

## AYURVEDIC AND MODERN ASPECT OF KRIMIJA SHIROROGA A CASE REPORT

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### 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 multispeciality hospital, Nigdi, Pune-44,

A 16 year male patient having

a) Chief complaints -Fever( since 3 days), Severe tense headache (since 3 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/mm<sup>3</sup>, Platelet– 1.48 lakh/mm<sup>3</sup>, ESR: 20 mm at end of 1 hour.

- As explained by Charak <sup>(1)</sup>

**Samprapti ghatak**→

• Serum Electrolytes:- Na<sup>+</sup>: 136 mmol/L, K<sup>+</sup> : 4.4 mmol/L, Cl<sup>-</sup> : 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 tuberculoma versus Neurocysticercosis.
- 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,

- *Nidan* :- *Til, Gud, dugdha atisevan, ajirna bhojan, pooti bhojana,*
- *Dosha*:- *Kapha,*
- *Dhushya*:- *Rakta, Mamsa, kleda,*
- *Sthan*:- *Shirapradesha*

### *Samprapti* →

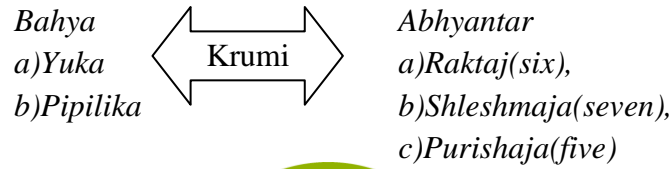
*Hetu sevan* → *Kapha prakop* → *Kaphasahit Rakta, Mamsa – kleda utpatti* → *shira pradeshi sthansamsray* → *krumi utpatti* → *teevra shirashool* → *krumija shiroroga*.<sup>(2)</sup>

### *Lakshanas* →

*Vyadhachedavat shiro- ruja, Kandu, Evam Shopha, Durgandha*<sup>(3)</sup>.

Sushrutacharya mentioned that pricking headache, sensation like something walking inside, rhinorrhoea and tense headache <sup>(4)</sup> 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 *vimansthan*, charakacharya given details about *krumi*.<sup>(5)</sup>



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*,<sup>(6)</sup>

- *Nidan* as milk, til, fish, meat, *Pishatanna, ajirna-puti-kinna-sankirna- asatmya-viruddha bhojan*. These all are *hetu sevan* for *Krumija shirorog* 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, Jrumbha*
- *Karshya, Parushya.*

II. Sushrutacharya mentioned *shlemaja krumi*.

- *Hetu* as : *Mamsa, Masha, guda, kshira, dadhi, taila* <sup>(7)</sup>

• On the basis of *karma vishesha* described their types as *Mjjada, netra ledha, talubhuja, shrotrabhuja etc* <sup>(8)</sup>

- They are having *karma* like *Shiro rog, hrudrog, vamthu, pratishyaya.*
- *Lashanas* :- *Jwar, mukha vivarnata, Shula, Hrudrog, Sadan, bhrama, bhakta dwesha, atisar*<sup>(7)</sup>

III. Harit has described *Kaphaj krumi* in two types as-

- 1) *Suchimukha Krumi*:- *guruta, trishna, agnimandya, aruchi, asyasrav, sarakta mala pravrutti, kampa, sarakta chardi.*
- 2) *Dhanyankura krumi*

IV. Madhavacharya mentioned some different *hetus* along with above i.e. *Madhuramla nitya sevi, avyayam, deewaswap*.<sup>(9)</sup>

All hetus mentioned in kaphaj krumi are nothing but hetuj for krumija shirorog, and so lakshanas of krumija shirorag are:

<i>Hrullas, chardi,</i>	<i>Agnimandya</i>	<i>Kampa</i>
<i>Asya-sansravan,</i>	<i>Bhakta dwesha</i>	<i>Jwar</i>
<i>Arochak-avipak</i>	<i>Anah</i>	<i>Hrudrog</i>
<i>Angamard, Sadan,</i>	<i>Mukha vivarnata</i>	<i>Atisar</i>
<i>Jrumbha,</i>	<i>Murcha/ bhrama</i>	<i>Tivra shira shool</i>
<i>Guruta</i>	<i>Parushya</i>	
<i>Trishna</i>	<i>Karshya</i>	

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,

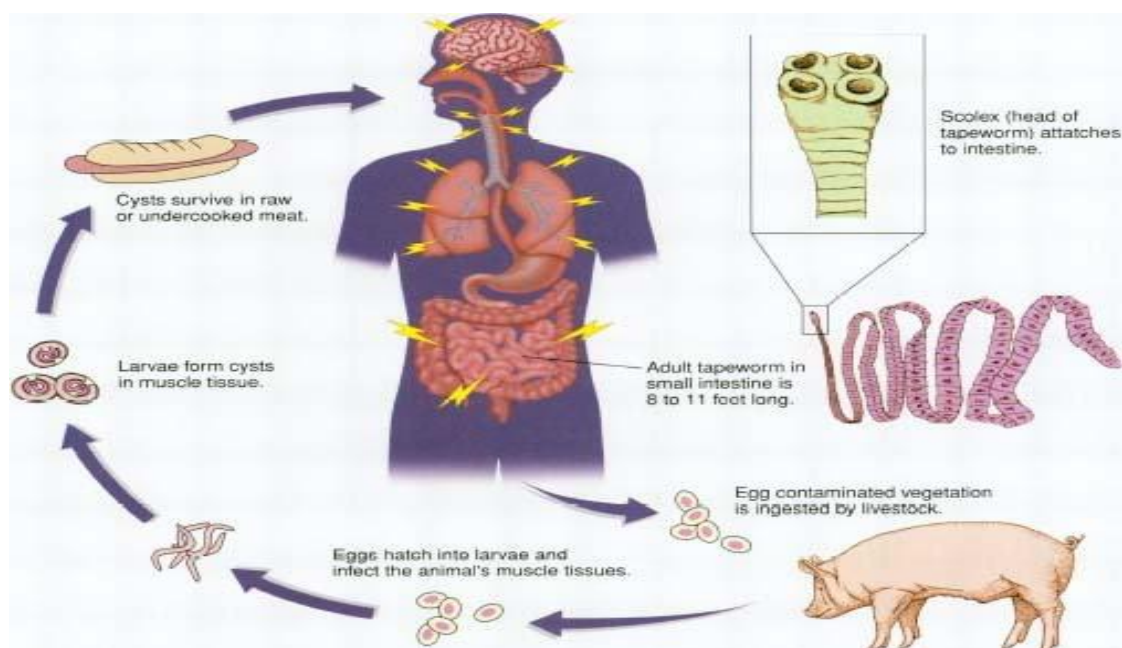


Computed tomographic (CT) scan of brain in above patient is shown here. Note the calcified lesion in the left parietal region. Subsequent evaluation confirmed the diagnosis of neurocysticercosis.

As sushrutacharya on the basis of *karma vishesha* described their types as *Mjjada* etc having karma like shiroroga, *hrudrog* 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 evaginate 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/ $\mu$ L); however, this also occurs in neurosyphilis and CNS tuberculosis<sup>(10)</sup>

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

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