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DECODING SHIROROGA NIDANA AN IN DEPTH ANALYSIS

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ABSTRACT

Ayurveda has given prime importance to *Shirah*, considering it as one of the three principal vital organs of the body where the *Prana* i.e. life resides. *Acharya Charaka* has considered *Shirah* as the supreme, important and major part of the body which is known as the *Uttamanga.*[1] As per *Ayurveda acharyas Shirasoola* is the main symptom in all *Shiro rogas*, also described as an independent disease entity as "*Shiro-roga*". *Vyadhi vinischaya* according to *Ayurveda* has two basic components mainly *Rogapariksha* and *Rogipariksha*. Among them *Rogapariksha* gives us the detailed knowledge about a disease starting from the etiological aspects to the actual manifestation of disease. *Nidana* is the foremost component of *Nidana Panchaka*, which not only gives knowledge about causative factors of diseases but also helps in planning treatment protocol. Therefore, an attempt has been made to analyze the *Nidanas* mentioned in classics and its relevance in modern day lifestyle.

KEYWORDS: *Shiroroga*, *Shirashoola*, *Nidana*, Headcahe, Migraine, *Ayurveda.*

INTRODUCTION

Headache has troubled humankind from the dawn of civilization. Its among the most common reasons patients seek medical attention. It's a common natural experience, diverse in its expressions, complex in its manifestations, and difficult to understand in any simple mechanistic way. It may therefore be inferred that for the supreme part, headache represents an incapacity of an individual to deal in some measure with the uncertainties of life.

Vyadi uthpatti hetuhu nidanam[2]

Nidana can be understood as *Bahya* & *Abhyantara*

Bahya –Aharaja, *Viharaja*, *Manasika* - causing *Dosha dusti*.*Abhyantara- Dosha dushya* involved in the disease.

Understanding *Nidana* is important to assess

- *Dosha* vitiation
- Decide *sadhya asadhyata* of *vyadhi*
- To analyze *samprapthi*
- For proper planning of treatment

"***Nidano parivarjanam chikithsa***" means we have to avoid the causative factors of that disease. By that, we could head off the progression of the disease. "An ounce of prevention is worth a pound of cure."

A healthy diet, the right amount of sleep, and non-drug approaches, such as biofeedback, should be tried first for prevention.

AIMS AND OBJECTIVES

Compilation of the description of *Nidana* of *Shiroroga* in the classics and an in depth evaluation in modern perspective, through various literatures.

MATERIALS AND METHODS

Classical texts of *Ayurveda* and the Indian sciences were scanned for references regarding *Nidanas* of *Shiroroga*. These references were compiled, analyzed and discussed for a thorough and in depth understanding of the concept of *Nidanas*.

CONCEPTUAL REVIEW

The general *Nidanas* for *Shiroroga* has been described in Charaka Samhita[3], *Ashtanga Samgraha*[4], *Ashtanga Hridaya*[5], *Yoga Ratnakar*[6], and *HaritaSamhia.*[7] General causes of Shiroroga has been tabulated as below.

S. NO.	General Etiological Factors	Cha. Sa.	A.H./A.S	Y.R.	Harita
1	*Vegavarodha*(Suppression of natural urges)	+	+	+	+
2	*Divasvapa* (Day sleep)	+	+	+	-
3	*Ratrijagarana* (Vigil during night)	+	+	+	-
4	*Madya* (Alcohol)	+	+	+	-
5	*UcchaBhashana* (Speaking aloud)	+	+	+	+
6	*Avashyaya* (Exposure to eastern wind)	+	+	+	-
7	*Purvivata* (Exposure to eastern wind)	+	-	-	-
8	*Atimaithuna* (excess sexual indulgence)	+	+	+	-
9	*AsatmyaGandha* (undesirable smell)	+	+	+	-
10	*Aghata* (Injury)	+	-	-	-
11	*Raja* (exposure of dust)	+	-	-	-
12	*Hima* (exposure of snowfall)	+	-	-	-
13	*Dhuma* (exposure to smoke)	+	+	+	-
14	*Atapa* (exposure to sun & heat)	+	+	+	-
15	*Guru Ahara* (heavy food)	+	-	-	-
16	*AmlaAhara* (Sour food)	+	-	-	-
17	*Harita Dravya Sevana* (Rhizomes)	+	-	-	-
18	*AtiShitambuSevana* (Excess of cold water)	+	+	+	-
19	*Shirobhighata* (head injury)	+	-	-	-
20	*DushtaAma* (vitiated *ama*)	+	+	+	-
21	*Rodana* (lamentation)	+	+	+	-
22	*AshruvegaNigraha* (suppression of tears)	+	+	+	-
23	*Meghagama* (advent of cloud)	+	-	-	-
24	*Manastapa* (Mental stress)	+	-	-	-
25	*Deshaviparyaya* (regimen contrary to locality)	+	-	-	-
26	*Kalaviparyaya* (regimen contrary to season)	+	-	-	-
27	*Utsveda* (excess of sudation)	-	+	-	+
28	*Krimi* (Parasitic infection)	-	+	+	-
29	*Upadhanadvesa* (avoidance of pillow)	-	+	+	-
30	*Abhyangadvesa* (aversion to massage)	-	+	+	+
31	*Pratatekshana* Continued eye strain)	-	+	+	-
32	*Utsedha* (swelling)	-	-	+	-

AHARAJA NIDANA

Guru bhojana

Food taken in excessive quantity aggravates all the three *Doshas*. The quantity of food to be taken depends upon the power of digestion[8] Though even light food article, if taken in excessive quantity can affect the *Jataragni* and produce *Agnimandhya* there by obstructing the channels aggravates all the three *Doshas*. Eating heavy food can alter the sugar level which cause headache. As it is said that the food materials containing caffeine as in coffee causes rebound headache by vasoconstriction but later one will cause rebound vasodilatation and headache. Similarly various other eatables like chocolates, cheese, ice cream, etc acts as triggers leading to gastro-intestinal disturbance & ultimately produce headache.[9]

Amla bhojana

Athi amla sevana causes *Pitta prakopa* which can cause *Ardhavabhedaka*, *Shankaka*, & *Pittaja shirashoola*. *Amla pitta* can be the *nidanarthakara roga* in one of the *Shiroroga*. There is a direct reference in modern science for the condition called Bilious headache which is caused when the food is not digested or due to indigestion.[10] Excessive *amla bhojana* can alter the acid level which is one of the important cause or a trigger in Migraine. Also research has found that treating gastrointestinal disorders like dyspepsia, GERD, constipation, IBS, H pylori infection can reduce the number of headache episodes.[11]

Harita varga

These are the group of vegetable which can be eatable raw or uncooked. Like *adraka*, *palandu*, *shigru*, *jambeera*, *lashuna*, mushroom etc. which are *Pittakara* & *thikshna* in nature its not *trapthikaraka* which can have an indirect impact on *manasika bhava* causing *Shiroroga*. American dietic association has reported that raw foods can be deficient in Calcium, Vitamin B12, Iron, Zinc & protein as a nutritional deficiency[12] Also it is shown that a Magnesium poor diet can cause changes in brain waves & half of the migraine sufferers reported to have low Magnesium.

Athisheeta ambusevana/Athi ambu pana

Cold water or any cold food is taken, there occurs cold palatal stimulus which is trigger for Migraine. Drinking cold water can make mucosa thick & blocking the sinus causing sinus headache. Holding ice or ice-cream in the mouth or swallowing it as a bolus may cause local pain in the palate or throat due to vitiation of *Vata*, also leads

to *Ajeerna* & cause *Shirashoola*. It may also refer pain to the forehead or temple via the *Tridharanadi*. (Trigeminal nerve) and to the ear through the vagus nerve; this condition is mentioned as ice-cream headache in modern science.[13]

Excess intake of water in the body causes depletion in the salt level & cells to edematous. This compresses the swollen cells, compresses brain against the skull & cause throbbing headache. Four signs of hyponatremia include reduced sensory perception, thinking capacity, nausea vomiting, muscle weakness spasm or cramps & headache.

Athimadyapana/ Mada

Madya Pittakara, thikshna which can lead to *Pitta pradhana Shirorogas*. Alcohol is diuretic, by excess of micturition there will be fluid loss, that can lead to dehydration and prone to headache of throbbing type or hangover headache.

Alcohol has long been associated with Migraine headache with about 1/3rd of patients with Migraine noted alcohol as a trigger. Alcohol contains chemical Ethanol. As one drink alcohol stomach absorbs about 20% of this Ethanol while small intestine absorbs rest. From small intestine, Ethanol travels in to the blood stream & throughout the body, including brain. Ethanol's diuretic effect can also quickly dehydrate and headache is just one of many symptoms of dehydration. In blood stream Ethanol can cause headache through *Dhamanee vikasam* (vasodilation). Vasodilation can stimulate certain brain nerves & results in pain. It is first oxidized in the liver by an enzyme called dehydrogenase to acetaldehyde and then converted to or used in the synthesis of Cholesterol and fatty acids. The average rate at which a normal sized adult metabolizes alcohol is about 10 ml per hour (Ritchie 1970). Consuming alcohol in very large amount may affect further oxidation of acetaldehyde causing increased amount of the same in blood, giving rise to the symptoms of throbbing headache, also people with variant in this enzyme have issue with metabolizing alcohol. 24th chapter of *charaka chikithsa sthana* deals with symptoms & treatment for alcoholism.[14]

***Madakara drugs*:** Use of *Madakaradrugs* as *Ahiphena, Bhanga* etc. in highest amount can cause dryness of mouth, sensation of warmth mild frontal headache (*Shirahshula*) due to vasodilatation. Otherwise it alleviates pain by depressing the mental functions.

Dusta Aama

Eating indigestible food, non-nutritious food, the food one which does not like etc. can cause headache and at times as a prodromal symptom of other disorders as *Ajirna* (indigestion), *Chardi* (Vomiting) etc. Food materials as cured meat can cause headache as nitrites are added to salt while preparing to give uniform red color but this nitrite causes severe headache. This type of headache will be severe and unilaterally felt. *Aama lakshanas* as mentioned by *Acharyas* are *Srotoroda*, *Bala bramsha*, *Anila moodatha*, *Gaurava*, *Aalasaya*, *Apakti*, *Nistivana.*[15] All these *lakshanas* can further cause *urdhwagamana* of *Doshas* causing *Shiroroga.*

VIHARAJA NIDANA

Dhooma

Dhumapana (smoking cigarette, bidi etc.) increases *Pitta* leading to *Indriya bramsha* & *Shirorogas*. *Dhumapana* done in continuous succession for a long time causes constriction of blood vessels first followed by rebound vasodilatation because of the presence of nicotine in it. A rebound vasodilatation may occur after (tobacco smoking) cigarette smoking which contain nicotine the vasoconstrictor and so rebound headache may occur even if it gives temporary relief from headache first. Nicotine is the active ingredient in cigarettes, chewing tobacco & other tobacco products increases the activity of CNS.

The stimulant effect of nicotine can cause vasoconstriction & reduce blood flow to the brain causing headache. Continuous exposure to the nicotine (passive smokers) increases the sensitivity of pain receptors causing Headache. Researchers have postulated some types of headache like- Cluster headache, Trigeminal Neuralgia & Migraine closely related to tobacco use. *Dhuma* containing mostly carbon monoxide and carbon dioxide causes Headache due to anoxia.

CO poisoning from a poorly ventilated environment can provoke headache, faulty furnaces in winter can be responsible for such fumes, and these factors come under chemical headache. The fumes of Cadmium, Phosphine, Bromine, Hydrogen, Cyanide, Aldehydes, Naphthalene, Turpentine, Polyester resins, Amyl nitrate, etc. causes severe headache and the workers of the factories of such plants will get affected by such fumes who will become victim to such chronic type of headache. In recent literature, ambient air pollution has been increasingly reported as a risk factor for migraine.[16]

Athapa

Temperature is another major weather factor that neurologists and headache specialists recognize as a potential trigger for headaches. The most recent studies show that for every five degree change in temperature over a short period of time, the instance of headaches reported increases by as much as 7%.[17]

Walking or working outside under hot sun causes severe headache because of vitiation of *Pitta* aggravated by the similar quality of it (*Ushna*). *Athapa sevana* is one of the important *nidana* in causing *Shiroroga* which is directly related to *Suryavartha* where the intensity of *shoola* will be at peak when sun rays are at its peak, reason may include dehydration, heat exhaustion, heat stroke, environmental pollution, mineral loss etc.

There is a compelling evidence, variation in intensity of stimuli such as sun light is triggering factor which suggests 5 Hydroxy tryptamine, Calcitonin, gene related Peptide, CGRP & Nitrogen oxide might play important roles in migraine pathogenesis. UV rays in sunlight, alters calcitonin & Nitrogen oxide release by intra epidermal sensory nerve fibers in the skin which causes vasodilatation. High temperature may stimulate cutaneous thermos receptor which can trigger the attack.[18]

Thushara, Hima, Avashyaya

Sheeta or coldness is one of the qualities of *Vata*. Affection with cold wind, walking in cold weather uncovered, eating cold food etc. increases the coldness of the body depressing body temperature due to the aggravation of *Vata*, by its *Athisheeta*, constriction of the blood vessels causing headache.

Weather changes may cause imbalance in brain chemicals including Serotonin. National Headache foundation listed 16 possible triggers for headache which includes change in humidity, change in temperature, storms, extremely dry condition, dusty environment, smoke, barometric pressure changes, altitude changes, & high wind which creates difference between the pressure outside & air in the sinuses. Scientists have suggested that fall in barometry leads to inflammation & edema which can cause health ailment including headache. Researchers have found Migraine often develop shortly before the appearance of cyclone that ranges from 1003 to less than 1007 HPA. This can also be further substantiated with increased mucosal secretion leading to headache.

Ambu kreeda

This again alters *Kapha* & *Vata Dosha* leading to headache. Swimmers headache is one such explained in the science. Excessive swimming may cause ear infection & Sinusitis often due to entry of infections through the contaminated water. The pressure from the swimming goggle & cap will develop supra orbital neuralgia, due to pressure exerted on the vessels. Also swimming in the pool the chlorine can irritate the nasal lining & cause sinus membrane to get inflamed causing headache.[19]

Athi swapna and Prajagara

Sleep & headache go hand in hand since some regions of the brain controls both. Headache are two to eight times more seen in people with sleep disorder.

Athiswapna: increases *Kapha* and *Meda.* Researchers has suggested that over sleeping has effect on neurotransmitter called Serotonin which helps to maintain circadian rhythm of our body, maintains the natural pattern of the sleep. The whole process of this neural pathway get interrupted with oversleep which disturbs the serotonin level causing Headache. Also NCBI, suggests both excessive sleep & sleep deprivation are the common triggering factor of migraine.[20]

*Prajagara :*Normal sleep of 7 to 8 hours, is essential for the body, to repair itself & for the normal function of the body & brain. Research studies suggest the lack of REM (rapid eye movement) sleep is linked to more painful headache. The lack of sleep increases certain kind of protein that stimulate the nervous system & more likely to have Migraine headache on wakeup. The increased protein reduces bodies pain threshold.[21]

Sleep apnea is a breathing disorder that reduces the O2 supply to the brain, during sleep this can interrupt, rapid eye movement sleep & constrict the blood flow to the brain causing headache when one waking up.

Purovata and Pragvata sevana

Purovata and *Pragvata sevana* causes *Kapha* & *Vata dusti*. Experts say that south-western wind can develop difficulty in breathing & dyspnea which cause inflammation causing sinus headache. This also considered for barometric pressure headache**.**[22]

Rodana

It's a response to strong emotions like stress & anxiety. The stress harmone Adrenalin & Cortisol makes the muscles of scalp & face to crunch up which increases the pressure on scalp that can cause Tension headache. A long crying session gives stress on facial muscle & the lactic acid & other metabolic byproducts will build up, these chemicals are not so easily flushed out because the vessels of the face are also constricted by muscle contractions. The resulting inflammation & nerve irritation turn to dull aching pain.[23]

Bhashpa nigraha

Crying is a natural emotion & it releases a wall that get rid of bodies stress & tension. When one hold it in, body's sympathetic nervous system (or fight-or-flight response) kicks into gear. Brain signals the adrenal glands to release stress hormone such as adrenalin & cortisol these chemicals boost heart rate & blood pressure. If one hold them in while trying not to cry, it can translate into chest tightness, heavy breathing and Headache. All above mentioned causes are mainly responsible for *Dhatukshaya* – particularly for *Rasa Dhatu* resulting in *Vata Prakopa*. In *Charaka samhitha Sutrasthana*. 28th adhyaya it is clearly mentioned that, *Chinta, Shoka* etc. are causative factor for *Rasavaha Srotodushti* ultimately resulting in *Vata Prakopa* and hence responsible for *Vatika Shirahshula.*

Atimaithuna

An orgasm headache is a primary headache that some people get during sexual activity. When a person has an orgasm, their blood pressure increases rapidly. This surge in pressure causes blood vessels in the head to dilate quickly, which can trigger sudden, intense headaches in some people.[24]

There are three kinds of headache associated with *Maithunakarma* (Sexual activity). The first is a dull headache commonly bilateral, and will be felt on the back of the head (occipital area) and occurs as sexual excitement mounts. It is probably related to excessive contraction of head and neck muscles since it can be prevented or relieved by deliberate relaxation of those muscle groups.

The second type of headache, more severe and expulsive in onset, appears immediately before or at the moment of orgasm, presumably caused by the increase in blood pressure at that time.

The third type arise during coitus *(Maithunakarma)* is felt worst while standing up and some postulate that arachnoid membrane may torn off during the physical stress causing headache. Sexual intercourse has been known to precipitate subarachnoid hemorrhage.

Cerebral vasospasm, pericranial muscular contraction, hemodynamic and respiratory changes during sexual activity are most commonly listed as possible pathophysiological mechanisms. Any type of sexual activity that leads to orgasm can trigger sex headaches.[25]

Megha aagamana, Desha kala vipayaya, Thushara, hima

The term climate changes refers to long term alteration in temperature, wind, humidity, & other components of weather. Rising humidity can cause headache through our sinuses. This is because high humidity can increase the amount of mucous produced by the lining of the sinuses in order to trap allergens, dust & pollution particles that are plentiful in the dense, moist air. This can cause congestion, inflammation, & discomfort in the sinuses often leading to sinus headache. During the spring season, allergies are at an all-time high. This can cause sinusitis, which can trigger migraine episodes.

Headache seems to be even more likely to happen in the summer months when the temperature is elevated. Headache frequency may raise when its warmer out for a number of underlying reasons including dehydration, environmental pollution, heat exhaustion, &even heat stroke being more prevalent as temperature raise. Weather condition can also cause changes in serotonin level.[26]

Mana santhapa

Depression can cause headache. Researches has shown there are strong links between tension headache & mental health disorders including depression & anxiety. Headache can be common symptoms & sometimes a good indicator of an anxiety disorder, particularly generalized anxiety disorder or GAD. Migraines & chronic daily headaches are common in people who suffer from anxiety disorder. Migraine headaches can precede the onset of mental disorder according to 2009 study. The cells in brain that control mood, sleep and pain use a chemical called serotonin to send messages to each other. When people get migraines these cells get much more active than normal that changes your serotonin level which may lead to anxiety.[27]

Abhyanga dwesha

Abhyanga i.e oil massage is one among the important regimen explained by *Acharya* in *Dinacharya* also explained as *poorvakarma* in *Panchakarma*.

Cell membrane is made of lipoproteins oils being a form of lipid easily pass through the skin to the targeted area. Massage has been shown to reduce stress & promote relaxation it can activate the parasympathetic nervous system which lowers heart rate, blood pressure and stress harmone during massage, improve blood circulation & thus release tension, ease headache, reduces stress, promote relaxation.

The American massage therapy association reports that a scalp massage may help to reduce the intensity, & duration of tension headache. It also works to gently manipulate the bones of skull & spine to normalize the flow of CSF in the CNS.[28]

Uthsweda

Athisweda increases *Pitta* & *Vata Dosha*. From the modern aspect the excessive sweating due to any factor & headache are common symptoms that can occur with wide variety of medical conditions. Clinical researches showed that pouring hot water for head or hair wash causes headache. BRH (Bath related headache) directly related to primary headache of Migraine & tension type of headache. Neurological examination showed vasodilator in 34.7% in BRH patient. An over active neurogenic vasomotor response might be responsible for a vasospasm in BRH.[29] Multi segmental vasospasm has been detected via vessel imaging (MRE, Conventional angiogram, CTA) in the majority of the cases about 62% patients have shown vasospasm in the circle of villis, most frequently in the middle cerebral artery or posterior cerebral artery. Temperature sensitive sodium channelopathy is another possibility.

Vegavarodha

Vega are the involuntary actions of the body i.e excretion of waste products from the body as that of micturition, defecation, thirst, hunger, sneezing etc. Being involuntary in action (the functions of autonomic nervous system) trying to withhold it will upset *Vata* as *vegapravartana* is the function of *Vata*.

Malavegadharana: causing vitiation of *Vata* that leads to *malabandha* (constipation) which in turn trigger headache. There are many studies which conclude successful treatment of constipation can improve headache. The terminology “Gut Brain axis” points out a bidirectional relationship between the GI system &the CNS.

Mutravegadharana: Mutravegadharana, beyond the capacity of *Mutrashaya* (urinary bladder) can also cause vitiation of *Vata*, resulting in *Shirashoola*.

Kshavatu vegadharana : Sneeze is one of the bodies first defenses against invading bacteria & bugs. Holding a sneeze greatly increases pressure inside the respiratory system to a level of about 5 to 24 times that caused by the sneeze itself which can cause potential injuries, damage to blood vessels in the eyes, nose or eardrums, middle ear infection, throat damage.

Nidravegadharana : getting the right amount of sleep is integral to good health. Studies suggest that a lack of rapid eye movement (REM) sleep is associated with more painful headaches. Lack of sleep increases proteins in the body that contribute to chronic pain and reduces the bodies ability to with stand pain & can trigger migraine headache.

Jrumbha vega dharana: When yawning is avoided it causes spasm of muscles related to face & that may in turn cause Head pain. Yawning improves oxygenation to the brain & avoiding in turn deoxygenation & hypoxia to brain can lead to brain damage & discomfort which is characterized as headache.[30]

Shiro upagata

Injury to *Shiro marma* due to external or internal factor is considered as *Shiro-marma abhighata*. This can be considered as one among the traumatic brain injury (TBI). The term head injury includes injury to the scalp, skull and/or brain.

Under the International Society Headache classification, Post-traumatic headache (PTHA) is defined as a secondary headache that develops within 7 days after head trauma (or after regaining consciousness following head trauma) Chronic post-traumatic headache can result from damage to intra- and pericranial tissues that caused chronic sensitization of these tissues. Its clinical features vary and may resemble those of tension-type and/or migraine headache.[31] Most frequent painful region as reported by individuals was the temple (82% of individuals), followed by the forehead (76.5%), neck (76%), back of head (53%), eyes (47%), and vertex (29%).[32]

Upadhana

Pillows are intended to support the head and neck in a neutral position to minimize biomechanical stresses on cervical structures while sleeping. Sleeping without pillow all night the pressure on the neck muscle will be unevenly distributed & person will start experiencing neck pain, stiffness & headache. A pillow that is incompatible with your sleeping style or that lacks the necessary support can compromise your neck alignment and lead to muscle tension, culminating in headaches.[33]

Adha pratata kshana

When looking down continuously meant near gaze which can cause eye strain & the muscles in and around eyes need to work harder to focus. Over time, these muscles can get sore and tired, just like any other muscle in our body. These spasms can lead to eyestrain headaches.[34]

Asathmya gandha

Affection with bad (which one does not like) or pungent odour for a long time, can trigger headache. 70% of the Migraine sufferers will have odour triggers. These may be perfume, paste, cleaning products etc. the aversion of smell or sensitivity is known as Osmophobia. Olfactory stimulus exerts locus coeruleus (a small brain cell nucleus) the primary source of the neuro modulator nor-epinephrine. This excitement causes the release of nor-adrenaline followed by substance-P & CGRP which are potent inflammatory vasodilator substances which trigger Migraine.[35]

Athibhashya

Talk much loudly and for a long time cause of *Kaphakṣaya* with vitiation of *Vata*, affecting to dryness of mouth, severe headache, hoarseness of voice etc. (affecting vocal cords) because of the vitiation of *Vata* situated in Head, *shoola* will be felt causing *Shirashoola*.

Krimi

The Krimi described in ancient texts are more or less similar to microbes or helminths mentioned in present time. The Krimi may be external or internal in nature. Acharyas has described Krimi in various Samhitas in detail they also believe that Krimi can be etiological factors for various disease like Krimi Hridroga and Krimi Shiroroga etc. Neurocysticercosis is a preventable parasitic infection of the central nervous system and is caused by the pork tapeworm Taenia solium. Humans become infected after consuming undercooked food, particularly pork, or water contaminated with tapeworm eggs, or through poor hygiene practices.[36]

Utsedha

There are four types of headache: Vascular, Muscle Contraction (Tension), Traction, and Inflammatory. Inflammatory headaches are symptoms caused by inflammation, including those related to meningitis as well as those resulting from diseases of the sinuses, spine, neck, ears, and teeth. *Kaphaja Shirsha Shoola* can be correlated with chronic sinusitis. Chronic inflammation of the sinus mucosa is a common ailment in which the maxillary sinus is mostly involved.[37]

CONCLUSION

In order to treat a disease successfully in Ayurveda, its essential to know disease according to present day. Understanding *Nidana* can prevent both primary & secondary risk factors as well as to avoid red flags of headache. Healthy life style adoption, incorporating *dinacharya* in our daily regimen can prevent disease or can control in prodromal stage. Although this literature

in the ancient classics was written thousands of years ago, it seems to be scientific in explanation even when compared to modern science, if analysed and interpreted in depth. There is a good scope for observational study in this field for further evaluation & better management.

REFERENCES

1. Sharma R, Dash B. editor. Charaka Samhita text with English translation. Suthrasthana. chap17, verseno17. Varanasi: Chowkhamba Sanskrit series office, 2018; 312.
2. Bhisagratna.S.B. Madhavanidana. chap1, verse no 2. Chaukhambha Sanskrit sansthan Varanasi, ed., 2012; 2.
3. Sharma R, Dash B. editor. Charaka Samhita text with English translation. Siddhisthana.chap 9, verseno 74-78. Varanasi: Chowkhamba Sanskrit series office, 2018; 350.
4. Sharma S.editor. Astanga Sangraha of Vahata or Vriddha Vagbhata with Sasilekha Sanskrit commentary by Indu. Uttarastana. Chap27, verse 2. Varanasi: Chowkhamba Sanskrit series office, 2016; 763.
5. Tripathi I, Tripathi S, Dwivedi L. editor. Astanga Hridayam of Vagbhata. Uttarasthana. chap 23.verse no 1-2. Krishnadas academy, Varanasi, first edition, 524.
6. Tripathi I, Tripathi s d, Yogarathnakara with vaidhyaprabha hindi commentary. Shirorogadikara. verse no 1-4. Krishnadas academy, Chaukhambha Varanasi, 2013; 746.
7. Tripati H.Harita Samhita. Tritiya sthana, chap.24, verse no 1-2; Chaukhambha krishnadas academy, Varanasi, 2009; 424.
8. Sharma R, Dash B. editor. Charaka Samhita text with English translation. Suthrasthana.chap5, verseno3. Varanasi: Chowkhamba Sanskrit series office, 2018; 105.
9. The Ambiguous Role of Caffeine in Migraine Headache: From Trigger to Treatment Magdalena Nowaczewska, 1,* Michał Wiciński, 2 and Wojciech Kaźmierczak3 Author information Article notes Copyright and License information PMC Disclaimer.
10. Kerkar P, FFARCSI, DA. Bilious headache: Causes, symptoms, investigations, treatment, preventive measures [Internet]. Epainassist - Useful Information for Better Health, 2013 [cited 2024 Jan 16]. Available from: https://www.epainassist.com/headache/bilious-headache.
11. Cámara-Lemarroy CR, Rodriguez-Gutierrez R, Monreal-Robles R, Marfil-Rivera A. Gastrointestinal disorders associated with migraine: A comprehensive review. World J Gastroenterol, 2016 Sep 28; 22(36): 8149-60. doi: 10.3748/wjg.v22.i36.8149. PMID: 27688656; PMCID: PMC5037083.
12. Abraham K, Trefflich I, Gauch F, Weikert C. Nutritional Intake and Biomarker Status in Strict Raw Food Eaters. Nutrients., 2022 Apr 21; 14(9): 1725. doi: 10.3390/nu14091725. PMID: 35565694; PMCID: PMC9105765.
13. Kaczorowski M, Kaczorowski J, Ice cream evoked headaches. Ice cream evoked headaches (ICE-H) study: randomised trial of accelerated versus cautious ice cream eating regimen. BMJ [Internet]., 2002; 325(7378): 1445–6. Available from: http://dx.doi.org/10.1136/bmj.325.7378.1445
14. Farnsworth C. Headache after a small amount of alcohol: Causes [Internet]. Medicalnewstoday.com., 2022 [cited 2024 Jan 16]. Available from: https://www.medicalnewstoday.com/articles/alcohol-headache-after-one-drink
15. Tripathi I, Tripathi S, Dwivedi L. editor. Astanga Hridayam of Vagbhata. Sutrasthana. chap 13. verse no 23-24. Krishnadas academy, Varanasi, first edition, 216.
16. Garg D, Mehndiratta MM, Wasay M, Aggarwal V. Air Pollution and Headache Disorders. Ann Indian Acad Neurol, 2022 Sep; 25(1): S35-S40. doi: 10.4103/aian.aian_1138_21. Epub 2022 Mar 25. PMID: 36213097; PMCID: PMC9540829.
17. Migraine & headache treatment specialists [Internet]. National Headache Institute, 2023 [cited 2024 Jan 16]. Available from: https://nationalheadacheinstitute.com/
18. Wattiez AS, Sowers LP, Russo AF. Calcitonin gene-related peptide (CGRP): role in migraine pathophysiology and therapeutic targeting. Expert Opin Ther Targets., 2020 Feb; 24(2): 91-100. doi: 10.1080/14728222.2020.1724285. Epub 2020 Feb 13. PMID: 32003253; PMCID: PMC7050542.
19. Doherty C. An overview of swim-related headaches [Internet]. Verywell Health, 2014 [cited 2024 Jan 16]. Available from: https://www.verywellhealth.com/headache-from-swimming-1719445
20. Jewell T. Headache from oversleeping: Causes, remedies & prevention [Internet]. Healthline, 2020 [cited 2024 Jan 16]. Available from: https://www.healthline.com/health/headache-from-oversleeping
21. Cirino E. Lack of sleep headache: Treatments and more [Internet]. Healthline, 2018 [cited 2024 Jan 16]. Available from: https://www.healthline.com/health/lack-of-sleep-headache.
22. Maini, Kushagra & Schuster, Nathaniel, 2019. Headache and Barometric Pressure: a Narrative Review. Current Pain and Headache Reports. 23. 10.1007/s11916-019-0826-5.
23. Sandor PS, Irimia P, Jager HR, Goadsby PJ, Kaube H. Onset of cluster headache triggered by emotional effect: a case report. J Neurol Neurosurg Psychiatry, 2006 Sep; 77(9): 1097-9. doi: 10.1136/jnnp.2005.087247. PMID: 16914764; PMCID: PMC2077732.
24. Lin P-T, Chen S-P, Wang S-J. Update on primary headache associated with sexual activity and

primary thunderclap headache. Cephalalgia, 2023; 43(3). doi:10.1177/03331024221148657
25. Makarevičius G, Ryliškienė K. Successful treatment of primary headache associated with sexual activity using erenumab: Case report. Cephalalgia. 2022 Jun; 42(7): 680-683. doi: 10.1177/03331024221075074. Epub 2022 Feb 15. PMID: 35166159; PMCID: PMC9109243.
26. Kravitz J. Seasonal headaches: What causes them & what can you do? A doctor explains [Internet]. Rachael Ray Show. 2019 [cited 2024 Jan 16]. Available from: https://www.rachaelrayshow.com/articles/seasonal-headaches-what-causes-them-what-can-you-do-a-doctor-explains
27. Jahangir S, Adjepong D, Al-Shami HA, Malik BH. Is There an Association Between Migraine and Major Depressive Disorder? A Narrative Review. Cureus., 2020 Jun 10; 12(6): e8551. doi: 10.7759/cureus.8551. PMID: 32670688; PMCID: PMC7357317.
28. Lindberg S. Head massage benefits for headaches, migraine, stress, more [Internet]. Healthline. 2020 [cited 2024 Jan 16]. Available from: https://www.healthline.com/health/head-massage-benefits
29. Chang T. Bath-related headache: a case report. J Med Case Rep., 2023 Jun 4; 17(1): 230. doi: 10.1186/s13256-023-03960-8. PMID: 37270506; PMCID: PMC10239573
30. Brandonorthopedics.com. [cited 2024 Jan 16]. Available from: https://www.brandonorthopedics.com/unraveling-the-mystery-of-yawning-and-muscle-spasms-in-the-neck/
31. ICHD-2. The International Classification of Headache Disorders. Headache Classification Committee of the International Headache Society. Cephalalgia.
32. Defrin R. Chronic post-traumatic headache: clinical findings and possible mechanisms. J Man Manip Ther [Internet], [cited 2024 Jan 11], 2014; 22(1): 36–43. Available from: http://dx.doi.org/10.1179/2042618613y.0000000053
33. Gordon SJ, Grimmer-Somers KA, Trott PH. Pillow use: the behavior of cervical stiffness, headache and scapular/arm pain. J Pain Res., 2010 Aug 11; 3: 137-45. doi: 10.2147/jpr.s10880. PMID: 21197317; PMCID: PMC3004642.
34. Nunez K. Eye strain headache: Symptoms, treatment, prevention, more [Internet]. Healthline, 2020 [cited 2024 Jan 17]. Available from: https://www.healthline.com/health/eye-strain-headache
35. Smell Sensitivity and Migraines Understanding Osmophobia As a Migraine Trigger By Colleen Doherty, MD Updated on. In: Medically reviewed by Huma Sheikh. MD, 2021.
36. Monk EJM, Abba K, Ranganathan LN. Anthelmintics for people with neurocysticercosis. Cochrane Database Syst Rev [Internet]., 2021; 6(6): CD000215. Available from: http://dx.doi.org/10.1002/14651858.CD000215.pub5
37. Maragalawaththa MG, Ediriweera ER, Chandimarathne PB. A clinical trial of Sri Lankan traditional decoction of Pitawakka Navaya in the treatment of Kaphaja Shirsha Shoola. Ayu., 2010 Jul; 31(3): 268-71. doi: 10.4103/0974-8520.77147. PMID: 22131725; PMCID: PMC3221057.