro Cardio Pulmonary Resuscitation, O_2-oxygen , CO-cardiac output, Hb %-haemoglobin concentration,

CAD -Coronary artery disease, ECG-electrocardiograph EEG-electroencephalogram, BLS-Basic life support ALS -advanced life support, Pt's-patient

$ETCO_2$-end tidal carbondioxide O.T- operation theater, ICU-intensive care unit, CCU-cardiac care unit /coronary care unit

VF-Ventricular fibrillation VT-ventricular tachycardia EMD- Electromechanical dissociation

PEA- pulse less electrical activity Tt- treatment LMA-laryngeal mask airways

AMBU bag-artificial manual breathing unit bag ICT- intra cranial tension

Definitions: Cardiopulmonary resuscitation (**CPR**) is a procedure to support and maintain breathing and circulation for an infant, child, or adolescent who has stopped breathing (respiratory arrest) and/or whose heart has stopped (cardiac arrest).[5]

Resuscitation is primarily a mechanical intervention :respiration and circulation must be maintained artificially.6

Cardiopulmonary resuscitation (CPR) is required when the supply of oxygen (O_2) to the brain is insufficient to maintain function. That is why CPR is called as CCPR (Cerebro Cardio Pulmonary Resuscitation)

Oxygen (O_2) delivery depend upon cardiac output(CO), haemoglobin concentration (Hb %) and saturation of haemoglobin with Oxygen (O_2); this depends predominantly on respiratory function.

INDICATION OF CPR: Cardiopulmonary resuscitation (CPR) is required most commonly after cardiac arrest, respiratory arrest or both.

DEFINITION OF CARDIAC ARREST:

Cardiac arrest may be defined as "*inability of heart to sustain an effective output".*

Coronary artery disease (CAD) is the commonest cause of arrest in adult while trauma is the commonest cause of death in the first four decades of life.[3]

DIAGNOSIS OF CARDIAC ARREST/ signs of cardiac arrest[3]

1. Immediate loss of pulse.
2. Unconscious in about 15 sec.
3. Respiratory arrest, which may be preceded by the last gap, 1-3 min. after cardiac arrest.
4. The pupils dilate(alsocaused by adrenaline and atropine)
5. Absence of heart sounds on auscultation.
6. Cyanosis, pallor, and loss of capillary refill.
7. On ophthalmoscopy the vain of the fundus show segmentation of the blood columns.
8. ECG flat
9. EEG flat within 20-30 sec.

Cardiac arrest is diagnosed by inability to palpate major vessels like carotid or femoral in adult and brachial in children accompanied with cessation of respirations.

Cardiac arrest may be witnessed (monitored) or unwitnessed (unmonitored) or may be in side in hospital or outside the hospital. Recovery is better in witnessed (monitored)inside the hospital arrest as CPR instituted early.

Causes of cardiac arrest

Coronary artery disease is the commonest cause of arrest in adult while trauma is the commonest cause of death in first four decades of life[3].

Cardiac cause of Cardiac arrest[3] are myocardial ischemia, secondary to hypoxia, pulmonary / air embolism, fixed output condition i.e. valvular stenosis, constrictivepericarditis, sever pulmonary hypertension, cardiac tamponade, cardiomyopathies, acute myocarditis, very poor prognosis.

Non cardiac cause of Cardiac arrest are haemorrhage,hypotension from any cause, Hypoxia, electrocution,drownings, hypercalcemia,hypokalemia, hyperkalemia, effect of drug i.e. direct myocardial depression , additive bradycardic effect of opioid and beta blocker, vagal reflexes.

Cardiac arrest in adult is usually of cardiac origin while in children it is usually of respiratory origin.

Rhythms in cardiac arrest

1. Ventricular fibrillation, most common in adult.
2. Asystole, most common in children.
3. Electromechanical.

Biochemical changes during cardiac arrest

These occur as aresult of tissue hypoxia, hypercarbia and lactic acidosis. As aresult of tissue hypoxia, there is an anaerobic metabolism, hyperglycemia (up to360 mg/dl), movement of water andsodium in to the cells and of K^+ out in to extracellular fluid (up to 7mmol/l). This result in arise in PCV and in plasma proteins.

Cerebral hypoxia

The brain is more sensitive to hypoxemia than any other organ, including the heart.

The cerebral cortex is damaged permanently by ischemia of more than 3 to 4 minutes.

The commonest cause of brain damage after cardiac arrest is delay in starting resuscitation. Therefore, when**circulatory**arrest hasoccurred, it is essential to start CPR as rapidly as possible.

The effects of cardiac arrest on the brain[3]

1. Unconscious
2. EEG-electroencephalogram changes occurs in 4sec and the tracing is flat within 20-30 seconds.
3. Histological changes : diffuse neuronal damage is not restricted to any particular vascular territory of the brain .Petechial haemorrhages also occur. Brain damage may be diffuse or focal. Mildest structural damage is selective neuronal necrosis, but with more severe hypoxia neuroglial cell are affected also and area of infarction may arise.

Guidelines for the performance of CPR

Guidelines for the performance of CPR have been published by the European Resuscitation Council (1998a) and Resuscitation Council (UK). These guidelines were developed form the 1997 International Liaison Committee for Resuscitation advisory statements that were based on specific scientificevidence, where available, or supported on the basis of common sense or easy of teaching and skill retention.[1]

Management of Cardio respiratory arrest i.e. CPR

It is defined under three heads:[2]

1. Basic life support (BLS), It includes Assessment, Airway, Breathing and Circulation management without the use of specialized equipment and drugs.

2. Advanced life support (ALS)/ Advanced Cardiac life support (ACLS), includes the management of air way, breathing by special equipment, recognition of arrhythmias and its management by defibrillation or drugs.
3. Post resuscitation life support

Basic life support (BLS)it includes Assessment, Airway, Breathing and Circulation management without the use of specialized equipment and drugs.[2]

DRABC[3]:- D for danger ,R for response ,A for airway ,B for breathing, C for circulation

The sequence of management of cardiopulmonary arrest is A (assessment and Airway).>B (Breathing) >C (Circulation) and it should be in this sequence only.

A. Assessment Approach the patient ensuring that there is no danger from the surrounding environment.Asses the level of responsiveness by gently shaking the patient and shouting 'Are you all right? , if the pt's is unresponsive then shout for help and commence basic life support immediately.

A. Airway management

Tongue fall is most common cause of airway obstruction .Which is managed by;

1. Triplemaneuver[2]

A. Open the mouth and clear the airways
B. Head tilt (extension) and chin lift.
C. Jaw thrust i.e. mandible is pull forward.

Note- In case of suspected cervical spine injury the air way should be opened by using the jaw thrust without head tilt.

2. Airway insertion -most commonly used is Guedel's airway .Other airways which can be used areSafar, nasopharyngeal, LMA.

3. Intubation is the most definite method to maintain airway.

Management of airway obstruction due to foreign body[2]

1. Infant chest thrust : 4 blow given with thrust by heel of hand between the shoulders
2. Back blow: 4 blow on the middle of back, esp. for infant.
3. Heimlich maneuver:manual thrust with the pt'sstanding, rescuer behind the pt's and compressing the abdomen. 6 to 10 time, esp. for adult and older children.
4. Chest thrust : manual compression over lower sternum, esp. in very obese and pregnant pt's
5. Finger sweep method: in unconscious pt's.
6. Cricothyroidotomy: lifesaving procedure to secure air way.
7. Tracheotomy: laryngeal edema, acuteepiglottitis and laryngotracheobronchitis.

B .Breathing[1]

With the airwaymanaged, check for breathing by:

***Looking** –to see if the chest wall is moving or if the abd.Wall is indicating an obstructed airway by seesaw movement.

***Listening –**over the mouth for sound of air movement or for added sounds indicating an obstructed airway.

***Feeling –**over the mouth with the side of the face for sign of air movement indicating effective breathing.

Allow 10 sec.to check for breathing, if not breathing then **you must call for help** at this stage. In these exceptional circumstances (child, trauma and drowning) BLS continues with rescue breathing before calling for help[1].

1. Mouth to Mouth respiration, only 16% O_2 can be given.
2. Mouth to Nose respiration, only 16% O_2 can be given.
3. Mouth to airway: By Safar and Brook airways, only 16% O_2 can be given.
4. Bag and mask ventilation 21% to 100% O_2 can be given.
5. Ventilation with AMBU BAG and endotrachealtube21% to 100% O_2 can be given.
6. Ventilation by Automatic ventilator.21% to 100% O_2 can be given.

Rescue breathing: If the pt's is unresponsive and is not breathing, ventilate the pt's lungs with two expired air breaths. With the air way held open, pinch the nostrils closed. Take a full breath and seal your lips over the pt'smouth. Blow steadily into the pt'smouth, sufficiently 2 sec. for a full inflation. Maintaining the airway, take your mouth away from the pt's and allow the chest to deflate in expiration. Repeat this manoeuvre to give two ventilations. If two effective rescue breaths have not been achieved after five attempts at ventilation then the rescue should proceed to the next stage of BLS.

Circulation: BLS continues with a pulse check in carotid for 10 sec. A guideline now includes thestatement that starting chest compression should be considered without delay in the pt's showing no obvious signs of life following expired air ventilation.

If there is no pulse or there are no signs of life, start chest compressions immediately.

One of the biggest changes in the guidelines – implemented in **2005** – was to move from 15 compressions/2 breaths (15:2) to 30:2. The intention was to increase the number of chest compressions delivered per minute and reduce interruptions in chest compressions.[4]

Physiology related to Cardiac massage

1. **Cardiac pump theory /Heart pump theory**i.e Heart compressed between sternum and spine results inejection of blood from Heart.
2. **Thoracic pump theory / Chest pump theory**i.e Cardiac compression raises intra thoracic pressure forcing blood out of chest and dynamic venous compression preventing back flow, heartacting only as a passive conduit.

Chest compression can generate a SBP 80-100mmHg but DBP only 10-40 mmHg (which may compromise coronary flow). Effective cardiac out put generated by successful massage is only 30% of normal. So all efforts to restore spontaneous cardiac activity should be started immediately.

Chest compressions

Chest compression are performed on the lower third of the sternum, two figure breadth above the xiphisternum .The overlapping heel of both hands are used to compress the chest by depressing the sternum approximately 4-5 cm at the rate of 100 compression per min. After 15 compressions, give two expired air breaths.

Continue BLS, 15 chest compressionswith two expired air ventilations, until ALS arrives. Do not interrupt BLS to perform further assessments of the pt unless the pt'sshow signs of recovery.

BLS only provides 15-20% of normal cardiac out put and should be regarded as '**buying time'** until the commencement of ALS.

Respiratory arrest

If the pt's is not breathing but has a pulse ,perform 10 expired air breaths before leaving the pt's to telephone for help. This sequence should also be used if the cause of the collapse is trauma or drowning. On returning to the pt's, recheck breathing and pulse. If pulse is present continue expired air breathing at the rate of 10 breath /min., but recheck the pulse at regular intervals. Commence full BLS if the pulse stops.

Monitoring of CPR Performance

1. An effective cardiac massage should be able to generate a pulse in major vessel especially carotids.
2. There should be increases in end tidal CO_2 ($ETCO_2$).
3. Successful cardiac massage should produce ETCO2 more than 20mmHg.
4. ETCO2 more than 40mmHg is the earliest sign of recovery of the spontaneous circulation.
5. Persistently contracted pupil.

ADVANCED LIFE SUPPORT /ALS

By following the BLS procedure described above, the early telephone call for help should result in the prompt arrival of the equipment and personal needed to perform ALS.In adult resuscitation where the most common cause is ventricular fibrillation, the early use of defibrillator has been demonstrated as having a definite effect on eventual survival.

In specialized in hospital areas, e.g. the O.T,ICU, CCU, the time to defibrillation is negligible. In these situations, it is recommended that if a defibrillator is immediately to hand, defibrillation should not be delayed for the initiation of BLS.

ALS begins by emphasizing the importance of establishing BLS and then continues by recommending a precardial thump and it's effective in some witnessed cardiac arrests. The next stage of Tt depends on the rapid assessments of pt's cardiac rhythm. The pt's must be connected to a cardiac monitor /defibrillation andthe cardiac rhythm assessed. If the electrocardiographic rhythm is compatible with a cardiac out put then the pulse must be assessed carefully.

The Tt pathway split in to specific limbs

1. Ventricular fibrillation (VF)/Pulse less ventricular tachycardia (VT)
2. Non Ventricular fibrillation (Non -VF)/ Non Pulse less ventricular tachycardia (Non -VT)

Ventricular fibrillation (VF)/Pulse less ventricular tachycardia (VT)

This is most common arrhythmia associated with sudden cardiac arrest in adults. The Tt is defibrillation and the survival rate from cardiac arrest has been shown to be related directly to the interval between collapse and first defibrillation. Defibrillation is delivered as a series of three DC shocks at 200J, 200J, and 360J.Subsequent defibrillation attempts are made at 360J and BLS continued for one min. before a further series of shocks are given.

Non Ventricular fibrillation (Non -VF)/ Non Pulse less ventricular tachycardia (Non -VT)

Non –VF/ Non –VT may be one of two rhythms:

***Asystole** –This is a flat ECG trace indicating no ventricular activity only. Occasionally, there may be P wave electrical activity only.

Asystole is the terminal event of all arrhythmias. Management of Asystole is intubate immediately and start pulmonary ventilation and cardiac massage.Consider possible cause like hyperkalamia,hypokelamia ,hypothermia, hypoxia, and acidosis. Adrenaline 1mg iv and repeat every 3 min. Atropine 1mg iv repeat every 3 min.to a total of 0.04mg/kg.(Vagolytic dose of Atrpine is 2mg i.e. 0.04mg/kg)Transcutaneous pacing if no response then consider termination of efforts.

***Electromechanical dissociation (EMD) - EMD or pulse less electrical activity (PEA)** has the worst prognosis of all rhythms associated with cardiac arrest. The diagnosis is made when the ECG shows electrical activity consistent with cardiac activity but there is no palpable peripheral pulse (i.e pulse less electrical activity.)

The Tt of cardiac arrest when either Asystole or EMD is diagnosed is continued BLS in cycle of 3 min. whilst other resuscitative methods are applied.

Action to be taken during CPR

1. Correct the reversible causes of the cardiac arrest i.e.**"four Hs and four Ts"- Hypoxia, Hypovolaemia, Hypo/Hyperkelaemia and metabolic Disorder, Hypothermia, Tension pneumothorax, Tamponade, Toxic / Therapeutic disorders and Thromboembolic and mechanical obstruction.**
2. Check the electrode /paddle position and contact
   ECG rhythm assessment is fundamental to the continuation of ALS.
3. Attempts /Verify air way and O_2 –Securing the air way and ventilation of the lungs with high conc. of oxygen. Tracheal intubation >LMA> AMBU bag with reservoir bag plus 8-10L/min.
4. Attempts /Verify Venous access.

5. Give adrenaline/epinephrine iv every 3min. If venous cannulation has not been achieved early in the resuscitation sequence, then epinephrine 2-3 mg, diluted in 10ml normal saline may be administered via the tracheal route and followed by five additional ventilation to aid spread throughout the lungs.
6. An antiarrhythmic drug has been recommended to aid electrical defibrillation, to prevent the reoccurrence of ventricular fibrillation and to terminate serious electrical arrhythmias.

A. Lidocaine has been used in the Tt of resistant ventricular fibrillation and prevents the recurrence of ventricular fibrillation after successful defibrillation.
B. Bretylium has been used as a pharmacological defibrillator.
C. Atropine/Pacing- atropine is a parasympathetic nerve blocker and is used to counter increased vagal tone. IV 3 mg is sufficient to effectively block vagal activity.
D. Buffers/Sodiumbicarbonate- the recommendation for the use of buffers limited to severe acidosis (Ph <7.1) and base excess is more than -10.mmol /l.

Note- Use of Sodium bicarbonate without ABG is not recommended because it liberate excess CO_2 (1) that change cerebral Ph and can worsen neuronal injury, (2) Increased ICT. (3) It defuse in to cell can worsen intracellular acidosis.

Out come of CPR: 1. Depends on the Cause 2. The time of initiation of CPR and

3. Duration of which CPR is performed

Survival is better if BLS is initiated with in 4 min. of arrest and ACLS with in 8 min.[2]

After care: For every 10 in hospital resuscitation events, 3 Pt's survive the initial resuscitation procedure, two survive the next 24 h,1.5 survive to be discharged from the hospital and one Pt's live for one year after the initial event. These simple statistics illustrate the initial success rate of resuscitation and emphasize the need for careful post resuscitation care.

After resuscitation, prevention of secondary cerebral injury requires full oxygenation with cerebral perfusion pressure >70 mmHg.Head is slightly elevated and IPPV used to maintain $paCO_2$ 25-28 mmHg.

Choice of fluid during CPR

Glucose and calcium containing iv fluid are to be avoid as hyperglycemia and hypocalcemia can be detrimental in neuronal injury.(Excess calcium worsens cellular death)
So normal saline(NS) solution is choice.

How long CPR should be continued[2]

The recent recommendations are that an effort can be stopped if there is no response for 20-30 min.

When to stop resuscitation[1]

It is very easy to start; not so easy knowing when to stop?

1. When it is discovered that the pt's was about to die anywhere, e.g. of terminal cancer, terminal senile dementia.
2. When pt's had requested not to be resuscitated "Living will".
3. When a 'do not attempt resuscitation' (DNAR) note has been written in the notes.
4. When chest compression do not produce any palpable pulse in spite of resuscitation.
5. After prolong EMD when the 5Hs and 5Ts have been checked.
6. Other completely hopeless situation, e.g. Head injury.

Note:- EMD-Electromachanical dissociation/pulseless electrical activity

Complication of CPR[2]

1. Rib fracture
2. Pneumothorax
3. Pneumopericardium
4. Pneumomediastinum
5. Injury to diaphragm
6. Gastric injury
7. Lung injury
8. Injury to major vessels particularly by fracture ribs
9. Injury to abdominal.organs;liver ,spleen and stomach

Open chest massage[2]

Indications are:

1. Arrest during intrathoracic procedure
2. Cardiac tamponade
3. Air embolism
4. Chest deformity
5. Penetrating blunt trauma

Post resuscitative life support includes

6. Cerebral protection that is why now a days CPR is termed as CPCR (Cardio pulmonary cerebral resuscitation) by decreasing ICT, decreasing metabolic rate and O_2 consumption of brain by Thiopentone, nimodipine and corticosteroid.
7. Temp. management
8. Maintenance of Cardiac function like by dopamine and decreased ventricular irritability by lignocaine.
9. Management of other vitals organ like renal and hepatic.
10.

CPR Inpregnancy[2]

*External cardiac massage should be combined with lateral tilt.

*Sodium bicarbonate administration is advocated early

Intrapartum events associated with need for resuscitation[7]

1.Cesarean delivery

2. Abnormal fetal presentation

3. Premature labor

4. Rupture of membranes >24 h

5.Chorioamnionitis

6.Precipitous labor

7. Prolonged labor >24 h

8. Prolonged second state >3-4 h

9.Nonreassuring fetal heart rate patterns

10.General anesthesia

11.Uterine tetany

12.Meconium-stained amniotic fluid

13. Prolapsed cord

14.Abruptio placentae

15.Uterine rupture

16. Difficult instrumental delivery

17. Maternal systemic narcotics within h of delivery

CPR in infant and children[2]

1. For air way maintains only moderate head extension during triple manoeuvre is recommended.
2. Due to high placed larynx in infant mouth to nose breathing is preferred over mouth to mouth breathing
3. Cardiac compression is done over midsternum (not lower 1/3 of sternum)
4. Pulse check (in infant) is brachial.
5. Pre cardiac thump is not recommended
6. During defibrillation energy given in 2j/kg (if un successful than 4j/kg)

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Role of Rasayana in Cancer patients -as an adjuvant approach in Palliative Care

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Abstract: There is a need to develop effective and economically feasible palliative care strategies to address the needs of the population suffering from serious illness and improve their quality of life. Cancer is one of those serious illnesses which require a good palliative care during and post treatment.Ayurveda has a potentially important role to play in cancer prevention and control, encompassing the domains of preventive and clinical oncology involving risk reduction, health promotion, improving prognosis and treatment response and long-term survival, preventing recurrence, minimizing treatment side effects, toxicity and adverse events. There are several potential compounds in Ayurveda which can be utilized in the above mentioned aspects of cancer control. Ayurveda, the ancient Indian medical wisdom prescribed numerous ways and means to overcome the chronic and incurable diseases and associated medical, psychological and social problems in a holistic way under the heading of Rasayana. The concept of Rasayana is very applicable in maintain good emotional, physical and psychological health. No doubt it is beneficial to offer a good palliative care and improve quality of life in cancer patient ,used as an adjuvant therapy.

KeyWords: Palliative, Care, Rasayana, Arbuda,Granthi, Karkatarbuda, AsadhyaVrana,

Conflict of interest: None. **Ethical Clearence: Yes.**

Introduction:

Cancer is a hyper proliferative disorder that involves transformation, dysregulation of apoptosis, proliferation, invasion, angiogenesis and metastasis. [1]Chemoprevention, reducing side-effects and toxicities of conventional drugs, increasing the body's natural immune system, and increasing quality of life are common reasons to opt for the alternative approaches in cancer management.Patients who present with cancer have three basic options for treatment. The first and most conventional treatments utilize chemotherapy, surgery and radiation. Second are a wide range of alternative therapies and third is combined approach. Conventional treatments for cancer have varying success rates. For somecancer when caught early conventional medicine can do to affect a cure even if it is caught early. A majority of the present day disease are reported to be due to the shift in the balance of pro-oxidant and the antioxidant homeostatic phenomenon in the body. Pro-oxidant condition dominates either due to the poor scavenging in the body caused by depletion of the dietary antioxidants.

According to Ayurveda , there are various diseases entities which resembles new growths for purpose of the malignant natureof the disease. The description of Granthi and arbuda come nearest to cancer than any other disease

Understanding AyurvedicOncobiology:

The word Arbuda has been derived from the root "Arb" with suffix "Ena" along with augmentation of "Nd," which means "to destroy" (particularly mamsadhatu). Grammatically, it denotes the fleshy outgrowths. Arbuda has various meanings such as swelling, number of 10

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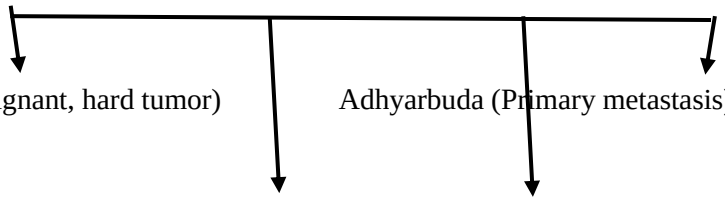
billion (may be interpreted as uncontrolled multiplication of cells), a mountain, a fleshy mass, a serpent, clouds, or a demon (i. e. a serpent). During the Vedic period, Arbuda was considered as a serpent like demon that was conquered by "Lord Indra," whereas the literary meaning of Arbuda is a lump or a mass or a polyp. According to Sushruta, Arbuda are gradually increasing, big, globular, slightly painful, fixed, deep-seated, fleshy masses that usually do not suppurate. They can arise from any part of the body surface. They are caused by the derangement of mamsa and raktadhatuvitiated by tridosha. [2]

Types and subtypes of Tumor accordingto Ayurveda :

In the texts of Ayurveda Arbuda and granthi are said to be similar. Granthi literally means a knotty growth. The etiology and clinical features of both granthi and arbuda are similar, with a difference that on breaking open, the granthi gives various discharges based on the involvement of the Doshas. Thus, it can be understood that granthi may actually represent cystic growths. The phenomenon of the spread of tumors or metastasis (dwirarbuda) was well known to the ancient Ayurvedic physicians and surgeons. Several references are available regarding the local and distal spread of the tumor as well as their recurrence.[3]Sushruta has described metastasis (i.e., distal spread of tumor under the heading of dwirarbuda), and the recurrence of tumor has been mentioned as adhyarbuda. Metastasis of tumors has been described as an occurrence of a couple of similar types of tumors simultaneously serially. When a tumor arises on a preexisting site or near a primary tumor, it is called adhyarbuda. There are several other descriptions available in Ayurveda regarding distal spread and recurrence of tumor. While describing the treatment of tumors, Sushrutahas mentioned that all efforts should be made for the complete removal of tumors, as incomplete removal causes recurrence and ultimately destroys the life of patient. [4] To explain the graveness of recurrence, he gave an example that a small remnant tumor can destroy the body just as a small spark of fire can destroy a house. Distal spread of a tumor has also been described in connection with malignant ulcer (asadhyavrana).[5]This description can also be represented in the following way [6]

Granthi (Begin glandular swelling)

Arbuda (Definite malignancy)



Karkatarbuda (Malignant, hard tumor) Adhyarbuda (Primary metastasis)

Vranarbuda (Ulcerative tumors)Dwiarsbuda (Secondary metastasis)

- Sarcomas (Mamsarbuda)
- Leukemia (Raktarbuda)
- Oral Cancer (Mukharbuda)
- Incurable or maligant ulcer (AsadhyaVrana)

Common Symptoms in the Cancer Patient:

- Pain
- Anorexia/weight loss
- Dysphagia
- Skin breakdown
- Depression, anxiety
- Caregiver distress
- Economic distress

Cancer diagnosed in late stages requires properly well planned palliation. Ayurveda has wide application in palliative care. Patients with advanced stage of the diseases often suffer from severe pain, nonhealing ulcer, foul smelling fungating growth, cachexia and extreme tiredness. Use of poultice with preparations containing Nimba which has antibiotic properties, can be used to manage foul smelling and fungating wounds to control infections.Herbal decoctions can be used to clean the wounds and dressing can be made with ayurvedic remedies. This can minimize the use of antibiotics, their ill effects and economical load to the patient and their family.. Similarly, external application of oils and hot fomentation or application of poultices can be used to reduce the severity of pain and thus can be helpful in minimizing the use of analgesics and antiinflammatory drugs. Ayurvedic medicines which can improve appetite, digestion and bowel habit can be used without causing much discomfort to the patient. Herbal food supplements can also be advised. Herbal diuretics, drugs which are used as liver tonics (Agnibalavardhak), haematnics(Raktaverdhaka), sedatives(Chittodvegahara), etc can be used for managing palliative patients to improve food intake and general health leading to better quality of life.

Palliative Care:

According to World Health Organization's Palliative Care Fact sheet 2015, each year, an estimated 40 million people need palliative care and 78% of them live in low- and middle income countries. (Palliative care fact sheet no. 402. July; 2015).Palliative care is interdisciplinary care that provides support for the physical, emotional, and psychological sufferings of patients and their families with any advanced illness, regardless of age, diagnosis or life expectancy. [7]

Goals of Palliative Care: [8]

•Prevent and relieve suffering.

•Improve quality of life through Palliative Care.

•Relevant to curative orend-of-life care.

Concept of Rasayana:

RasayanaTherapy is one among the eight clinical specialities of Classical Ayurveda (Ashtanga Ayurveda). It is not only a drug therapy but is a specialized and scientific procedure practiced in the form of rejuvenative recipes, dietary regimen and special health-promoting conduct and behaviour (AcharaRasayana). Rasayana comprehends all the modalities of Health

Care i.e., Preventive, Curative, Eliminative, Restorative, Behavioural, Pharmaceutical, Dietetic and so on. It is applicable to all ageseven from pediatrics to geriatrics.

What Determines the Rasayana Effect of a Drug:

Rasayana effects of various drugs and procedures are basicallyrelated to the systemic functions of Tridoshas (Vata, Pitta and Kapha). As a common rule all anabolic functions like tissue building up, its normal functions that retained in the body for a long time are governed with the functions of Kapha. The metabolic changes are due to effect of pitta and neurological functions are controlled by Vata. It can be observed that, majority of Rasayana drugs are neither increase or decrease the dosha but maintain a balanced state.According to the texts of Ayurveda following are three main approaches of rasayana therapy-

1-**Preventive Rasayana (Ajasrika&AcharaRasayana)**:-

Ajasrikarasayana (dietary modification) is the regular consumption of foods and fruits having anti-cancer benefits (functional foods) likeHaridra, Lahsun, Draksha etc.. This is also about avoiding incompatible foods (like consumption of fish and milk/curd together) and foods of cancer precipitating nature. Common examples of such foods are excessive intake of madhuraras[9] eating of smoked fish and rice [10] low residue/fiber and high protein diet [11]regular consumption of preserved foods , consumption of beef fat and barbecued meat, high intake of animal protein and regular intake of alcohol. [12]

Achararasayana (Behavioural modification) is a lifestyle modification through good socio behavioral conducts, which keeps the aspirant free from the emotional disturbances and permits a less stressful life with pronounced anabolic state leading to health and happiness. In present day perspective it implies the importance of physical activity and other spiritual practices. This is much beneficial for the prevention in the individuals who have the familial history of cancers.

2-Promotiverasayana (Kamyarasayana):-

Promotes the health status of the individuals (pranakamya) who are prone to get cancers by their profession (night shift workers, industrial workers etc) or by the place of their residence (living nearby the industries) or by their habits (smoking, tobacco chewing) etc., Kamyarasayana is used in healthy individuals to promote vigor and vitality. These rasayana acts as 'protective agents' (Radio/chemo protection). For example regular intake ***Agastyarasayan*** or ***Chitrakaharitaki***will protect the individuals from respiratory related occupational hazards.

3-**Curative rasayana (Naimittikarasayana)**

Naimittikarasayana are used in patients suffering from specific diseases in order to promote the vitality, and cure of the disease. In different ways it can be applied. Adjunctive therapy is an additional or secondary therapy combined with a primary treatment to get better cure rates or a faster response to primary treatment. For example the available information on Curcumin suggests that the radio protective effect might be mainly due to its ability to reduce oxidative stress and inhibit transcription of genes related to oxidative stress and inflammatory responses, whereas the radiosensitive activity might be due the up regulation of genes responsible for cell death. [13]

In certain instances, a second medicine doesn't treat the primary condition but actually makes the first medicine work more effectively. An example to this condition is efficacy of Indukantaghrita as an adjunct to Radiotherapy / Chemotherapy in immunocompromised states. [14]

Adjunctive therapy may be employed as supplement to minimize the side effects of a primary therapy for example Maharshi Amrita Kalash (MAK), an ayurvedic compound containing many herbs rich in antioxidants, was proved for its use as a supplement along with chemotherapeutic drugs in breast cancer patients for reducing chemotherapy induced vomiting, anorexia and improving general well-being of patients. [15] The results of a study suggest the potential chemo protective and radio protective effects of Rasayana. [16]

Free radicals and their role in cancer:-

Redicals are natural by products of our own metabolism. These are electrically charged molecules that attack our cells ,tearing through cellular membranes to react and create havoc with the nucleic acids, proteins, and enzymes present in the body attacks by free radicals. Collectively known as oxidative stress, are capable of causing cells to lose their structure, function and can eventually destroy them. They are continuously produced by our body by using of oxygen such as in respiration and some cell-mediated immune functions. They are also generated through environmental pollutants, cigarette smoke, automobile exhaust, radiation, airpollution, pesticides, etc. Normally the antioxidant defense systems in the body can only protect the body when the amount of the free radicals in within the normal physiological level. Free radicals may be designated as sharks that damage molecules in cell membranes.

The tumor cells are spread through the bone marrow or lymphoid tissues and circulate in the blood. DNA damage plays a very important role in carcinogenesis and any agent, which is capable of chemically modifying DNA could be carcinogenic. Behavioral or psychological factors such as chronic stress may influence occurrence or progression of cancer through several mechanisms:

- Influence of stress on natural killer cells
- Poorer repair of damaged DNA
- Modulation of apoptosis

Rasayana drugs act inside the human body by modulating the neuroendocrine immune systems and have been found to be a rich source of antioxidants These Rasayana plants are said to possess the following properties, they prevent ageing reestablish youth, strength life, brain power and prevent disease and increases the resistance of the body. [17]

Rasayana as an adjuvant therapy:

Rasayana drugs are reported as rejuvenators, nutritional supplements and possess strong antioxidant activity. They have antagonistic actions on the oxidative stressors which giving rise to the formation of different free radicals. Their antistress/adaptogenic actions have made the therapeutically for more important. Rasayana preparations also increased stem cell proliferation and also prevented free radical induced injury produced by radiation. [18] According to clinical studies Rasayan drugs have shown very impressive effects on protecting body from the side

effects like alopecia, nausea, constipation, anorexia and vomiting, thus Rasayana preparations are very effective as chemo preventive and radio preventive agents.

Discussion:

Rasayana is associated with multifaceted roles due to its Prevention, Promotion & Curative approaches against a wide range of obnoxious stimuli generated by both biosphere and ecosphere in the causation and progression of cancers. Its use protects the physiology and maintains the structural and functional integrity at molecular levels. Rasayanadravyas shows their action by its antioxidant potentials, enhancing Immunity, controlling metabolism and modify cellular signals complement their activities as Cancer preventing agents. Rasayanadravyas can be called as Biological Response Modifiers.[19] Neuro-endocrine theory also known as Programmed cell death theory, postulates that all somatic cells have a built in biological clock, or a genetically controlled life span, after which they would die, no matter how favorable circumstances are. Immunological theory states that mutated cells stimulate immunological reactions within the organism and these reactions themselves degrade and eventually destroy the organism. Evidence from these theories of ageing [20] supports the potential role ofRasayana, as it shows the multiple actions on different systems of the body by modulating the Psycho-Neuroendocrine-Immune systems. [21]

Conclusions

Cancer is not a single disease rather a syndrome. It is the largest killer disease in world. Due to change of lifestyle and food habits, its prevalence has been increased. The Ayurvedic line of supportive therapies is highly beneficial. It helps in reducing the adverse effect of chemotherapy and radiotherapy. Ayurveda can be helpful in the management of cancer in many ways such as prophylactic, palliative, curative and supportive. Ayurvedic medicines help to improve the quality of life of patients. Stress reliving techniques like rasayanatherapyhave been found to be effective in maintaining both mental and physical health. These techniques can be incorporated in the management of cancer patients to potentiate the effects of conventional treatment.

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Tridimensional Concept Module of Sangyaharan (Anaesthesia) and its Application in Clinical Practice

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Abstract: The existence and development of any science is based on some certain fundamental principles. Though a well known introduction of Anaestgesiology in modern medical practice is not very old but the principles of Sangyaharan in Ayurvedic medical education has not been understood that much even till date and there may be many more reasons related too . A well known fact that Sushruta ,recognized as father of surgery has performed many surgical operations and mentioned certain fundamental principles of those which are being accepted and followed by modern surgical practitioners even in present much more developed scenario .Now the question arises was those surgical operation possible without sangyaharan and if ,definitely not, then what were the fundamental principles adopted during those days in clinical practice of Sangyaharan. In the present paper an effort has been made to explore and unturn those fundamental principles of sangyaharan practice in Ayurvedic system of medical science.

Key words: Sangyaharan, Balanced anaesthesia, TIVA, ETT, LMA, IGel.

Conflict of interest: None. **Ethical Clearence: Yes.**

Introduction-The philosophy of life in universe is based on - *NABHA*-Space, *JALA*-Water and *STHALA*-Earth. Ayurveda the science of life is also based on three body humors **VATA,PITTA** and *KAPHA* and three fundamental principles -*HETU,LINGA* and *AUSHADHA* for the treatment and to maintain good health. The whole system of Ayurveda has basically followers of two schools viz. Medicine and Surgery followed by Charaka and Sushruta respectively. Sushruta recognized as father of ancient surgery and evidences suggest that surgery was on its peak of glory during those period. He has performed many surgical operations to tread those diseases which were not possible to treat medically.

Though a large number of references related to surgical operations are available in Sushruta Samhita and allied surgical texts but a very little or least is mentioned related to Sangyaharan. Now a very big question always arise was it possible to perform such surgical procedures without making a patient unconscious and pain free. The introduction of modern anaesthesia in medical practice is comparatively not very old but has gained an unparallel development with the intervals of time because of many factors known to all. The following might be some reasons of non availability of Sangyaharan references or texts in Ayurvedic system as of other specialty.

1-There might be any text related to sangyaharan written by Sushrutas contemporary colleague but till date unidentified.

2-That might be destroyed or burnt like other precious books in Takshshila and Nalanda incidence.

3-That might be stolen by Mughals and British attackers.

4-That might be traditionally known to some limited families and was not documented.

5- Finally the lack of support from authorities due to fear of misuse in the society as references of Vishkanyas and Aromatic anaesthetic drugs during those period of king and Kingdom.

Reasons may be many more but for the better teaching, training and social health services Sangyaharan is an essential ,useful and demanding specialty in Ayurvedic education and hence understanding of fundamental principles of Sangyaharan is much required.

As we all know that anaesthesia means a procedure which is done the administration of some drugs through a specific and suitable technique before the commencement of any surgical procedure just to make a patient pain free and protect the vital functions of the patient from ill effects of surgical trauma and provide optimum surgical condition to facilitate the surgeons also. For that very purpose preoperative, perioperative and postoperative management and care has always been considered on prime importance. A well documented Tridimensional guidelines for any surgical procedure has been described by Sushruta as -Poorvakarma (Preoperative), Pradhankarma (main surgical procedure) and Paschatkarma (postoperative care). Sangyaharan is also based on many important tripods as with that of fundamental principles of Ayurveda mentioned in Charaka Samhita[1] Following are some important Triads of Sangyaharan which have their significant clinical importance in day to day practice-

1-Balanced Anaesthesia-It is mandatory and always required for better out come from surgical and anaesthetic intervention and has its own **Traid-**

- Amnesia,
- Analgesia and
- Muscle Relaxation.

An amnesia makes patient unconscious by inducing proper stage of sleep where as analgesia and muscle relaxation makes patient pain free and protects from ill effects of surgical trauma on vital organs of the patient. The balanced state of anaesthesia also facilitates optimum surgical condition so that not only surgical time can be minimized but also unnecessary tissue pulling is avoided.[2]

2-Scope and duties –With the increasing demand, dedication and duties the scope of an anaesthiologist (Sangyaharak) has come out of the four boundary walls of operation theatre. Again this also has its **Triad-**

- Anaesthesia Services,
- Critical Care and ICU services and
- Pain and Palliative Care.

The references of these concepts are very well documented in the texts of Ayurveda.*

3-Types of Sangyaharan(anaesthesia) – The nature , technique and drugs used for anaesthesia purpose is not always the same for each and every person. It varies according to the status of patient (Psychophysical and Physiopathological) and indication of surgical procedures. The selection of proper choice of anaesthesia makes patient more comfortable with a better perioperative monitoring and good post operative recovery. The Triad of types of anaesthesia are-[3]

- Local anaesthesia,
- Regional anaesthesia and
- General anaesthesia.

4-Pre anaesthetic Preparation (Poorvakarma)-Every procedure in medical practice requires a specific pre procedural preparation as Poorvakarma related to Panchakarma[4], pre operative preparation before surgical procedures[5].Similarly there is well accepted concept of pre anaesthetic preparation before the actual commencement of anaesthesia. This very aspect is the back bone of safe clinical practice of sangyaharan and this also comprises many **Triads-**

- Preparation of patient,
- Preparation for plan of anaesthesia as per need and
- Proper ckecking of machine ,equipment and drugs to be required.

5-Pre anaesthetic Assessment of Patient - A proper assessment of patient before aneasthesia on ASA guide lines are always mandatory for safety of patient and better monitoring. It helps in many ways as-

- Selection for choice of anaesthesia technique
- Drugs and their doses, and
- Surgical risk involved

According to the principles of Ayurveda the assessment of patient is done on many parameters-*Trividh, Panchvidh ,Ashtavidh and Dashadhvidh Priksha*[6].The same has been adopted even in modern practice of anaesthesia i.e. ***I3-***

- Inspection
- Interrogation and
- Investigation

A thorough general ,local and systemic inspection and examination be performed. An interrogation be made by the patient and /or attendant (as the condition permits) regarding any existing disease other than surgical indication, any medication for that, any known or unknown drug sensitivity, any previous history of surgical or anaaesthetic procedure with or without their ill experiences. Basic and essential relevant laboratory investigation is essential in all respect of anaesthesia practice. This very aspect of ***I3*** helps to make the proper *inference* of safe anaesthesia***(I4).***

6-Preanaesthetic Preparation of Patient-One should never forget that what so ever he is going to perform is only for the benefit of the patient and hence preparation of the patient in all respect be considered. After proper assessment and plan of anaesthesia patient preparation is done under three heads-

- Physical Preparation
- Physiological Preparation and
- Psychological Preparation

Physical preparation is done local as well as general. It is advised to remove any artificial denture even loose teeth, contact lenses, metallic ornaments, hair pins, safety clips (they may dislodge and can cause injury or may enter into tracheal route), nail polish and paint, henna, lipsticks (can mislead the sensors of monitoring devises) and tight garments before entering operation theatre.

While considering the physiological preparation try to maintain all systemic and physiological function in normal state especially in routine surgical procedures. Some other but very important guide lines be followed for the safety during subsequent course of aneasthesia-

- Make the patient Nil per oral
- Make the bowel clear and
- Maintain patent I.V. line

This very concept is clearly mentioned in Sushruta Smhita[7] and is being followed even today. Nil oral prevents the aspiration of gastric contents during aneasthesia procedures where as a clear bowel not only provides good surgical condition but also facilitates early recovery from paralytic illus and abdominal distention during post operative period which also minimizes unnecessary extra medication. A patent I.V. line which is considered as life line must be maintained even before local anaesthesia .There are specific guide lines for making patient NPO in routine and emergency cases with respect to the age and condition of patients. Similarly for the loss of sensible and insensible fluids during preoperative period a specific guide line for I.V. fluid administration is also mentioned. Hematological and electrolyte correction is also be taken in proper consideration accordingly.

It is a well known fact as a patient is informed any surgical intervention for the treatment he or she becomes more stressed regarding outcomes specially recovery from anaesthesia. To minimize the anxiety, apprehension and excitement of the patient proper explanation regarding anaesthesia procedures with their merits accordingly. sometimes respiratory physiotherapy is also required in chronic smokers. Good counseling plays an important role not only to minimize fear of the patient but also makes the patent more friendly and comfortable. A well informed written consent of the patient and attendant also be taken. Hence psychological preparation consists of very important and essential component of Triad-[8,9,10]

- Counseling
- Consent and
- Choice of anesthesia planned be well explained

The use of some premedicants also play an important role as to minimize respiratory and gastric secretions, to alley anxiety, apprehension, and excitement ,to produce sedation and minimize anaesthetic dose requirement and thus increase the safety window and sometimes provide analgesia too.[11]

7-Monitoring of Anaesthesia- While considering the Triad of clinical monitoring during course of anaesthesia and post anaesthetic recovery period following are the key monitoring aids-

- Invasive Monitoring
- Noninvasive Monitoring and
- Clinical observations.

A man behind the screen is very much important and hence a proper, continuous, close monitoring is very much important ant specially in a patient under anaesthesia because every moment there is a change in the state of physiological function of the patient. Maintenance of homeostasis of vitals through Input, Output, Esophageal thermometer, Central line monitoring and ETCO2 are maintained with the help of invasive monitors. Blood pressure, Pulse rate, SPO2,ECG and core body temperature are monitored through noninvasive monitors. Over all clinical monitoring is best one even today and sometimes it helps in crucial conditions when electronic devices fail their accuracy. Ashthavidh Pariksha described in the texts of Ayurveda has a very scientific interpretation in this regard.[12-13].

8-Protective consideration of Trimarmas *(Three Vitals)*-Protection against ill effects of surgical trauma and anaestheic drugs and techniques in an anaesthetized person has been of great importance. The three Marmas (vital organs)-[14]

- **Hrid-Heart & Lungs** - CVS and Respiratory system
- **Shirah- Brain-**Central Nervous system and
- **Vasti- Nabhi-** Hepatorenal System

As it is a well known fact that surgical and anaesthetic drugs alter the normal physiological function of above vital organ system. The cumulative effect of surgical trauma, duration and nature of surgery, surgical posture and anaesthesia technique and drugs used, all together alter the homeostasis of physiological function. The ill effects of these entire if not corrected and protected well in time they can lead long lasting crucial situations even in immediate and remote recovery period. Sushruta has mentioned many protective measures for these vital organs in surgical patients.[15,16,17]

9-Steps of Anaesthesia (G.A) – As a matter of fact balanced anaesthesia is achieved by-amnesia, analgesia and muscle relaxation**.** Though there are three basics steps of anaesthesia in Local, Regional and General anaesthesia procedures as- *Induction, Perioperative monitoring and Reversal*. We all know the drugs used in local and general anaesthesia are self limiting and metabolized with the time factor but it is more obvious with general anaesthesia .In case of general anaestheia some specific drugs according to their indications with the condition of patient need are being used to produce induction of anaesthesia (amnesia).

In case of Local and regional anaesthesia technique amnesia is not achieved by anaesthetic drug used for but they produce analgesia and muscle relaxation during peri operative period. After induction perioperative analgesia and muscle relaxation in general anaesthesia is maintained by the injection of some specific drugs , however anaesthesia with some volatiles specially Ether is excluded here.

Reversal from anaesthesia is also achieved with the use of some specific neuromuscular block antagonizing drugs.

10-Types of Induction agents- Selection of a good inducing agent varies with the condition of patient .There are many drugs used but basically categorized as-(i) Volatile anaesthetics ,(ii) I.V. anaesthetics and (iii) Use of both volatile with I.v. anaesthetics. The perioperative monitoring and maintenance of anaeshesia is also achieved with the use of these drugs according to need .

11-Types of Airway Patency- In clinical practice of Sangyaharan Airway patency has always been of great concern. In an unconscious or anaesthetized patient airway is made patent by – (i) Insertion of oropharyngeal airway, LMA, IGEL (ii) Nasal endotracheal Tube and (iii) Oral endo tracheal Tube.[18-19]

12-Nature of Recovery-The nature of recovery from anaesthesia depends on many factors-proper assessment of patient, nature of premedicant used, patho- physiological status of patient, nature and dose of muscle relaxant used, time of last dose of drug , cumulative effect of drugs, any pre existing endocrinal disorder, metabolic dysfunction, core body and environment temperature, hepatorenal dysfunction ,hypercabia, hypoxia, hyperventilation and sometimes use of amino glycoside nature of antibiotics.[20]

A proper recovery from anaesthesia must be in all three aspects-(i)Recovery of consciousness ,(ii) Regain of muscle tone and (iii) Response of verbal commands with proper protective reflexes.

However the nature of reversal from anaestehesia is again categorized under thee heads which helps in consideration of patient shifting from operation theatre ro post operative recovery room –(i) Fully awake and safe,(ii) Not awake but safe and(iii) Not awake and not safe.

Thus we see that tridimensional module of clinical sangyaharan plays an important role for safe practice. Unlike fundamental principles of Ayurvedic medical and surgical practice which is based on many Tridimensional modules of treatment, Sangyaharan is also based on above mentioned TRIPODS to be considered always for a safe clinical practice.

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महिलाओं में कटिशूल की समस्या और समाधान

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ABSTRACT (साराशं) हर समय उत्तोंत्तर आगे बढ़ने के लिए नित्य नये नये कार्य करने के लिए स्वस्थ रहना अति आवश्यक हैं । आधुनिक जीवन में महिलाओ की बढती जिम्मेंदारी तथा कार्यभार के कारण उनके कार्य दिवस अत्यन्त व्यस्त रहता है। भारतीय रसोई में तथा घर के रखाव में महिलाओं का अत्यधिक समय व्यतीत हो जाता है। सुबह उठते ही घर परिवार तथा बच्चों को सही समय पर उठाना उनके कार्य करने में समय समाप्त हो जाता है उनको अपने लिए समय नही बच पाता है।

नौकरी पेशा वाली महिलाओं को दोहरी भूमिका निभाना अत्यन्त ही व्यस्तता भरी जीवन है। घर का कार्य निपटाने के बाद अपने कार्यक्षेत्र में जाती है ,वहाँ दिनभर कार्य करने के बाद घर वापस आते ही घर का कार्यभार सम्भालना चुनौति भरा कार्य है।

अधिकाशतः महिलाओं में 30...35 वर्ष के बाद यह दर्द रहने लगताहै जो अत्यन्त पीडादायक होता है। कमर दर्द का कोई एक कारण पता करने कोशिश करते है तो कम ही सफलता मिलती है । कशेरूकाओं, मेरूदण्ड, श्रोणिमेखला तथा अन्य स्थानिय अस्थियों एवं इन सभी अस्थियों से जुडी हुयी पेशियों में संरचनात्मक विकार अथवा विभिन्न दैनिक क्रियाओं या दुर्घटनाओं के फलस्वरूप हुये विकारों से कमर दर्द उभरती है। कटिशूल वस्तुतः बन्धक तन्तुओं के प्रदाह की अवस्था है जिसमें रक्तधारों में रक्त रूक जाने से नाडियों के छोरों पर दबाव पड़ता है। इसमें पीठ के निम्न भाग की कशेरूकाओं से आरम्भ होकर नितम्ब से होते हुये पेट में पहुंचता है। कभी कभी दर्द की पहुँच धुटने तक हो जाती है किन्तु उस समय भी दर्द का केन्द्र कटि प्रदेश ही होता हैं।

योग तथा प्रकृति के माध्यम से इस समस्या का निवारण सम्भव है। योग का पालन करने से इस शारीरिक और मानसिक समस्या में आराम मिलता हैं। जैसे ताडासन, भुजंगासन, शलभासन, उत्तानपादासन, कटिचक्रासन, वज्रासन, तथा शंखप्रक्षालन प्रमुख

आसन हैं। इसके अतिरिक्त अनुलोम विलोम, कपालभॉति और भ्रामरी करना आवश्यक हैं।

महिलाओं में बढती जिम्मेदारियों के कारण उनकी व्यतता अधिक हो जाती है । राजम्मल देशाई ने यहाँ तक कहा है- " एक महिला की जिम्मेरियों में गृह प्रबन्धक, गृह निर्णायक ,उत्तरदायित्व, परिचर्या, माली बैंकर ,टेलर डिजाइनर ,ब्यूटिशियन ,मनोवैज्ञानिक सलाहकार तथा इन सबसे बढ़कर एक बेटी पत्नी और मॉ होती है। " आजकल भागदौड़ भरी लाइफ स्टाइल, कम्प्यूटर पर लगातार बढ़ता काम और व्यायाम का अभाव रीढ़ की हड्डी पर प्रतिकूल प्रभाव डालता है, हमारी कमर की बनावट में हड्डियाँ, कार्टिलेज डिस्क ,जोड़, माँसमेशियों, लिगामेन्ट व नसें आदि शामिल है इनमे से किसी में भी समस्या पैदा होने से कमर दर्द उत्पन्न होता है कभी-कभी यूरिन की समस्या के कारण भी कमर दर्द उत्पन्न होता है। सर्वेक्षणों में पाया गया है कि बड़े अस्पतालो के हड्डी रोग विभाग में 50-500 तक के मरीज कमर दर्द की शिकयत से परेशान रहते है।

महिलाओं में कुछ विशेष अवस्थाओं में कमर दर्द होती है जो इस प्रकार है

1-रजोदर्शन

प्राकृतिक नियम है कि बालिकाओं 12-16 वर्ष के बीच में मासिक धर्म होनी शुरू हो जाता है। मासिक धर्म या रजोदर्शन की शुरूआत यदि समय से हुआ तो ठीक उम्र अधिक होने पर यदि शुरू होता है तो अत्यधिक कष्टकारी होता है। साधारणतः रक्त की अधिक्ता या कमी होने पर पेट दर्द, कमर दर्द, पैर दर्द आदि शिकायत होती है।

मासिक धर्म सम्बन्धी परेशानी को दूर करने के लिए कुछ यौगिक क्रियाए इसके लिए पिट्यूटरी, डिम्बवाही ग्रन्यि और गर्भाशय को प्रभावित करने वाले यौगिक क्रियाये करते है जैसे उत्कटाआसन, भद्रासन, योगमुद्रा, उष्ट्रासन, सुप्त व्रजाजन, पश्चिमोत्तान, भुजंगाजन आदि आसन तथा नाड़ी शोधन आदि यौगिक श्वसन का अभ्यास करना चाहिए।

2-गर्भावस्था गर्भावस्था में स्त्रियों को शारीरिक व मानसिक कारणों से अनेक कष्ट झेलने पड़ते है। गर्भावस्था नौ महिने का होता है, इन नौ महिनों में अनेक परिवर्तन होते है तथा इस समय गर्भस्थ शिशु का वृद्धि एवं विकास के लिए विशेष ध्यान देने की आवश्यकता होती है। माता के मानसिक स्थिति का गर्भस्थ बच्चे के मानसिक विकास

पर प्रत्यक्ष प्रभाव पड़ता है। गर्भवती महिला को सहज साधारण व्यायाम करना चाहिए।

3- धात्रीवस्था प्रसव के पश्चात योनि, गर्भाशय, तथा उदर के पेशियों में गर्भ के तनाव मुक्त होने पर शारीरिक बनावट में परिवर्तन होता है जैसे- पेट के ऊपर सफेद रंग की लकीरे, झुरियाँ, पेट का विस्तार तथा मोटापा आदि इसके अतिरिक्त - कटिशूल मासिक धर्म की अनियमितता तथा उदर विकार आदि परेशानी हो जाती है। श्री बाला जी एक्शन मेडिकल इस्टीट्यूट की सीनियर गायनोकोलाजिस्ट डा० साधना सिंघल ने बताया कि गर्भावस्था या उसके बाद महिलाओं को कमर दर्द की शिकायत हो सकती है उसका कारण है गलत तरिके से बैठना और सोना इस अवस्था में भिन्न आसन लाभदायक है। जैसे- ताडासन, कोणासन, हस्तपादाजन, वज्रासन, योगमुद्रा, भुजंगासन, उत्तापादासन, सर्वागासन, शलभासन, नाडी शोधन आवश्यक है।

4-रजोनिवृति के बाद यह अवस्था 45 वर्ष के बाद प्रारम्भ होती है इसमें स्त्रियों के शरीर में अचानक अन्तःस्रावी ग्रन्थियों में अनेक उतार-चढ़ाव होने लगते है कुछ महिलाओं में अत्यधिक रक्तस्राव शुरू हो जाता है जिससे उनके अन्दर चिड़चिड़ापन तथा योनि एवं कमर दर्द की परेशानी हो जाती है। इस आयु में योगासन के अभ्यास एवं प्राणायाम एवं ध्यान श्रेयकर होता है। इसमें- ताड़ासन, हस्तपादासन, वज्रासन, पर्वतासन, योगमुद्रा, सर्वागांसन, मकरासन, शवासन, अर्द्धकटिचक्रासन तथा नाड़ी-शोधन आवश्यक है।

5- वृद्धावस्था तथा कमजोरी स्त्रियों में उम्र बढ़ने के साथ-साथ पौष्टिक तत्वों की कमी तथा अत्यधिक आराम एवं क्रियाशिलता भी कमर दर्द का कारण बनता है। उम्र ढलने सम्बन्धी परेशानियाँ होती है जिसमें उक्त आसनों एवं प्राणायाम के अभ्यास से लाभ प्राप्त किया जा सकता है। इसके अतिरिक्त निम्न कारण है ।

6- अधिक देर तक एक ही तरह का कार्य करना अधिक देर तक बैठकर काम करने, अधिक देर तक खड़े होकर कार्य करना ।

7- अन्य बिमारियों से सम्बन्धित मुत्र विकार, ,हड्डियों से सम्बधित ,मोटापा, गठिया ।

8- मोच स्नायुबन्धन का खिचाव या ट्टना यह रेशेदार उत्तक है जो हड्डियों और माँसपेशियों के जोडो को जोड़ता है।

9- साटिका यह परेशानी नस से होता है दर्द पीठ के हिस्से में से शुरू होकर दोनो पैरो में फैलता है।

कशेरूक दण्ड या मेरूदण्ड की हड्डिया (Vertebral column) मेरूदण्ड में कुल 33 हड्डिया होती है जिसमें 24 अस्थियाँ गतिशील रहती है। ये हड्डियाँ माला की मनिकाओं की भाँति जुड़ी रहती है इन्हे कशेरूका Vertebra कहा जाता है। यह पीठ के ठीक बीचों-बीच स्थित होती है। यह शरीर को मजबूत आधार देती है। इसकी बनावट बिल्कुल सीधी न होकर तीन स्थानों से टेढ़ी है। मेरूदण्ड पश्चकपालास्थि (Occipital Bone) के निम्न भाग से आरम्भ होकर नीचे गुदा के समीप समाप्त होता है। मेरूदण्ड की कुल 33 कशेरूकाए 5 भागों में विभाजित है :

1. ग्रीवा कशेरूका (Cervical vertebra) इसमें 7 कशेरूकाए रहती है जो गर्दन में पायी जाती है।

2. वक्षीय अथवा पृष्ठ करोश्का (Thoracic vertebra) इसमें कुल 12 कोशिकाए होती है ये वक्ष तथा पीठ के मध्य भाग में रहती है।

3. कटि कशेरूका (Lumber vertebra) इसमें कुल 5 कशेरूकाए होती है, ये कटि प्रदेश में स्थित होती है।

4. त्रिक कशेरूका (sacral vertebra) ये त्रिक स्थान पर रहती है तथा संख्या में 5 होती है परन्तु ये एक दूसरे से इस प्रकार मिली होती है कि एक ही हड्डी जैसी प्रतित होती है।

5. अनुत्रिक कशेरूका (Coccygeal vertebra) ये संख्या में 4 होती है परन्तु ये भी एक-दूसरे से मिलकर एकाकार हो जाती है। इसे गुदास्थि भी कहा जाता है। उक्त प्रकार से गर्दन में - 7 वक्ष में- 12, कटि में- 5, त्रिक में-5, अनुत्रिक-4 कुल -33 कशेरूकाए है। मनुष्य कशेरूक सुत्र है C-7 T- 12 L - 5 S - 5 C - 4 = 33

कटिशूल का प्रबन्ध - 1. योग द्वारा - योग एक ऐसा शास्त्र है जिससे मानव मनोदैहिक स्वास्थ्य संवर्द्धन कर सकता है यह व्यक्ति को शारीरिक, मानसिक और आध्यात्मिक प्रगति की ओर ले जाने वाला सफल मार्ग है। इसमें प्रत्येक पक्ष का समुचित पोषण व विकास होता है तो हमें सन्तुलित स्वास्थ्य प्राप्त होगा। योग चिकित्सा पद्धति व अन्य चिकित्सा पद्धति एक दूसरे से सम्बन्धित व सहयोगी होता है जिसका एक मात्र लक्ष्य मानव को रोगमुक्त कर स्वास्थ्य बनाना है योग चिकित्सा के द्वारा शरीर के बाह्य तथा आन्तरिक अंगों को स्वाथ रखने में मदद मिलती है।

“यत्र यत्र रूजा बाधा तं देशं व्याप्य धारयेत ।। (हठ प्रदीपिका) "5/12 अर्थात - जहाँ-जहाँ रोग की पीड़ा हो उस-उस स्थान में (वायु की) धारण करनी चाहिए।

" भीति बाधान्तरायेषु समुत्पत्रेषु योगवित्।

यथाशक्ति प्रयत्नेन योगाभ्यासं विवर्धयेत।। (हठ प्रदीपिका) "5/2m अर्थात - जब कभी भय बाधा आदि (योगमार्ग में) विध्न उत्पन्न हो तब साधकों को शक्ति के अनुसार अपने योगाभ्यास को यत्नपूर्वक बढ़ाना चाहिए अर्थात भयभीत होकर योगाभ्यास नहीं छोड़ना चाहिए।

महिलाओं के लिए कमर दर्द की समस्या के लिए आसन और प्राणायाम

योग चिकित्सा - सूक्ष्म व्यायाम - 10 मिनट

भुजंगासान 2 से 3 मिनट , अर्द्धशलभासन 2 से 3 मिनट, ताड़ासन 3 मिनट

वज्रासन 3 मिनट, मकरासन 3 मिनट, शवासन 5 मिनट ,

प्राणायाम - कपालभाति नाडी शोधन प्राणायाम सूक्ष्म व्यायाम भ्रामरी 5 मिनट.

शरीर को योगाभ्यास के लिए तैयार करने हेतु सुक्ष्म व्यायाम किया जाता है।

हाथों का सुक्ष्म व्यायाम पैरों का सुक्ष्म व्यायाम
गर्दन का सुक्ष्म व्यायाम ऑखों का सुक्ष्म व्यायाम

कन्धा एवं कमर का सुक्ष्म व्यायाम

आहार और विहार

प्रत्येक व्यक्ति को सुर्योदय से पहले उठ जाना चाहिए । सुबह व्यायाम और मार्निंग वाक करके फिर अपने अपने कार्य को उचित समय पर कर लेना चाहिए । जिससे की किसी प्रकार की जल्दबाजी न हो तथा कार्य करने की मानसिक संतुष्टि भी प्राप्त हों।

शारीरिक क्षमता के अनुसार उचित मात्रा में संतुलित आहार लेना चाहिए ,दूध को भोजन में सम्मिलित करें तथा कैल्सियम युक्त भोज्य पदार्थों का सेवन करना चाहिए । ऋतुचर्या दिनचर्या को ध्यान में रखकर भोज्य पदार्थों का चुनाव करना चाहिए। युक्ताहारविहारस्य युक्तचेष्टस्य कर्मषु ।

युक्तस्वप्नावबोधस्य योगोभवति दुःखहा।। अर्थात -जो आपके लिए उचित हो ऐसा ही आहार और विहार करने वालों को तथा स्वास्थ्य से परिपूर्ण स्वप्न का बोध हो ऐसा करने वालों को ही यौगिक साधना कष्टरहित होती है। भारतीय योग और आयुर्वेद एतदर्थ उचित निर्देश मिलते है।

1. कटिशूल का प्राकृतिक चिकित्सा द्वारा उपचार - मालिश करना, बारी-बारी से गरम और ठण्डे जल का स्नान एवं मेहन स्नान इस रोग में करना चाहिए। कमर पर 5 मिनट तक गरम और उसके बाद 5 मिनट तक ठण्डी पट्टी बारी-बारी से आधा घण्टा तक देना भी लाभकारी होता है। रोग की तेजी होने पर प्रत्येक 2 घण्टे के बाद 15 मिनट से 30 मिनट तक कमर पर वाष्प स्नान देने के बाद उस पर उष्णकर ठण्डी पट्टी का प्रयोग करना चाहिए। रात को सोने से पूर्व आधा घण्टा मेहन स्नान करना चाहिए तथा सुबह के समय थोड़ी देर घूप में बैठने के बाद उदर स्नान एवं कभी-कभी एप्सम साल्ट बाथ लेना चाहिए।

उपसंहार

महिलाओ मे होने वाले कटिशूल की समस्या अति कष्टकारी होता है। यह महिलाओ के अत्यन्त व्यस्तता भरी जीवन के कारण तथा अन्य शारीरिक कमजोरी के कारण शुरू होता है। इसके अतिरिक्त विभिन्न अवस्थाओं के कारण जैसे- रजोदर्शन, गर्भावस्था धात्रीवस्था, रजोनिवृति तथा वृद्वावस्था मे अधिकाशतः होता है ।

यौगिक आचरण उचित आसन प्राणायाम, तथा आहार विहार पर ध्यान देकर एवं योग और आयुर्वेद का सहारा लेकर इस प्रकार की समस्याओं से निजात पायी जा सकती है।

स्वस्थ शरीर एवं मन से किसी भी कार्य को करने में सरलता होती है इसलिए हर पुरूष एवं महिला को सुखी और प्रसन्नतापूर्वक जीवन व्यतीत करना चाहिए, जिससे अपने परिवार, समाज, देश तथा विश्व को अपनी सेवा लोगों के हित में दे सकें।

सन्दर्भ ग्रन्थ :

1. सक्सेना डा0 ओम प्रकाश, वृद्ध प्राकृतिक चिकित्सा नेचुरोपैथी, द्वितीय संस्सकरण सन् 2014 ई० हिन्दी सेवा संदन ट्रासफार्मर के सामने घाट, हालन गंज मथुरा पेज नं0 1320, 1321 2. विश्वनोई डा0 उन्नति, योग शिक्षा, संशोधित एवं परिवद्धित संस्करण, विनय रखेजा c/o आर0 लाल बुक डिपों पेज नं0 143, 51

3. सिंह रामहर्ष योग एवं यौगिक चिकित्सा, पुनः मुद्रित संस्करण 2016 चौखम्बा

संस्कृत प्रतिष्ठान वाराणसी 221001 पेज नं0 114 4.

4. सती डा0 राधा बल्लभ रोगी रोग परीक्षा, संस्करण: पुनः मुद्रित - 2006 चौखम्भा ओरियन्टालियां गोलघर मैदागिन वाराणसी 221001 उत्तर प्रदेश भारत पेज नं0 167, 168

5. भास्कर डा0 अशोक जैन विश्व भारती संस्थान एम०ए०/एम०एस०सी० (पूर्वार्द्र एवं उत्तराद्र)

जीवन विज्ञान प्रेक्षाध्यान एवं योग।

6. https://www.livehindustan.com

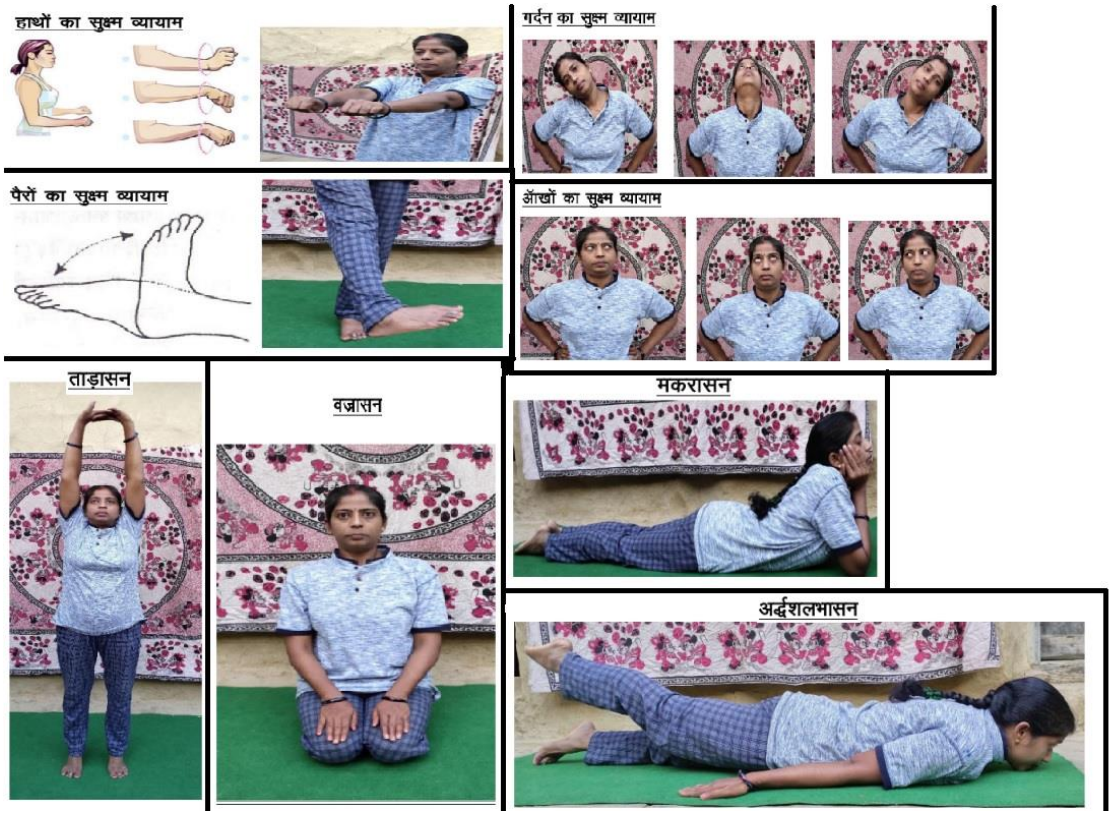
7. https://www.amarujala.com

8. त्रिपाठी डा0 के0 एम0 त्रिपाठी योगाभ्यास परिचय चौखम्बा संस्कृत पुस्तकालय, वाराणसी पेज न0 183 + 184,185 9.

9. मिश्रा, प्रो0 जे0 पी0 एन0 मानव शरीर एवं रचना जैन विश्व भारती संस्थान लाडनूं 341306 राजस्थान, पेज नं0 39 -40 10. दिगम्बर जी स्वामी हठ प्रदीपिका प्रकाशक कैवल्यधाम स्वामी कुवल्यानन्द मार्ग लोनावाला 410403 पेज नं0 188 11.

10.शैरी,डॉ0 जी0 पी0 ,गृह व्यवस्था एवं कला प्रकाशक -विनोद पुस्तक मन्दिर ,आगरा, नवीनतम संस्करण

Images of Different Asanas:

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Relieving mental tension.
Mental concentration.
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Promotes growth and regenerate nerve cells
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Nett. 100 ml.
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Composition: Each 10ml. contains :
Malkanglni (Celastrus paniculata) Sd. 100mg
Mandukaparni (Centella asiatica) Pl. 50mg
Shankhpushpi (Convolvulus pluricaulis) Pl. 50mg
Brahmi (Bacopa monnieri) Pl. 50mg
Varch (Acorus calamus) Rz. 50mg
Tagar (Valerian wallichi) Rt. 50mg
Ashwagandha (Withania somnifera) Rt. 50mg
Bhringraj (Eclipta alba) Pl. 50mg
Almond Oil (Prunus amygdalus) As Such 0.5ml
Til Oil (Sesame oil) Q.S.


VAIBHAV HERBAL
JIVANYA SANJEEVANI (GOLD)
AYURVEDIC PRODUCT
GMP CERTIFIED COMPANY
जीवन्य संजीवनी (गोल्ड)
Nett Contents : 15 Capsules
Composition:
Each capsule contains:
Ext. Ashwagandha (Withania sominfera) (Rt.) 80 mg
Ext. Shatavari (Asparagus racemosus) (Rt.) 80 mg
Ext. Vidari Kanda (Pueraria tuberosa) (Rz.) 80 mg
Ext. Mulathi (Glycyrrhiza glabra) (RL) 80 mg
Ext. Gokshura (Tribulus terrestris) (Fr.) 80 mg
Shuddh Kaunch (Mucuna pruriens) (Sd.) 80 mg
Shilajit Purified (Asphaltum) (Exd.) 80 mg
Ext. Triphala (As such) 40 mg
Ext. Trikatu (As such) 40 mg
Abhrak Bhasam Biotite Calx (As such) 30 mg
Mandoor Bhasam Ferric Oxide Calx (As such) 30 mg
Yashad Bhasam Rumex crispus (As such) 30 mg
Praval Pishti Paederia foetida (As such) 30 mg
Rajat Bhasam Argentum (As such) 20 mg
Makardhwaj Sulphide of Mercury (As such) 20 mg
Swaran Bhasam Auric Oxide (As such) 2 mg
General Debility
Weakness due to Diabetes
Diabetic Neuropathy
Loss of Libibo

BHARATIYA SANGYAHARAK ASSOCIATION

(ASSOCIATION OF ANAESTHESIOLOGIST OF INDIAN MEDICINE)

MEMBERSHIP FORM

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

Full Name (in Block Letter) :……...

Date of Birth & Sex ……...

Qualifications :

Designation/Profession :

Permanent Residential Address with Tel. No. :……...

E-mail ID :……...

Present Address to which correspondence :……

to be sent ……...

Specialty : Sangyaharan/Pain/Palliation

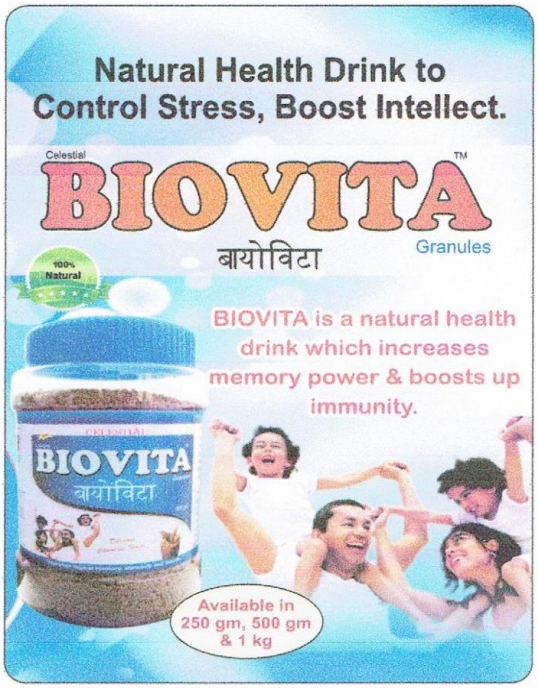
Membership Fee	:	**Life Member**	**Annual Member**
Membership Fee Bonafide	:	Rs. 5000/-	Rs. 500/-
Associate Membership	:	Rs. 5000/-	Rs. 500/-

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

Date: …… Signature _____

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

☞ Out station cheques should be accompanied by Rs. 50/- as Bank charges. Cheque/Draft should be send in favor of Bharatiya Sangyaharak Association, Varanasi.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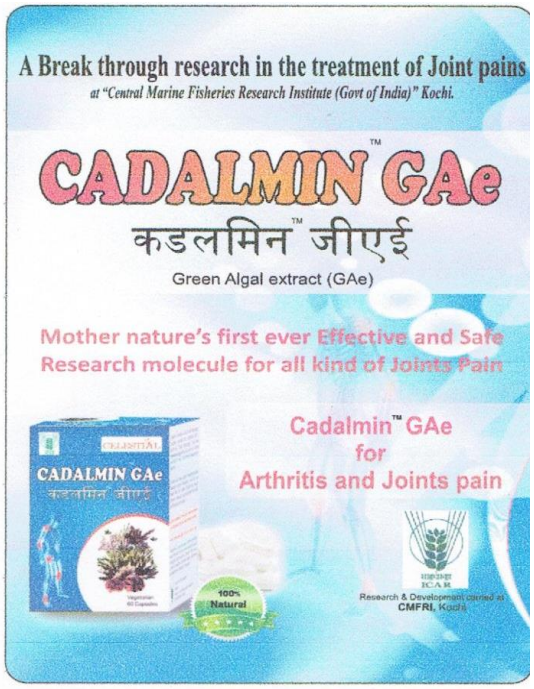
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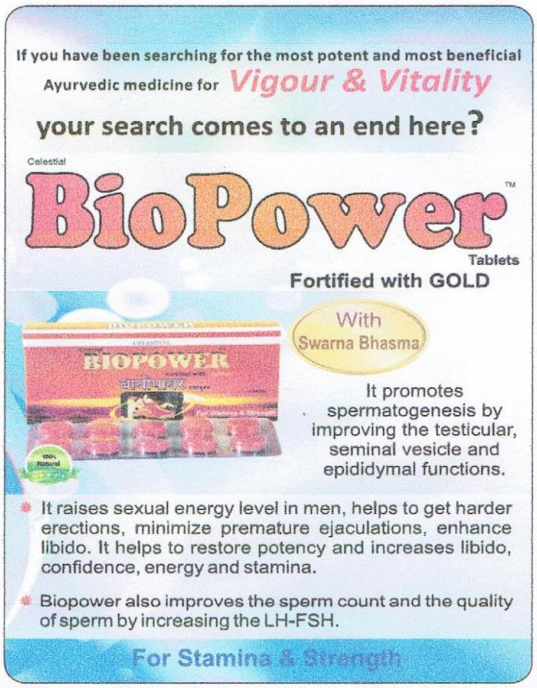
Research & Development carried at CMFRI, Kochi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