

**EBOLA VIRUS DISEASE IN VIEW OF AYURVEDA****<sup>1</sup> Surve Ashita C. <sup>2</sup> Vaidya Minal S.**

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**ABSTRACT**

A new species of Ebolavirus has been discovered which caused a large Haemorrhagic fever outbreak. EVD has a high risk of death i.e. between 50% to 90% of those who are infected with virus. <sup>[XIII]</sup>The virus is genetically distinct, differing by more than 30% at the genome level from all other known ebolavirus species. Emerging infectious diseases are a significant burden on global economies and public health. Their emergence is thought to be driven largely by socio-economic, environmental and ecological factors. In the absence of effective therapies for Ebola virus infection, the development of some strategy to limit the outbreaks is need of an hour. Drug development, research on new medicines takes a good amount of time. But, there are different medical sciences which possess potent formulations to come over different diseases e.g. Homeopathy, Unani, and Ayurveda etc. Ayurveda is a traditional Indian medicinal system being practiced for thousands of years. Considerable research on pharmacognosy, chemistry, pharmacology and clinical therapeutics has been carried out on ayurvedic medicinal plants. Numerous drugs have entered the international pharmacopoeia through the study of ethnopharmacology and traditional medicine. Maximum patients go for Ayurvedic treatment for Skin diseases, cosmetics, Obesity, Paralysis etc... But when it comes to acute or fatal disease, why people think twice before taking ayurvedic medicine? Ayurvedic texts are rich in knowledge. It just needs to be studied thoroughly. Ayurveda may serve as promising answer to fatal diseases like Ebola Virus Disease. In this article efforts have been made to co-relate the EVD with *Ayurvedokta* type of *Jwara – Raktashthivi Sannipata Jwara*. And also have tried to explain the mode of action of herbal drugs in Ebola Virus Disease.

**Key Word** :Ayurveda, Ebola Virus Disease, Haemorrhagic fever, Outbreak, *Raktashthivi Sannipata Jwara*,

**INTRODUCTION**

Ebola Virus Disease is a complex zoonosis that is highly virulent in humans. It is also known as Ebola Haemorrhagic Fever. This disease first appeared in 1976 in two simultaneous outbreaks. First was in Nzara, Sudan, and in Yambuku, Democratic Re-

public of Congo. The latter was in a village situated near the Ebola River from which the disease takes its name. EVD has a high risk of death i.e. 50% to 90% of those patients who are infected with virus.

Ebola is introduced into human population through close contact with blood, secretions, organs or other body fluids of infected animals. It spreads in the community through human to human transmission, through direct contact by broken skin or mucus membranes with the blood, secretions, organs or other body fluids of infected people and indirect contact with environments contaminated with such fluids.

During Burial ceremonies mourners have direct contact with body of deceased person. This can play a role in the transmission of Ebola. Health care workers have frequently been infected while treating patients with EVD. Immuno-compromised person, person with other underlying conditions, pregnant women and children are at risk of infection. Men who have recovered from the disease can still transmit the virus through their semen for upto 7 weeks after recovery from illness.

EVD is a severe acute viral illness often characterized by the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, impaired kidney and liver function. In some cases internal and external bleeding is also seen. Laboratory findings include low White Blood Cell count and platelet count as well as elevated liver enzymes.

This was a short description about Ebola Virus Disease. But the topic of interest still remains undiscussed that is treatment for this fatal disease.

No licensed vaccine for EVD is available. Severely ill patients are given intensive supportive care. Patients are frequently dehydrated and require oral hydration with solution containing electrolytes or intra-venous fluids. But, there is no medicine to kill the

virus of EVD. Medications are given for pain management, nausea, fever, anxiety etc... For internal or external haemorrhages blood products such as Packed Red Blood cells, Platelets or Fresh Frozen Plasma is used. Other regulators of coagulation like heparin to prevent diseases like Disseminated Intravascular Coagulopathy have been tried. Medications for Malaria and bacterial infections have often been used initially as the diagnosis is usually not clear.<sup>[XII]</sup>

To deal with any disease which pathy or medicine is being used is least important. Survival of patient is of prior importance. We frequently hear a statement from our senior *Vaidya* or professors that every disease which had occurred in past or which is occurring in present, is described in *Ayurvedic* Texts like *Bruhatrayi*, *Laghutrayi*, *Harit Samhita*, *Sharangdhar Samhita* etc... We just need to widen our spectrum or vision towards *Ayurveda*.

Let's start with the causes or modes of transmission of infective diseases which are described in *Ayurveda* as *Hetu of Sankramak Vyadhi*. It includes touch of infected person, using clothes, accessories of infected person, using same bed to sleep, through breath, eating together etc... Further examples of infective diseases are given like *Kushtha* (Leprosy), *Jwara* (Fever), *Shosha* (Tuberculosis), and *Netra-abhishyanda* (Conjunctivitis) etc... are transmitted from person to person.<sup>[1]</sup>

These causes are almost co-relating with the causes of Ebola Virus Disease which are discussed previously. This throws light on further path to study *Ayurvedic* view of EVD.

*Ayurvedic* texts from *Laghutrayi* i.e. *Yogratnakara* and *Bhavprakasha* have mentioned a type of *Jwara* – *Raktashthivi San-*

*nipata*. Now, we will go through the symptoms described in this disease. Let's first see what *Yogratnakara* says-

Bleeding from mouth, fever, vomiting, excessive thirst, body ache, diarrhoea, confusion, hiccups, bloating, giddiness, burning sensation in eyes, breathlessness, and loss of consciousness. Tongue becomes dry, reddish or blackish. And specific words are written to describe the fatality of the disease those are "*Pranahanta Prasiddha*" which means known to cause death.<sup>[2]</sup>

One more reference is there in *Yogratnakara*, symptoms of *Sannipata Jwara*. In this quote we find specific symptoms like "*Sthivanam Raktapittasya*" and "*Kothanam Shyawa Raktanam*". Among these two main symptoms former means bleeding through mouth and later means ecchymosis or petechial haemorrhages. Other symptoms of fever are also given.<sup>[3]</sup>

After *Yogratnakara*, symptoms of *Raktashthivi Sannipata* described in *Bhavprakashya*, *Vidyotinicommentary*, in *Jwaradhikar* chapter will be discussed. –

Blood in sputum, redness of eyes, red-blackish patches on body, excessive thirst, anorexia, vomiting, breathlessness, diarrhoea, giddiness, bloating, loss of consciousness, patient is not even capable of stand up without support, hiccups, body ache.<sup>[4]</sup>

As *Yogratnakara* has stated the severity of disease in two words, *Bhavprakashkara* has also described the fatality of the disease under the title *Sadhya-Asadhyata*. It clearly says that *Raktashthivi Sannipata* is *Asadhya Vyadhi* i.e. incurable disease.<sup>[5]</sup>

These *acharya* has given treatment for *Raktashthivi Sannipata* but as it is an *Asadhya* disease, this treatment only helps to stop the internal or external bleeding. So that the life span of patient may be prolonged. Few de-

coctions are given in the treatment of *Raktashthivi Sannipata*. Those are –

-*Kwatha* of *Parpataka, Dhamasa, Vasa, Gandhatruna, Kutaki, Mehadi* and sugar is added to it as *Prakshep dravya*.<sup>[6]</sup>

-*Kwatha* of *Nagarmotha, Padmaka, Parpataka, Shwet-chandana, Chameli, Shatavari, Yashtimadhu, Nimba-twak, Sugandhbala, Chitta, Rakta-chandana*. Add honey to it.<sup>[7]</sup>

-*Kwatha* of *Rohitaka, Dhamasa, Parpataka, Vasa, Phulpriyangu, Kutaki* and sugar is added to it as *Prakshep dravya*.<sup>[8]</sup>

-*Kwatha* of *Padmaka, Rakta-chandana, Parpataka, Musta, Jati, Jeevak, Shwet-chandana, Yashtimadhu*.<sup>[9]</sup>

-*Kwatha* of *Gambhari* fruit with *Yashtimadhu, Madhuka, Parushaka, Sugandhbala, Rakta-chandana, Tejhatta, Devdaruand* sugar is added to it as *Prakshep dravya*.<sup>[10]</sup>

EVD is a viral disease. We can co-relate it with the *Jwara*. To be precise with *Raktashthivi Sannipata Jwara*. If we once again go through contents of *Kwatha* given above, one can appreciate that maximum drugs are *Tikta rasatmak*, specifically acting on *Rasavaha* and *Raktavaha Strotasa*. But, in today's world of advanced researches there is need of much more scientific evidences for understanding the mode of action of *Ayurvedic* formulations. So, for a firm base to co-relate Ebola Virus Disease with *Raktashthivi Sannipata Jwara*, let's have a look upon research work done on few of herbal drugs used in above decoctions.

1. *Gambhari* – Anti-viral activity, Anti-Pyretic, Analgesic activity, Immunomodulatory activity, *Urdhwag Raktapittahar, Daha-prashaman, Chhardinigravana, Haemorrhagic disorders*.<sup>[I],[II],[III]</sup>

2. *Yashtimadhu* –Anti-viral activity, Potent Immuno-stimulant, Anti-inflammatory.<sup>[IV]</sup>
3. *Kutaki* - Anti-viral activity, Hepato-protective.<sup>[IV][V]</sup>
4. *Nagarmotha* – Anti-viral activity.<sup>[VI]</sup>
5. *Vasa*– Thrombopoetic activity hence used in bleeding disorder.<sup>[VII],[VIII]</sup>
6. *Nimba* – Activation of cellular immune response.<sup>[IV]</sup>
7. *Parpataka* – Hepato-protective.<sup>[X]</sup>
8. *Chandana* – Anti-viral activity.<sup>[XI]</sup>
9. *Jati* – Cytoprotective, Anti-inflammatory,<sup>[III]</sup>
10. *Dhamasa*– Anti-viral activity, blood purifier.<sup>[IX]</sup>

This short account of research reviews will help to understand the role of *Ayurvedokta* formulations in Ebola Virus disease and gives base for further research on treatment of this life threatening disease.

Few more remedies are given for symptoms like loss of consciousness, excessive sweating, breathlessness, anorexia etc... They are as follows –

- *Sandnyakarak Nasya*<sup>[11]</sup>
- *Uddhoolan Chikitsa*<sup>[12]</sup>
- *Kshudradi Kwath*<sup>[13]</sup>

Yogratnakara in *Sannipata Jwara Chikitsa* has given a quote which states that, a *Vaidya* should try his or her best to save a patient till patient's last breath because destiny is unpredictable. No one knows what will happen. Hence, though it is an *Asadhya Vyadhi*, we should try harder to fight the disease.<sup>[14]</sup>

## CONCLUSION

All the above discussion based on *Ayurvedic* textual references inspires to go for further research work on treatment of Ebola Virus Disease as well as other fatal diseases with *Ayurveda*. This will lead to lower morbidity

and mortality rate due to many viral or other infective diseases.

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