

REVIEW ON AYURVEDIC PERSPECTIVE OF EBOLA HEMORRHAGIC FEVER (EHF)- (RAKTASHTHIIVI SANNIPAT JWARA)

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ABSTRACT

Ebola HA Fever is now one of the major infectious diseases which still lack the effective therapeutic strategies. In this paper; we have reviewed the history, symptoms and existing treatments mentioned in various Ayurvedic classical texts. Also present review explores the potential plants for the ideal candidate for the drug discovery for EHF. The possible drugs include existing remedial measures as practiced in Ayurvedic system such as Amalaki, Haritaki, Guduchi, Haridra and Tulasi, are well established as *rasayan* and antiviral remediation in Ayurvedic system, which may successfully control EHF. Present review also stresses the importance of these plants on treating EHF as well as taking as prophylaxis measure.

Key words- Raktashthivi Jwar, Ebola fever, Ayurved

INTRODUCTION-

Ayurveda is the most ancient medical science of life. Ayurved mainly stress on maintaining the health. It provides measures to prevent the diseases. According to Charak, Jawar [fever] happens since the birth of an individual and at the time of their death also. There are mainly two types of Jawar- Nija and Agantuj. Nija Jawara includes all doshaja types along with Sannipat Jawar [Charak Samhita Chikitsa sthan 3/ 89-103].

Ebola virus disease (EVD) or Ebola hemorrhagic fever (EHF) is a disease of humans and other primates caused by an Ebola virus. [1] The name of the disease originates from the first recorded outbreak in 1976 in Yambuku, Democratic Republic of the Congo, which lies on the Ebola River. [2]

No specific treatment for the disease is available yet. Efforts to help those who are

infected are supportive and include giving either oral rehydration therapy (slightly sweet and salty water to drink) or intravenous fluids [1]. The disease has a high risk of death, killing between 50% and 90% of those infected with the virus. [1] [3]. From 1976 (when it was first identified) to 2013, the World Health Organization reported 1,716 confirmed cases. [1] [4] The largest outbreak to date is the ongoing 2014 West Africa Ebola virus outbreak, which is affecting Guinea, Sierra Leone, Liberia and Nigeria [5]. As of 26 August 2014, 3,069 suspected cases resulting in the deaths of 1,552 have been reported. [6] EVD is caused by four of five viruses classified in the genus *Ebolavirus*, family *Filoviridae*, order *Mononegavirales*. The four disease-causing viruses are Bundibugyo virus (BDBV), Sudan virus (SUDV), Tai Forest virus (TAFV), and one called simply,

Ebola virus (EBOV, formerly Zaire Ebola virus). Ebola virus is the sole member of the *Zaire ebolavirus* species, and the most dangerous of the known Ebola disease-causing viruses, as well as being responsible for the largest number of outbreaks. [7]

Raktashthivi Jwar- Vis – a – Vis Ebola hemorrhagic fever

Raktashthivi Nigadit Iha Pranhanta Prasiddhaha !

Raktashthivi Sannipat Jwar condition is similar to that of death [8]. It is mentioned as one among the thirteen types of *Sanni-*

pata jwara. Vitiated tridoshas due to *Agantuka karanas* (*Bhutabhisangaja* – Ebola virus) immediately lodges in *Rasavaha* and *Pranavaha srotoses* simultaneously. It severely effects the circulation of *Rasa* and thereby causes the depletion of *Ojas*, factor responsible for life and death, which results in death of patient. As the *Bhutabhisanga* (Ebola virus) is the direct factor for the causation of the disease *EHF*, it can also be known by the name *Bhutabhisanga Jwara*. It is explained as a type of *Agantuja jwar*. [9]

Table 1 Different Ayurved texts described various conditions which are similar to Ebola hemorrhagic fever is as follows-

Ayurved text	Avastha- condition	Sign and symptoms
Charak Samhita	<i>Rakta Dhatugata Jwara [10]</i>	<ul style="list-style-type: none"> • <i>Sarakta sthivan</i> [blood in sputum] • <i>Raktottha pitika</i> [rashes]
Sushrut Samhita	<i>Pittaj Jwara [11]</i>	<ul style="list-style-type: none"> • <i>Tikshna jwra</i> [fever more than 101 degree] • <i>Vaman</i> [Vomiting] • <i>Aatisara</i> [Diarrhea] • <i>Anidra</i> [insomnia] • Rashes on throat, nose, lips, • Sweating, Delirium, Giddiness
Ashtang Hridaya	<i>Pittaj Jawar [12]</i>	<ul style="list-style-type: none"> • <i>PittaVaman</i>, [vomiting of bile] • <i>Raktashtivana</i>, [blood in sputum] • <i>Aatitrushna</i>, [excessive thirst] • <i>Bhrama</i>, [Giddiness] • <i>Murcha</i>
Bhavaprakash	<i>Sannipatik jwaradhikar [13]</i>	<ul style="list-style-type: none"> • <i>Moha</i> [unconsciousness] • <i>Paridagdha kharasparsha jivha</i> • <i>shtivana raktapattasya</i> [blood in sputum] • <i>trushna</i> [thirst] • <i>Pralap</i> [delirium], • <i>Bhrama</i> [Giddiness] • <i>Shiro-ruk</i> [severe headache] • <i>Parvabheda</i> [tearing pain in joints] • <i>Vamathu</i> [vomiting] • <i>Kantha-aasay shosha</i> [sore throat] • <i>Daha</i> [Burning sensation] • <i>Anidra</i> [Insomnia] • <i>Jrumbha</i> [yawning]
	<i>Raktashtivan Sannipat Jwara [14]</i>	<ul style="list-style-type: none"> • <i>Nishthiva rudhirasya</i> [blood in sputum] • <i>trushna</i> [thirst] • <i>vaman</i> [vomiting] • <i>Aatisar</i> [diarrhoea]

		<ul style="list-style-type: none"> • <i>Bhrama</i> [Giddiness]
	<i>Rakta Dhatugata Jwara</i> [15]	<ul style="list-style-type: none"> • <i>Raktashivana</i> [blood in sputum] • <i>Daha</i> [burning sensation] • <i>Moha</i> [unconsciousness] • <i>Chhardana</i> [vomiting] • <i>Bhrama</i> [Giddiness] • <i>Pralapa</i> [delirium] • <i>trushna</i> [Thirst]
Madhav Nidan	<i>Sannipatik jwara</i> [16]	<ul style="list-style-type: none"> • <i>Moha</i> [unconsciousness] • <i>Paridagdha Kharasparsha Jivha.</i> • <i>shtivan raktapitta</i> • <i>trushna</i> [Thirst]
	<i>raktagata jwara</i> [17]	<ul style="list-style-type: none"> • <i>Raktashtivan</i> [blood in sputum] • <i>Moha</i> [unconsciousness] • <i>Vaman</i> [vomiting]
Yogaratanakar	<i>Raktashthivi Sannipata Jwar</i> [18]	<ul style="list-style-type: none"> • <i>Rakta strava</i> [bleeding] • <i>Jwar</i> [fever] • <i>Vaman</i> [vomiting] • <i>Trusha</i> [Thirst] • <i>Moha</i> [unconsciousness] • <i>Shool</i> [pain] • <i>Atisar</i> [diarrhoea] • <i>Adhman</i> [heaviness in stomach] • <i>Daha</i> [burning sensation] • <i>Shwas</i> [asthma] • <i>Shyav, rakta Jihva</i> [blackening red tongue] • <i>Rash</i>

Incubation or Latent period- –

Based on the *doshic* dominance of *Sannipata jwara* of the patient in relation to his status of *ojas*, the condition will be subsided or it results in death of the patient. This period is 7 days in *vatic* dominance,

10 days in *paittik* dominance and 12 days in *kapha* dominance [19].

It is one among the thirteen types of *Sannipata jwara*. Yog Ratnakar mentions that the *Raktashthivi Sannipaat* that bears a striking resemblance to the symptoms of the Ebola disease has an incubation period of 10 days. [20]

Table 2 Comparative sign and symptoms of Raktashthivi Sannipatik Jwar and Ebola Hemorrhagic Fever are as follow-.

Ebola hemorrhagic fever	Raktashthivi Sannipata Jwar
Fatigue	-
Fever	<i>Jwar</i>
headaches,	<i>Shool</i>
joint, muscle and abdominal pain	<i>Shool</i>
Vomiting	<i>Vaman</i>

diarrhea	<i>Atisar</i>
loss of appetite	<i>Agnimandhya</i>
sore throat	
chest pain	<i>Shool</i>
hiccups,	<i>Hikka</i>
shortness of breath	<i>Shwas</i>
Trouble swallowing.	-
a maculopapular rash	-
reddening of the eyes	<i>Shyama Rakt Jihva, mandalyukta jihva</i>
Bloody vomit.	<i>Rakta Mukha</i>
Other symptomatology mentioned in Ayurveda	
<i>Trusha</i> [Thirst] <i>Moha</i> [unconsciousness] <i>Adhman</i> <i>Bhrama-</i> [Giddiness] <i>Daha-</i> [burning sensation] <i>Sangyanash</i> [unconsciousness] <i>Shyama Rakt Jihva</i> [blackish] <i>mandalyukta Jihva</i> <i>Rakta Mukha</i>	

Treatment –

Treatment in Ebola Virus (*Raktashthivi sannipata jwara*) mainly follows the *Sannipata jwara chikitsa*. In *sannipata jwara*, it is difficult to treat the patients. There is no other way to treat the patients, at least by reducing the excessively aggravated dosha, even if it means aggravation of other dosas.

Generally drug selection in the cases of epidemics should be based on its Rasayana property along with *antiviral and anti oxidant property*, and only then can they show the instant effect. Acharya Yogarathkar has mentioned two decoctions for *Raktashthivi Sannipata jawar* as *follow-Parpata, Dhanvayavas, Vasa, Brustruna, Kutaki and Madayantika Decoction* with Sugar is useful in *Raktashthivi Jwar*

Musta, Padamakashtha. Parpat, Shwet Chandan, Jati, Shatavari, Yashtinmadhu, Nimba twak, Ushir, Chitrak, Raktachandan decoction with Honey.

Drug of Choice

Ayurveda says that bacteria and virus can develop and multiply in the body only when immunity becomes weak. The im-

mune system must be boosted so that the body can fight against bacteria and virus and prevent diseases. Along with the above mentioned plants, medicinal plants like *Musta* [*Cyperus rotundus*], *Ashwagandha* [*Withania somnifera*], *Guduchi* [*Tinospora cordifolia*], *Tulsi* [*Ocimum sanctum*], *Pippali* [*Piper longum*], *Yashtimadhu* [*Glycyrrhiza glabra*], *Haridra* [*Curcuma longa*], *Sunthi*[*Zingiber officinalis*] are known to have properties of immune-modulator, improve the body's overall defense mechanism, thereby increasing its ability to fight viral diseases and also plays a key role to prevent viral and bacterial outbreak.

CONCLUSION

Raktashthivi Sannipata Jawar can be resembled with *Ebola Haemorrhage Fever*, as the signs and the symptoms seen in both the conditions are same. Ayurvedic medicine against major diseases is a bio friendly alternative. Its compounds are well known for safe and have least side

effects .The present study was reviewed to find out the better alternative medicine for the EHF. Efforts are under way to develop a vaccine; however, none yet exists. Medicinal plants having Rasayan property, Immuno modulatory activity, anti viral activity may prevent the adverse effect of the disease. However, these medicinal plants need further research to find out the specific compound for treating this kind of viral disease because it has high potential activity than chemical based compounds.

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