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RELEVANCE OF SHIRSHAMBU ROGA AND ITS MANAGEMENT AS PER AYURVEDA

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ABSTRACT

An imbalance between the production and absorption of Cerebrospinal fluid (CSF) results in accumulation of fluid in brain and produces several sign and symptoms of hydrocephalus. Similarly in *Ayurveda*, aggravation of *vata* dosha is responsible for the vitiation of the *dosha*, *dhatus* and *malas*. As a result of increase in amount of *jala* (*ambu*) *dhatu* in cephalic region which causes raised intracranial pressure and gives rise to *Shirshambu roga*. Symptoms of *Shirshambu roga* includes, excessive cry, banging of head, redness of eyes, nausea & vomiting sensation etc. It occurs mainly in children during the period of teeth eruption. Further, in the diseases progression if the symptoms are not relieved by medical management, surgical intervention will be necessary.

KEYWORDS: *Shirshambu roga, vata dosha, jala dhatu, dhatus, mala,* Hydrocephalus.

INTRODUCTION

The literal meaning of word *Shirshambu* is accumulation of *ambu* (water) in *shirah pradesha* (head region). *Ambu* in this context is cerebro spinal fluid (CSF). The CSF is secreted by the choroid plexus in the ventricles by the process of ultra filtration as well as active secretion. From the lateral ventricles it passes to the third and fourth ventricles and exits from foramen of Luschka and Magendie. It reaches into the basal cisterns and then the cerebral & spinal subarachnoid spaces and gets absorbed via the arachnoid villi (granulations) into the venous

channels and sinuses. About 20 ml of CSF is secreted in an hour and its turnover is 3 or 4 times in a day.[1]

Etiology of *Shirshambu* is excessive intake of unwholesome water, liquid diet & drink, exposure of excessive cold, intestinal worm infestation, due to head injury, excessive intake of liquor and due to disordered *vata*, the water content of the head is increased.[2] The pathology in Hydrocephalus is a result of an imbalance between production and absorption of cerebrospinal fluid.[3] *Vata* is considered to be the controller of various functions of other doshas, i.e; *pitta*, *kapha*, *dhatus* and *malas*.[4] Not only the *doshas*, *vata* also regulates *manas*[5] and hence the whole body. The imbalance in the production of CSF is a result of vitiation of *vata dosha* due to intake of various *nidan* (etiology). According to the secretion and communication of CSF hydrocephalus may be communicating or non-communicating type. In non-communicating type, reabsorption of CSF is affected but there is no blockage in the CSF pathway. Papilloma of choroid plexus may be a cause for excessive CSF production. In obstructive or noncommunicating type of hydrocephalus, there is a block at any level in the ventricular system. It is common at the level of aqueduct or foramina of Luschka and Magendie. Here, the ventricles are dilated above the block.[6]

Shirshambu attacks mainly during the childhood and particularly during the time of teething.[7] Hydrocephalus may be congenital or acquired. Causes of Congenital hydrocephalus are intrauterine infections due to rubella, cytomegalovirus, toxoplasmosis, intraventricular hemorrhage, intracranial bleeds etc. Congenital malformations like Aqueduct stenosis, Dandy-Walker syndrome (posterior fossa cyst continuous with fourth ventricle), Arnold-Chiari syndrome (portions of cerebellum and brainstem herniating into cervical spinal canal, blocking the flow of CSF to the posterior fossa) are known to cause congenital hydrocephalus. Likewise the Midline tumors also obstruct the CSF flow. Manifestation of *Shirshambu roga* as described in text during infancy may be the consequence of congenital defect as seen in congenital hydrocephalus. Teething is a well known cause of various types of symptom and diseases. Not a single *dhatu* (tissue and system) is spared during teeth eruption.[8] This may be the reason of acquired dieses. Causes of acquired hydrocephalus include childhood tuberculosis, chronic & pyogenic meningitis, post intraventricular hemorrhage, posterior fossa tumors like Medulloblastoma, astrocytoma, ependymoma, Arteriovenous malformation, intracranial hemorrhage, ruptured aneurysm etc.

The prodormal symptoms of the early stage of *Shirshambu* diseases include *jihvaliptata* (deposits over dorsal surface of tongue), *nidratva* (excessive sleep), *daurbalya* (weakness), *shwas-putita* (bad breath), *gadh vitakta* (hardness of stool).[9] After a brief period of above mentioned prodormal symptoms patient develops fully fledged sign and symptom of the diseases. The patient feels *shirsah vedna ghorah* (severe headache), *shrut drishti tikshnata* (pain and pricking sensation in ears & eyes), *mutra alpata* (oligouria), *krishna vitakta* (passes black colored stool), *dhamani vegvahini* (increased palpitation), *tvak ruksha ushnata* (dryness and burning sensation of skin), *chardi* (vomiting tendency), *kaninaka vishamta* (disorientation of eye ball), *mukh vaivarnya* (discolouration in facial region), *nidraya* (drowsiness/sleepiness), *danta gharsanam* (teeth grinding), *kanduroshthasya nasaya* (itching sensation around the lips and nose), *akshepa* (convulsions), *rakta netrata* (redness of eyes), *pakshaghat* (hemiplegia), *pralap* (disorientation of speech).[10]

Shirshambu has a very close clinical feature with that of hydrocephalus. Hydrocephalus is manifested as enlarging head size, delayed closure of fontanel & approximation of suture line. Symptoms of headache, nausea, vomiting, personality and behavior changes such as irritability, head banging, apathy and drowsiness develops with advancing course of diseases. Pathology behind such features is dilatation of ventricles. Ependymal lining of ventricles is disrupted resulting in periventricular ooze and hence periventricular white matter is compressed. Cortex is generally preserved until late but cortical atrophy may occur.

Shirshambu is a *kricchasadhya* (difficult to treat) diseases from prognostic point of view. It may be reversible if the treatment is initiated early.[11] In case of hydrocephalus even with the best of treatment, prognosis is not so good. Almost two-thirds patients have variable mental and developmental disabilities.

Chikitsa siddhant (principle of treatment) of *shirshambu* is to promote excessive diuresis, drugs that are laxative and are capable to purify the blood should be given. The patient should get scalp clean shaved and head should be wrapped with warm clothes. Little quantity of coconut oil should be given at interval of a few hours. There is indication of *Rasa sindura* in low dose for the treatment of *shirshambu*.[12] Principal behind above treatment is to reduce raised CSF pressure and elimination of waste product by giving diuretics. Symptoms produced due to raised CSF pressure get relieved by the above measure. Wrapping of head and intake of small amount of oil is meant to pacify aggravated *vata dosha* which is vitiated. Formulations mentioned for the treatment of *Shirshambu* are *Pitamulayadi Kvatha*, *Salila*

Soshana Churnam, *Kumkumadya Ghritam* and *Vahni Bhaskara Rasa.* All the above types of medicine, the *rasa*, the *ghrita*, the *tailam*, the *churna*, as well as the *kwathas* have been suggested for the treatment of the disease. If the disease is not cured through them the water accumulated in the head should be removed using the *trikurchak yantra* (trocar).[13]

Initial medical management of hydrocephalus is rational use of diuretic. In mild, slowly progressive hydrocephalus, acetazolamide at a dose of 25-100 mg/kg/day diminishes CSF production. Oral glycerol can also be used for similar purpose. A conservative approach is better in most cases. If hydrocephalus is checked spontaneously, surgical intervention may not be necessary. In case of surgical intervention ventriculoatrial or ventriculoperitoneal shunt should be done to drain the CSF directly into the circulation or into the peritoneal cavity. Endoscopic ventriculotomy is also to be done particularly in children with obstructive hydrocephalus.[14]

CONCLUSION

Description of *Shirshambu roga* in *Bhaishajya Ratnavali* has very close similarity with that of hydrocephalus. Congenital hydrocephalus starts in fetal life and may manifest or even develop subsequently. *Shirshambu* too is a disease of childhood and several etiologies is mentioned for vitiation of *doshas* and production of diseases. Medical and surgical principles of treatment prescribed for the diseases are relevant and practical in present day also.

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