AYURVEDIC AND MODERN ASPECT OF KRIMIJA SHIROROGA
A CASE REPORT

1Thite Yogita 2Khairnar Chandrakant 3Ragini Patil
1MD scholar Rog-Nidan & Vikruti-vigyan at College of Ayurveded and research centre, Nigdi, Pune.
2MD scholar Rog-Nidan & Vikruti-vigyan at College of Ayurveded and research centre, Nigdi, Pune.
3HOD & Principle, Rog-Nidan & Vikruti-vigyan at College of Ayurveda and research centre, Nigdi, Pune.

ABSTRACT:
Ayurveda, Indian system of medicine is popular and well known globally. Basic reason is the fundamental principles of ayurveda have proved their time tested importance. There is prime importance to pathogenesis of disease i.e. samprapti process in Ayurveda. Krimija shiroroga is mentioned in various ancient texts, but during working in hospital found this patient and it was really surprising us, that the ayurvedic textbook have mentioned all these concepts decades ago because they have fore-sight(“door drishti”) , as we do not have this door drushti we need modern, pathological finding, (haematological, MRI, CT) for diagnosis.

Key words: Krumi, krumija Shiroroga, Kaphaj krumi,

INTRODUCTION: From PDEA’s Ayurved rugnalaya and sterling multispeciality hospital, Nigdi, Pune-410 201. A 16 year male patient having
a) Chief complaints -Fever( since 3 days), Severe tense headache (since 3-4 days), Vomiting twice (morning), Cough (since 3-4 days).
b) Personal History:-
• Occupation: - Student, (Although he was a student, his parents occupation is fishery.)
• Diet:- Non-veg (Daily fish, rice, Rice bhakri)
• Sleeping habit:- Disturbed sleep,
• Bowel habit:- Constipation,
• Urination:- Burning micturition,
c) Investigation:-
• Complete Blood Count: – Haemoglobin -12.4 gm%, WBC – 5000/mm³, Platelet– 1.48 lakh/mm³, ESR: 20 mm at end of 1 hour.
• As explaind by Charak (1)

Serum Electrolytes:- Na⁺: 136 mmol/L, K⁺ : 4.4 mmol/L, Cl⁻ : 96 mmol/L,
• Renal Function Test:- Urea -37 mg/dl, creatinine- 0.73 mg/dl, Uric acid-4.8 mg/dl,
• Urine: - within normal limits.
• CT Brain: - Well defined ring enhancing mass lesion in left parietal lobe is most likely to be infective granuloma, differential diagnosis are tuberculosis versus Neurocystercerosis.
• CSF study shows- Mononuclear pleocytosis, Sugar level decreased, Protein level high, High IgG Index, Eosinophilia (5-500 cells/uL).

Diagnosis for this case was krumija shiroroga.

Krumija Shiroroga: Ayurvedic textbook has given various sign and symptoms for the diagnosis and mentioned samprapti also,

Samprapti ghatak→
• Nidan: Til, Gud, dugdha atisevan, ajirna bhojan, pooti bhojana,
• Dosha: Kapha,
• Dhushya: Rakta, Mamsa, kleda,
• Sthan: Shirapradesha

Samprapti →
Hetu sevan → Kapha prakop → Kaphasahit Rakta, Mamsa – kleda utpatti → shira pradeshi sthansamshray → krumi utpatti → teevra shirashool → krumija shiroroga.²

Lakshanas →
Vyadhachedavat shiro- raja, Kandu, Evan Shopha, Durgandha (3).
Sushrutacharya mentioned that pricking headache, sensation like something walking inside, rhinorrhoea and tense headache (⁴) Now, these symptoms mentioned in krimija shirorog by Ayurvedic textbook, but when we go through krumi roga adhyaya we get more specific symptoms. From above samprapti it is clear that kapha prakop is more.

In vimanstan, charakacharya given details about krumi.⁵

Although, Acharyas Mentioned different types of krumi but krumija shirorog has same etiology like shleshmaja krumi, so here discussed this from different samhitas

I. Charkacharya described about shleshmaja krumi, (6)
• Nidan as milk, til, fish, meat, Pishatanna, ajirna-puti-klima-sankirna-asatmya-viruddha bhojan. These all are hetu sevan for Krumija shirorag as mentioned above.
• Sthan: Amashaya sthan as described but they can wander upwards or downwards.

Akruti: Pruthu, Shwet, bradhna sama, some are Vrutta, gandupada sama- shwet-tamra, some are anu-deergha-tanu-shwet.
• Prabhav/ Lakshanas due to this:-
  • Hrullas, asya-sansravan, chardi,
  • Arochak-avipak-anah,
  • Jwar, Moorcha,
  • Angamard, Jrumba
  • Karshya, Parushya.

II. Sushrutacharya mentioned shlemaja krumi
• Hetu as: Mamsa, Masha, guda, kshira, dadhi, taila (7)
• On the basis of karma vishesha described their types as Mjjada, netra ledha, talubhuja, shrotrabhuja etc (8)
• They are having karma like Shiro rog, hrudroag, vamthu, pratishyaya.
• Lashanas: - Jwar, mukha vivarnata, Shula, Hrudrog, Sadan, bhrama, bhakta dwesha, atisar (7)

III. Harit has described Kaphaj krumi in two types as-
1) Suchimukha Krumi:- guruta, trishna, agnimandya, aruchi, asyasrav, sarakta mala pravruttii, kampa, sarakta chardi.
2) Dhanvantara krumi

IV. Madhavacharya metioned some different hetus along with above i.e. Madhuramala nitya sevi, avyayam, deewaswap,⁹
All hetus mentioned in kaphaj krumi are nothing but hetuj for krumija shirorog, and so lakshanas of krumija shirorag are:

<table>
<thead>
<tr>
<th>Hrutalas, chardi,</th>
<th>Agnimandyas</th>
<th>Kampa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asya-sansravan,</td>
<td>Bhakta dwesha</td>
<td>Jwar</td>
</tr>
<tr>
<td>Arochak-avipak</td>
<td>Anah</td>
<td>Hrudrog</td>
</tr>
<tr>
<td>Angamard, Sadan,</td>
<td>Mukha vivarnata</td>
<td>Atisar</td>
</tr>
<tr>
<td>Jrumbha,</td>
<td>Murcha/bhrama</td>
<td>Tivra shira shooll</td>
</tr>
<tr>
<td>Guruta</td>
<td>Parushya</td>
<td></td>
</tr>
<tr>
<td>Trishna</td>
<td>Karshya</td>
<td></td>
</tr>
</tbody>
</table>

Now, in above mentioned case, it was found that

1) Hetu: Matsya, anup mansa sewan which is hetu found in krumija shirorog.
2) Lakshanas: severe headache, vomiting, fever are found in krumija shiroroga.
3) His haematological investigation were normal and CT Brain shows,

Computed tomographic (CT) scan of brain in above patient is shown here. Note the calcified lesion in the left parietal region. Subsequent evaluation confirmed the diagnosis of neurocysticercosis.

As sushrutacharya on the basis of karma vishesha described their types as Mjjada, etc having karma like shiroroga, hridrog, etc, and Charkacharya mentioned sthan of shleshmaj krumi as amashaya, but also mentioned that “Pravardhamana tu urdhwa adho visarpanti” and actually this type of life cycle is mentioned by modern science in Taenia solium, Pathophysiology: Cysticercosis is the result of accidental ingestion of eggs of Taenia solium (i.e. pork tapeworm), usually due to contamination of food by people with taeniasis. T solium has a 2-host biologic cycle, with humans as the definitive hosts carrying the intestinal tapeworm, and pigs as the normal intermediate hosts harboring the larvae or cysticerci. This parasite has a head (scolex) with 4 suckers and a double crown of hooks, an unsegmented neck, and a large body with several hundreds of hermaphrodite proglottids. Cysticerci are ingested by humans through poorly cooked infected pork. Cysts evacuate in the small intestine, attach to the wall by its suckers and hooks, and develop strobila or chains of proglottids. From the distal end of the strobila, fertile eggs are excreted into the gravid proglottids. Up to 60,000 eggs may be contained in a proglottid. Pigs ingest stool contaminated with Taenia eggs, the embryos actively cross the intestinal wall, get into the bloodstream, and are transported to most tissues, where they reside as cysticerci. Larvae are found most commonly in the central nervous system (CNS), but they can also be located in the eye, muscle, or subcutaneous or other tissues.
This Cysticercus situated in nervous system is called as Neurocysticercosis.

**Neurocysticercosis:** Neurocysticercosis is the most common parasitic disease of the nervous system. Neurocysticercosis can be acquired via fecal-oral contact with carriers of the adult tapeworm *Taenia solium*. This usually indicates the presence of a tapeworm carrier in the immediate environment (i.e., household) or by accidental ingestion of contaminated food.

**Signs and symptoms:** Clinical manifestations of neurocysticercosis vary with the locations of the lesions, the number of parasites, and the host's immune response. Possible symptomatic presentations include the following:
- Epilepsy
- Headache, dizziness
- Stroke
- Neuropsychiatric dysfunction
Onset of most symptoms is usually subacute to chronic, but seizures present acutely.

**Diagnosis:** Neurocysticercosis is commonly diagnosed with the routine use of diagnostic methods such as computed tomography (CT) and magnetic resonance imaging (MRI) of the brain. Peripheral leukocytosis, eosinophilia, and elevated erythrocyte sedimentation rate may be found on routine blood work.

CT findings vary as follows, depending on the stage of evolution of the infestation:
- Vesicular stage (viable larva): Hypodense, nonenhancing lesions
- Colloidal stage (larval degeneration): Hypodense/isodense lesions with peripheral enhancement and perilesional edema
- Nodular-granular stage: Nodular-enhancing lesions
- Cysticercotic encephalitis: Diffuse edema, collapsed ventricles, and multiple enhancing parenchymal lesions
- Active parenchymal stage: The scolex within a cyst may appear as a hyperdense dot
- Calcified stage: When the parasite dies, nodular parenchymal calcifications are seen.
**Lab studies:**
CSF analysis for neurocysticercosis is indicated in every patient presenting with new-onset seizures or neurologic deficit in whom neuroimaging shows a solitary lesion but does not offer a definitive diagnosis. CSF Analysis is contraindicated in cases of large cysts causing severe edema and displacement of brain structures, as well as in lesions causing obstructive hydrocephalus. CSF findings include the following:
- Mononuclear pleocytosis
- Normal or low glucose levels
- Elevated protein levels
- High IgG index
- Oligoclonal bands, in some cases
- Eosinophilia (5-500 cells/µL); however, this also occurs in neurosyphilis and CNS tuberculosis (10)

**CONCLUSION:** Ayurveda is an ancient system of medicine which has some unexplored chapters and diseases. Ayurvedic samhita explained two types of krumi, Drushya(Visible) and Adrushya(Invisible) which correlate macroorganisms like worms and microorganisms like virus, bacteria. Acharya also explained some of the krumija disease according to the location of krumi. Krumija shiroroga having some identical lakshanas with neurocysticercosis. Hetu and lakshan of krumija shirorog correlate with sleshmaja krumi.

**REFERENCES:**
1. Dr. Brahmanand Tripathi, Charak samhita, Chaukamba surbharati publication Varanasi, Reprint-2007, Part 1, Sutrasthana 17/27, page no-338
2. Dr. Brahmanand Tripathi, Charak samhita, Chaukamba surbharati publication Varanasi, Reprint-2007, Part 1, Sutrasthana 17/28, page no-338
3. Dr. Brahmanand Tripathi, Charak samhita, Chaukamba surbharati publication Varanasi, Reprint-2007, Part 1, Sutrasthana 17/29, page no-338
4. Dr. Anantram sharma, acharya priyavat sharma, Sushruta samhita, Chaukamba surbharati publication Varanasi, Reprint 2010, Utartantra 25/10, page no-186
5. Dr. Brahmanand Tripathi, Charak samhita, Chaukamba surbharati publication Varanasi, Reprint-2007, Part 1, Vimansthana 7/9, page no-711
6. Dr. Brahmanand Tripathi, Charak samhita, Chaukamba surbharati publication Varanasi, Reprint-2007, Part 1, Vimansthana 7/12, page no-713
7. Dr. Anantram sharma, acharya priyavat sharma, Sushruta samhita, Chaukamba surbharati publication Varanasi, Reprint 2010, Utartantra 54/18, page no-447
8. Dr. Anantram sharma, acharya priyavat sharma, Sushruta samhita, Chaukamba surbharati publication Varanasi, Reprint 2010, Utartantra 54/14, page no-447
9. Madhav nidan, madhukosh vyakhya, Editor Prof Yadunandana Upadhyay, Chaukambha Prakashan Varanasi; Reprint 2009. Purvardy, 7/1
10. Longo, fauci, kasper, jameson, Harrison’s Principles of internal medicine; 18th edition Mc Graw Hill medical publication; volume 1, Section No.90, chapter No.220, p no 1760.

**Corresponding Author:** PG scholar Rog - Nidan & Vikruti-vigyan at College of ayurved and research centre, Nigdi, Pune. Email:yogita.thite89@gmail.com

**Source of support:** Nil

**Conflict of interest:** None Declared