



Role of Shirodhara in Grahani Roga with Special Reference to Gut Brain Axis: A Conceptual Study.

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ABSTRACT

Grahani roga is the prime disease of gastro-intestinal tract and seen often in day today practice any disturbance in the status of agni lead to grahani roga. Ayurveda described the individuality of mana and shareera and their inseparable and independent relation in formation of disease in grahani roga.

The gut brain axis is the two-way biochemical signalling that takes place in between the gastrointestinal tract and the central nervous system. The term gut brain axis highlights the role of gut microbiota in these biochemical signalling. To overcome the stress and other psychological factors Ayurveda advocates use of Murdhni taila .

Keywords: Ayurveda , Grahani Roga , Shirodhara , Gut Brain Axis.

INTRODUCTION

According to Ayurveda, the dysfunction of Agni is responsible for indigestion which is responsible for various functional and structural abnormalities in the gastro-intestinal tract ^[1]. Acharyas mentioned the sign and symptom of Grahani Roga in text are relevant with IBS. In Grahani Roga, the digestions of food do not occur properly due to Dushti of Agni. From this phenomenon a vitiated material called “Ama” (Undigested food) forms which is responsible for producing various disorders. Ama disturbs the normal flora of GI tract, disturbs the normal physiology of entrails and acid fluid configuration of GI tract ^[2]. Ultimately the end

product of food didn't form appropriately and nourishment of body does not occur. In today's era, The mental disturbances like stress anxiety also leads to gastric upset i.e Agnimandya^[3]. According to gut-brain physiology these psychological factors are also the root cause for the manifestation of Gastric diseases like IBS^[4]. These complaints vary from loss of appetite to chronic abdominal pain, irregular bowel habit, chronic flatulence, constipation, diarrhoea, incomplete evacuation, and failure to thrive, hyperacidity etc due to irregular food habits and unhealthy food intake. Malfunctioning of Agni is the important factors which play a significant role in most of the digestive disorder.

Both in Ayurveda as 'Grahani roga' and in contemporary science as 'Irritable bowel syndrome' accept the fact that for better management and prevention of grahani roga, psychological factors are having a significant role. To overcome the stress and other psychological factors Ayurveda advocates use of Murdhni Taila. Shirodhara can be the best option among the four types of Murdhni Taila due to its procedural effect and choosed drug effect in psychological conditions. .Hence In this article an effort is made to understand the role of Shirodhara in Grahani roga with special reference to Gut Brain Axis.

Rationale of Study:-

Now days the number of patients of Irritable Bowel Syndrome (IBS) are increased. Grahani Roga or Grahanidosha is compared with IBS in Contemporary system of Medicine. IBS is Functional as well as Psychosomatic disorder in Contemporary system of Medicine.

Prevalence rate of (Grahani Roga) I.B.S. is 4.2 to 7.7% in India. IBS can also severely compromise a person's quality of life. Clinicians should recognize the associated risk and conditions is extremely important and should offer appropriate counseling and treatment to patients regarding life-long disease control. Amongst all, Panchkarma is mentioned as the best way with greater therapeutic values. so that this present study deals with the -Study of Role of Shirodhara in Grahani Roga with special reference to Gut brain axis.

AIM AND OBJECTIVE

Aim – To study the Role of Shirodhara in Grahani Roga with special reference to Gut brain axis

Objectives –

1. To do study of Grahani roga according to Ayurvedic and modern aspects.
2. To do study of the role of Enteric nervous system & gut brain axis.
3. To do study of the Shirodhara procedure and its Mode of action.

METHODOLOGY

Grahani Roga in Ayurveda

Grahani is specialized part of mahastrotasa. The word grahani is derived from root of graha upadane means to hold or to get. It is situated between amashaya and pakwashaya. It is suit of agni. Grahani and agni are complimentary to each other. It is also responsible for retention of food for sufficient time for proper digestion and assimilation of the nutrients from the digested food. Dysfunction of grahani is termed as grahani dosha .^[5]

Nidana of grahani roga^[6]

- Aharaja – abhojana, atibhojana, vishamabojana, asatmya bhojana, guru, atisheeta and dushita ahara sevana.
- Vyapda of vamaana, virechana, snehana, vyadi karshita.
- Vega vidharana.
- Virudha of desha, kala, and ritu.
- Manasika nidana – shoka, bhaya and kroda.

Lakshana of grahani roga^[6]

- **Vataja grahani –**
 1. Flatulence after and during digestion
 2. Sarvarasa gruddi
 3. Karnakshwada, hrutpada, trushna, kshuda
 4. Food digested with difficulty, suktapaka, visuchika.
 5. Passes stool with difficulty, liquid mixed with hard stool, undigested repeatedly.
- **Pittaja grahani –**
 1. Foetid and sour eructation
 2. Hunger, thirst, blurred vision, tinnitus
 3. Watery stool, undigested, yellowish stool
- **Kaphaja grahani –**
 1. Heaviness and stiffness in abdomen
 2. Nausea, vomiting, mouth salivation, sweetness in mouth,
 3. Lack of desire towards work
 4. Weakness and lassitude.
 5. Stool not well formed but broken into pieces, mixed with ama and mucous and heavy stool.

- **Sannipataja grahani** –

1. Mixed with lakshana of vataja, pittaja, kaphaja grahani.

- **Sangrahani** –

1. Sangrahani is marked by presence of gargling sounds in the intestines, laziness, weakness and malaise. In this condition the person excretes faeces which are liquid, cold, dense and unctuous and associated with pain in the waist.

2. The faeces which are inadequately processed is elimination in large quantities, associated with slimy material along with sounds may appear once in 15,30 or 10 days or even daily.

3. The symptoms are pronounced during the day time and subside by night time. 4. This condition is caused by vata associated with ama and is called sangrahani

- **Ghatiyantra grahani** –

1. The person in this condition suffers from pain in the flanks while lying down and sounds resembling that produced when a pot is dipped in the water are heard from the abdomen. This condition is incurable.

SAMPRAPTI GHATAKA

Nidhana- Aharaja, viharaja, mansika karanas

Doshas- Kledka kapha, pachaka pitta, samana vayu

Dushya- Rasa

Agni- Jataragni-mandhya

Ama- Amavisha

Srotasa- Annavaha, purishavaha, rasavaha srotasa

Srotodusti- Sanga, atipravrtti.

Udbhavastana-Amashaya

Rogamarga- Madhyama

Vyadhiswabava- Chirakari

Adhistana- Grahani

PSYCHOLOGICAL FACTORS IN GRAHANI ROGA

In Ayurveda, diseases are divided into two types namely Sharirika (somatic) and Manasika (psychological). If a person suffers from any chronic situation it may be converted to Manasikroga after a certain period of time and the same Samprapti (pathogenesis) is a modification of Manasik roga into Sharirika roga. This shows that Ayurveda has given great importance to manna for diseases. As in the past, the etiology and symptomatology of many

diseases emphasize the importance of psychological factors. Mind and body are related. And one is Adhara and the other is Adheya, so one can influence the other. It is therefore clear that somatic disorders have a psychological backup. Although all the psychological aspects play their part in all diseases, some of them have found that they play a major role in Grahani roga according to the ancient stages of Ayurveda

CONTEMPORARY ASPECT ON GRAHANI ROGA

Irritable bowel syndrome^[7]:

IBS is also known as Spastic colon, irritated colon, mucous colitis,. It is an intestinal disorder that causes abdominal pain, diarrhea and constipation, constipation, gas. Symptoms vary in size and duration from person to persons, the cause of IBS is not well understood. Irritable bowel syndrome (IBS) is defined as a group of symptoms that occur together, including repeated pain in abdomen and changes in your bowel habits, which may be diarrhea, constipation, or both.’.

ETIOLOGY- The unknown etiological factors involves In this disease that may be vary person to person. These are the following factor play role in the IBS

1. GI motility disorders
2. Visceral hyperalgesia
3. Causes of post-infection/post-inflammation-.
4. Abnormal control physiology-
5. Insufficiency of serotonin levels). Neurotransmitters
6. Anorexia
7. Depression

ROLE OF ENTERIC NERVOUS SYSTEM - GUT BRAIN AXIS

The enteric nervous system is one of the main divisions of the nervous system and consists of a mesh-like system of neurons that governs the function of the gastrointestinal system; it has been described as a "second brain" for several reasons. The enteric nervous system can operate autonomously. It normally communicates with the central nervous system (CNS) through the parasympathetic (e.g. The vagus nerve) and sympathetic (e.g. Via the prevertebral ganglia) nervous systems. The sensory neurons report on mechanical and chemical conditions. Through intestinal muscles, the motor neurons control peristalsis and churning of intestinal contents. Other neurons control the secretion of enzymes. The enteric nervous system also makes use of more than 30 neurotransmitters, most of which are

identical to the ones found in CNS, such as acetylcholine, dopamine, and serotonin. More than 90% of the body's serotonin lies in the gut, as well as about 50% of the body's dopamine; the dual function of these neurotransmitters is an active part of gut–brain research.^{[8][9]} The first of the gut–brain interactions was shown to be between the sight and smell of food and the release of gastric secretions, known as the cephalic phase, or cephalic response of digestion.^{[10][11]} Chronic or acutely stressful situations activate the hypothalamic–pituitary–adrenal axis, causing changes in the gut microbiota and intestinal epithelium, and possibly having systemic effects. Additionally, the cholinergic anti-inflammatory pathway, signalling through the vagus nerve, affects the gut epithelium and microbiota. Hunger and satiety are integrated in the brain, and the presence or absence of food in the gut and types of food present also affect the composition and activity of gut microbiota. The relationship between gut microbiota and humans is not merely commensal (a non-harmful coexistence), but rather a mutualistic relationship. Intestinal bacteria also play a role in synthesizing vitamin B and vitamin K as well as metabolizing bile acids, sterols, and xenobiotics.

Gut microbiota influences various normal mental and emotional processes and is involved in the pathophysiology of many psychiatric and neurological diseases. Because of various stress factors, poor diet and the microbiota system in the gut begins to disappear eventually with various diseases including IBS.

FUNCTIONS OF NEUROTRANSMITTER

SN.	Neurotransmitter	Released by	Function
1	GABA	Central nervous system	Relaxes lower esophageal sphincter
2	Norepinephrine	CNS, spinal cord, sympathetic nerves	Decreases motility, increased contraction of sphincters, inhibits secretions.
3	Acetylcholine	CNS, autonomic system, other issues	Increase motility, relaxes sphincters, stimulates secretion.
4	Serotonin	GI tract, spinal cord Facilities	secretion and peristalsis.

Shirodhara – Ayurvedic Neurotherapy

The word shirodhara is derived from Sanskrit language shiro (head) + dhara (to flow). Shirodhara is a form of independent snehana procedure, wherein involves gently pouring liquids over the forehead.

Clinically the efficacy of Shirodhara is proved; still it is a difficult task to understand the mode of action of this procedure. Shirodhara is effective in following ways.

A/c to Ayurveda- In a living being, the head is the substratum of all the sense faculties, or Indriyas (sense organs), it is also known as Uttamanga, ^[12] Because of this, Shirodhara gives strength to the Prana and Indriyas, which are mostly vitiated in case of psychological disorders. Indriyas are in close contact with the mind, so when Indriyas stay healthy the mind automatically stays healthy. Shirodhara thus keeps the body and mind healthy. Imbalance of Prana, Udana and Vyana Vayu, Sadhaka Pitta and Tarpak Kapha can produce stress and tension. Shirodhara reestablishes the functional integrity between these subtypes of Dosha through its mechanical effect. ^[13]

DISCUSSION

Grahani Roga is traditionally categorized under gastrointestinal disorders in Ayurveda, but it is far more than a simple digestive disturbance. It reflects a psychosomatic imbalance, where mental stress and emotional instability aggravate the digestive fire (Agni) and disrupt normal bowel function. In modern terms, this links closely with disorders like irritable bowel syndrome (IBS), where gut health is significantly influenced by psychological factors such as anxiety and stress.

Shirodhara, a classical Ayurvedic therapy involving the continuous pouring of medicated oils or decoctions over the forehead, has shown promising results in modulating this gut-mind interaction. Scientific interpretations align this practice with modulation of the gut-brain axis, a bidirectional communication system between the gastrointestinal system and the brain. Through calming the nervous system and reducing sympathetic overactivity, Shirodhara not only induces mental relaxation but also helps normalize digestive functions, offering both psychological and physiological relief.

This dual action makes Shirodhara a unique and holistic intervention—safe, non-invasive, and easily integrable with standard Grahani treatments like dietary regulation, Panchakarma, and herbal medication. The therapy's soothing impact on the central nervous system helps reduce psychological triggers that often exacerbate digestive symptoms.

Effect of the Shirodhara process-^[14]

- Each substance at a certain altitude possesses potential energy, and that energy becomes kinetic energy when it falls down from a certain altitude under 'Law of Energy Conservation'. When anything pours on the forehead from a certain height due to the

change in the form of energy it generates momentum, it can cause voltage changes and stimulate the generation of nerve impulses or accentuate the conduction of nerve impulses.

- Vibration along with temperature of the liquid poured during shirodhara procedure may activate the function of thalamus and the basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage.
- Due to the tricking of medicated liquid over the forehead, prolonged and continuous pressure causes tranquility of mind and reduces stress by modulating nerve stimulation. When nerve ending of autonomic nervous system is stimulated, they produce chemical substances like Acetylcholine which exists in the tissues in the inactive form and is activated by a nerve impulse vibration produced due to continuous pouring of liquid over the forehead which may stimulate nerve ending and in turn Acetylcholine cause fall of blood pressure leading to decreased activity of central nervous system resulting in tranquility of mind. During the process of patient concentrations of Dhara Dravya (Medicated oil or any type of liquid), this is falling on his forehead, which increases the intensity of brain waves and decreases the brain cortisone and adrenaline level. This factor is also work as an anti-stress effect of Shirodhara
- On the basis on Marma - According to Acharya Bhela Bhrumadhya (Between both eyebrows) is the site of Chitta (Mana). It is also place of Sthapni Marma. ^[15] Most of the Marma of head region are Agni and Vayu Pradhana Mahabhoota. ^[16] The site of Sthapni Marma and the site of pituitary and pineal gland exist at the same level. The function of pituitary gland is controlled by hormones. It is the master of the gland. It has the capacity to maintain all the endocrine system of human body. ^[17] Mental stress and irritability were the causative factors were endocrine system gets imbalance of its normal function. ^[18] Due to the stimulation of Sthapni Marma and indirect stimulation of pituitary gland brings changes in psycho-somatic level. Hence Shirodhara therapy helps in reliving the mental stress by regulating the normal function of this gland.

CONCLUSION

Shirodhara works on the law of Energy Conservation. It is a purifying and rejuvenating therapy which eliminates toxins and mental exhaustion as well as relieves stress and any ill effects on the central nervous system. On the basis of above description, it is clear that Shirodhara has both the therapeutic effect of medicament and procedure

Shirodhara holds substantial potential as a mind-body therapy in Grahani management. It exemplifies the Ayurvedic principle of treating the individual as a whole—mind, body, and spirit—while inviting further exploration through modern scientific validation.al effect.

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