

Integrated approach in the Management of Primary Headache in Childhood Age; A Case Report

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Abstract:

Headaches are a very common and disabling problem for children and adolescents. Globally, nearly 60% of children and adolescents experience significant headache, and 7.7% to 9.1% have migraine. The common associated symptoms are vomiting, abdominal pain, photophobia, phonophobia with or without giddiness and sleep disturbance. Modern medications used in acute condition are Paracetamol with caffeine or naproxen with or without antacid & antiemetics for symptomatic relief only. In Ayurveda it comes under *Shiroroga* and a variety of recipes with topical remedies available to provide long term relief to reduce intensity as well as recurrence of headache episodes. This case reports presents 9-year-old female child diagnosed as *Vatapitta* variety of *Shiroroga*. An integrated treatment approach resulted in significant symptom relief within 15 days.

Keywords-Headache, Migraine, *Shiroroga*

Introduction:

Paediatric headache is one of the most common complaints encountered in a paediatric practice. It is primarily a complex neurovascular disorder caused due to vasodilation of intracranial & extra cerebral blood vessels, simultaneously stimulating trigeminal sensory nervous pain pathway resulting into headache.

Prevalence of headache increases through childhood to reach a peak at 11–13 years of age in both sexes. Migraine is the most common primary headache with overall prevalence of 9% (1.2% in young to 23% in adolescents). It is more common in boys in the prepubertal age group; the mean age of onset is 7.2 years in boys and 10.9 years in girls^(1,2).

Headache can be a referred pain from extra cranial structures such as orbits, ears, sinuses, teeth, and temporomandibular joint. Intracranial pain carrying structures include arteries of circle of Willis and proximal dural arteries, dural veins, and venous sinuses and meninges.

Primary -common, chronic & recurrent type, causes-tension headache, migraine, cluster headache.

Secondary- Headache due to an identifiable cause is called as secondary headache. Acute and serious, causes-head injury, infection, brain tumor.

International classification of headache disorders third edition (ICHD-3) has classified headache into three main types:

(Table -1)

Sr. No.	Primary Headache (Pain modulating system)	Secondary headache (Pain sensitive structure)	Painful neuropathies
1.	Migraine	Trauma/ Infection	Cranial and facial pain(Nerve fiber) II, III, IV, V, VI, VII, IX
2.	Tension-type headache (TTH)	Vascular, inflammatory disorders	Cranial nerve V , cervical nerve C1,C2,C3
3.	Cluster	Idiopathic Intracranial hypertension, low CSF pressure	Cranial nerve V – division 1 and autonomic nervous system

Migraine^(1,2,9) -As migraine is the most common primary headache. There are 2 types of migraine-

- Migraine with Aura** –Aura is sensation of warning signs followed by unilateral headache. These signs may include fatigue, blurred vision, blind spot.
- Migraine without Aura**- This type of migraine is very common which doesn't have any kind of warning signs.

Migraine without aura is the most common primary headache in emergency, while tension type headache is more common in office practice. International classification of headache disorders third edition (ICHD-3) diagnostic criteria.

Migraine without aura

- At least five attacks (fulfilling criteria b-d)

Case Report

- b) Headache attacks lasting 4–72 hours (untreated or unsuccessfully treated)
- c) Headache has at least two of the following four characteristics:
 - Unilateral location
 - Pulsating quality
 - Moderate or severe pain intensity
 - Aggravation by or causing avoidance of routine physical activity (e.g., walking or climbing stairs)
- d) During headache at least one of the following:
 - Nausea and/or vomiting
 - Photophobia and phonophobia
- e) Not better accounted for by another diagnosis Points:
 - In children and adolescents (aged under 18 years), attacks may last 2–72 hours
 - When a child sleeps during migraine headache and wakes up even without headache, whole sleep
 - Duration is counted as headache duration
 - Headache tends to be bilateral in children rather than unilateral disorders

Lifestyle modification: SMART headache management:

- Sleep: Regular and sufficient sleep
- Meals: Regular and sufficient meals, caffeine avoidance, and good hydration
- Activity: Regular aerobic exercise
- Relaxation: Stress reduction and relaxation exercises
- Trigger avoidance: Avoid sleep deprivation, fasting, and identifiable triggers

Medication-Analgesics

- Acetaminophen 15 mg/kg/dose every 4–6 hourly or Ibuprofen 10 mg/kg/dose every 6 hourly Or Naproxen sodium 5–7 mg/kg every 8–12 hourly
- Use should be restricted to three headaches/week to prevent analgesic rebound headache.
- Prophylaxis drugs used for migraine are Propranolol, Topiramate, low dose antiepileptic drugs like valproic acid having many side effects.

As per Ayurveda -

There are very limited references mentioned in our Ayurvedic Samhitas regarding types of headaches as described under *Shiroroga Adhyaya*. Similar symptoms come under *Ardhavabhedak* (*Vata* predominance) in Ayurveda. In addition, *Udavarta Chikitsa* mentioned in *Charak Chikitsa* can be added in constipated patients, as *Shirah Shool* (headache) with *Hrullasa* (nausea) are the symptoms in *Udavarta*^(10,11).

Method- Case Report-

A 9-year-old female child of non-consanguineous parents having recurrent headache (>2 episodes in a month) last in 6-24 hours since 2 years.

Manifested as pulsatile moderate to severe type headache (patient cry many times) with photophobia, phonophobia, giddiness, anorexia (with /without nausea) & sleep disturbance and cannot do daily activity. Trigger factors are spicy food ingestion, sun exposure & disturbance in night sleep.

In her Previous history, childhood Asthma was recorded 6 years of age. After 1 year headache started in place of asthma

Sr. No.	Birth history	General examination	Vitals
1.	Full term /NVD*	Weight- 23.5kg	Temp- 98.6F
2.	CIAB*	Height-126cm	Pulse- 82/min
3.	Birth weight =3kg	RR- 24/min

*NVD=Normal vaginal delivery, CIAB=cry immediately after birth

Systemic examination-

CVS- normal S1S2 Heard CNS- conscious & alert

RS- Air Entry B/L equal and clear

GIT-P/a Soft, tenderness epigastric region present.

Ashtavidha Parikshana

Nadi- Vatpaiktik Nadi;

Mutra- Prakrut;

Mala- h/o constipation (frequency once in 1-2 day),

Jivha- Ishat Sam;

Shabda- Spashta;

Sparsha- Anushna,

Druk- Prakrut;

Akruti – Madhyam.

Probable diagnosis as per history – As per history and type of headache the above case comes under childhood migraine without aura a type of primary headache. As per Ayurveda, *Vata Dosha* mainly *Prana Vata* gets vitiated (past history of *Shwasa*) with *Pitta Dosha* along with *Majja Dhatu* as giddiness is a symptom in present case.

Management-

The treatment plan was *Nitya Virechana* (constipation present) along with *Pratimarsha Nasya & Shirolepa, Shiro-abhyanga* with oral medications^(11,12). The treatment was

aimed by using *Vatapitta* pacifying, *Anulomak*, herbomineral preparation with local treatment to reduce episodes and intensity of migraine. Drugs like *Suvarnasootshekhar Ras*, *Duralabha* and *Prawal Pisti* all are *Vatapitta Shamak* action.

Follow- Up	Treatment Given	Duration
Day 0	1. <i>Shirolepa</i> with <i>Kachora, Nagarmotha, Tagara</i> for 3 times on day 1 for 30 min-1 hour 2. <i>Jatamansi Taila Shiro-abhyang</i> at night 3. <i>Avipattikar Churna</i> 1.5gm BD before food 4. <i>Suvarnasutashekhar Ras</i> 60mg + <i>Duralabha Churna</i> 125mg+ <i>Godanti Bhasma</i> 60mg + <i>Pravalpishiti</i> 125mg 4 times in a day with honey + ghee	3 days
1st follow up	1. <i>Pratimarsha Nasya</i> with <i>Ksheerbala Taila</i> (101) 2 drops in each nostril at 8am 2. <i>Shiroabhyanga</i> daily as advised 3. <i>Suvarna Sutashekhar Ras</i> 100mg with honey+ghee empty stomach early morning 4. <i>Drakshadi Kashayam</i> 7.5 ml before food BD 5. <i>Mauktik Kamdudha Ras</i> 250 mg after Lunch 6. <i>Avipattikar Churna</i> 3 gm at night with water	7 days
2nd follow	1. <i>Draksha-Avaleha</i> 3gm at breakfast with milk 2. <i>Pratimarsha Nasya</i> 2 drops once in a day at 8am 3. <i>Mauktik Kamdudha Ras</i> 1 tab after lunch 4. <i>Duralabha Churna</i> + <i>Jatamansi Churna</i> + <i>Trivrutta Churna</i> equal mixture -3gm + add 100 ml hot water = <i>Phanta</i> at night	15 days

Result as per Symptomatic relief-

Before treatment (day 0)	AT (3 days) 1 st follow up	AT (7 days) 2 nd follow up	AT (15days) 3 rd follow up
Headache with photophobia, giddiness, anorexia & sleep disturbance.	Headache, photophobia and giddiness subsides	No further headache episode oral intake normal, Sleep increased	No episode of headache since 3 weeks, oral intake normal, sleep increased

Discussion:

As per the symptoms of present case *Vatapitta* predominance with *Majja Dhatu Dusti* involved. Considering these factors- *Vata Pitta* pacifying formulation has been chosen in which local ayurvedic treatment like *Nasya* with *Madhura Ras Siddha Taila Ksheerbala Taila* (*Vata Pitta* pacifying), having an alkaloid in *Bala* -ephedrine possesses psycho-stimulant properties on CNS³. *Shirolepa* with *Tagara* and *Dalchini*. *Shiroabhyanga* with *Jatamansi Taila* and oral treatment *Drakshadi Kashyam*, *Avipattikar Churna*, *Sootshekhar Ras*, *Prawal Pisti* and *Godanti Bhasma* combination having *Deepana*, *Pachan*, *Anulomak*, *Vatapitta Shamak*, properties showed significant improvement in headache episodes and associated symptoms.

As there was past history of asthma, *Prana Vayu Vaigunya* can be assume as *Sthana* of *Prana Vayu* is *Murdha* and *Urah Sthana*. *Drakshadi Kashayam* is good rasayana for lungs.

Headache reduced gradually along with associated symptoms. Improvement in quality of sleep, with increased appetite & energy. NSAID drug (Naprosyn) shows analgesic effect in short time span, but it cannot work on recurrence.

Duralabha Churna is *Vatapitta Shamak* & useful in *Bhrama* & *moorcha*⁴. *Jatamansi* has *Medya* effect along with *Nidrajanan* property⁵.

Diet changes also suggested to reduce the episode of headache as patient used to eat pickle / chilli / rich chutney of groundnuts daily causes *Pitta* aggravation and her bowel was not regular.

Conclusion-

It can be concluded that with proper analysis of condition and diagnosing *Shiroroga* based on *Dosha Dushya* involved, ayurvedic medicines work on pathophysiology to normalize *Dosha* and to strengthen *Dhatu* to reduce the recurrence and intensity of disease. Along with dietary & lifestyle changes mentioned in Ayurveda one can significantly improve the quality of life.

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