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COVID-19 in Ayurvedic Point of view

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Abstract: The present pandemic 'Coronavirus disease-2019 (COVID-19)' has greatly stumbled the whole world. COVID-19 is a highly contagious disease caused by a novel virus, Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-Cov-2). The warning sign of COVID-19 range from mild to severe; without hospitalisation, most of the people nearly 80% have improved, while other 20% become seriously ill requiring oxygen with 5% becoming critically ill and needing intensive care. Since its first identification, it is been spreading in lightning speed, affecting the health of global population as well as the day-to-day life of every sector of people leading to adverse global socioeconomic impact. This high surge in mortality and incidence rate has alerted every system of medicine for their active contribution in fighting against this disease. Ayurveda, being an ancient Indian medicinal system, had already explained and treated many pandemics since its dawn, considering them as *Janapadoddhvaṃsa vikara*. However, *Janapadoddhvaṃsa* is a broad term and a vast number of diseases can be included under this; hence deducing COVID-19 pandemic to a separate disease entity as per Ayurveda is crucial. Later *Acaryas* like *Acarya Gaṇanatha Sen* had described a disease named *Shleshmaka Jvara* in his book '*Siddhanta Nidana*' which is in accordance with the characteristics of the present pandemic COVID -19. The present article focuses on bringing to light, the close affinity of the pandemic COVID-19 and *Shleshmaka Jvara*.

Keywords: Ayurveda, COVID-19, *Shleshmaka Jvara*, *Janapadoddhvaṃsa*, *Siddhanta*.

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INTRODUCTION:

The present pandemic 'Coronavirus Disease-2019 (COVID-19)' has greatly stumbled the whole world. This disease was first acknowledged in December 2019 at Wuhan, China¹. Since then, it is been spreading in lightning speed, affecting the well-being of worldwide population as well as the day-to-day life of every sector of people leading to adverse global socioeconomic impact. The WHO had declared the outbreak as Public Health Emergency of International Concern on January 30, 2020² and as pandemic on March 11, 2020³. Globally, as of 4 November 2020, there have been 47,362,304 confirmed cases of COVID-19, including 1,211,986 deaths, reported to WHO⁴. This high surge in mortality and incidence rate has alerted every system of medicine for their active contribution in fighting against this disease. Hence numerous researches are being carried out across the globe. Ayurveda, being an ancient Indian medicinal system, had already explained and treated many pandemics since its dawn, considering them as *Janapadoddhvaṃsa vikara*⁵. The present article focuses on bringing to light, the close affinity of the pandemic COVID-19 and *Shleshmaka jvara*⁶, a disease explained as *Janapadoddhvaṃsa vikara* by *Acarya Gaṇanatha Sen*.

COVID-19 – A Brief Modern Review:

Coronavirus disease- 2019 (COVID-19) is caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-Cov-2)⁷ which belongs to the

family Coronaviridea⁷. The coronaviruses are responsible for mild to moderate respiratory tract infections like the flu in humans⁸. Out of the seven known human corona virus strains, four are generally mild; while the other 3 are, Severe Acute Respiratory syndrome corona virus SARS-CoV (2002-2004), Middle East respiratory syndrome related corona virus- MERS-CoV (first emerged in 2012) and the most recent Severe Acute Respiratory Syndrome corona virus-2 (SARS-CoV-2) are more severe and sometimes deadly. Recent researches reported that SARS-CoV-2 is likely to be originated from bats and shares 79.5% gene sequence identical to SARS-CoV⁹. Transmission occurs mainly through respiratory droplets in persons who are in contact with each other. Aerosol transmission can occur in indoor, crowded and inadequately ventilated spaces¹⁰. The entry of SARS-CoV-2 into the host cell is mediated by the angiotensin- converting enzyme 2 (ACE-2) receptors which are found in the heart (endothelium of coronary arteries, myocytes, fibroblasts, epicardial adipocytes), vessels (vascular endothelial and smooth cells), gut (intestinal epithelial cells), lung (tracheal and bronchial epithelial cells, type 2 Pneumocystis, macrophages), kidney (luminal surface of tubular epithelial cells), testis, brain¹¹. ACE-2 receptors are abundantly distributed in the epithelia of the lungs and the small intestine¹². The incubation period

may extend to 14 days, with a median time of 4-5 days from exposure to the onset of symptoms¹³.

The symptoms of COVID-19 range from mild to severe; sometimes asymptomatic as well. The most common symptoms include fever, dry cough and fatigue¹⁴. Symptoms of severe COVID-19 disease has symptoms like confusion, persistent pain or pressure in the chest, high temperature (above 38°C) shortness of breath and loss of hunger. Other less common symptoms are

irritability, confusion, reduced consciousness (sometimes associated with seizures), nervousness, unhappiness, sleep disorders, more severe and rare neurological complications such as strokes, brain inflammation, hallucination and nerve damage. Without hospitalisation, most of the people nearly 80% have recovered, some complications leading to decease include respiratory failure, ARDS, thrombo-embolism, multi-organ failure, sepsis and septic shock ect.¹⁴

Table no.1 - Table illustrating the close affinity of COVID-19 and Shleshmaka Jvara:

Characteristics	COVID-19	Shleshmaka Jvara
Causative organism	Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2)	<i>Jivanuvisha</i> (toxins of microorganisms)
Pattern of Occurrence	Pandemic	<i>Janapadoddhvaṃsavikara</i> (disease causing mass destruction)
Transmission	Respiratory droplets; aerosol transmission	<i>Śvasanadhinimittaḥ</i> (through respiration); <i>Vayuvahita</i> (carried through the air)
Entry route	Mediated through angiotensin- converting enzyme 2 receptors which are abundantly distributed in the epithelia of the lungs and small intestine.	They mainly enters through the <i>Shwasa-marga</i> (respiratory route), sometimes also through <i>Anna-margam</i> (oral route)
Systems affected	Mainly Respiratory system ; Gastrointestinal, CNS, CVS etc.	Confined mostly to the <i>shwasayantra</i> (respiratory system), sometimes <i>Annamarga</i> (gastrointestinal system) and sometimes <i>Sarvadhātu</i> (all tissues) as well
Common Symptoms	It includes <ul style="list-style-type: none"> • Increase temperature, • Dry cough, • Tiredness, • Loss of taste or smell, • Nasal congestion, 	Samanya lakṣhaṇa (general symptoms) : <ul style="list-style-type: none"> • <i>Jvara</i> (fever), • <i>Kasa</i> (cough), • <i>Avasada</i> (debility), • <i>Pratiśyaya</i> (coryza), • <i>Śiraḥśūla</i> (headache),

	<ul style="list-style-type: none"> • conjunctivitis, • sore throat, • headache, • muscle or joint pain, • different types of skin rash, • nausea or vomiting, • looseness of the bowels, • chills or vertigo. <p>Symptoms of severe COVID-19 disease include</p> <ul style="list-style-type: none"> • shortness of breath, • loss of appetite, • confusion, • persistent pain or pressure in the chest, • high temperature (above 38 °C). 	<ul style="list-style-type: none"> • <i>Aṅgamarda</i> (generalised body pain) • <i>Kaṭīpṛshthorasamtivraścavedana</i> (severe pain in the hip, back and chest), • <i>Śitakampaḥ</i> (chillness and shivering), • <i>Karśyañcalpaidinairbhṛśam</i> (emaciation within few days), • <i>Atyarthabalahani</i> (increased loss of strength). <p>Invasion of <i>Phuppusa</i> (lungs) causes:</p> <ul style="list-style-type: none"> • <i>Saraktashṭīvanam</i> (spitting of sputum mixed with blood), • <i>Pralapa</i> (delirium) and • <i>Śvasanam</i> (shortness of breath). <p>Invasion of <i>Annamarga</i> (gastrointestinal system) causes:</p> <ul style="list-style-type: none"> • <i>Vami</i> (vomiting), <i>Atisara</i> (diarrhoea) or both; • When anyone of vomiting or diarrhoea is relieved then <i>Śula</i> (abdominal pain) or <i>Kamala</i> (jaundice) will manifest.
Complications	Death due to respiratory failure, (ARDS), sepsis and septic shock, multi-organ failure, including injury of the heart, liver or kidneys, thrombo-embolism.	With <i>Atyartha Visha</i> (too much toxin) occurs <i>Sarvadhaturadushaṇat</i> (vitiation of all tissues) which leads to the development of symptoms similar to <i>Abhinyasa jvara</i> (a type of <i>sannipata Jvara</i> which is difficult to treat) from which none will escape.

DISCUSSION:**COVID-19 – An Ayurvedic Perspective:**

Various clarifications and indications found in the Ayurvedic classics have paved the way for us to recognise COVID-19 like pandemics as *Janapadoddhvaṃsa vikara*. The term 'Janapadoddhvaṃsa' is of two words 'Janapada' (meaning mankind), and 'uddhvaṃsa' (meaning destruction). Therefore *Janapadoddhvaṃsa vikara* can be literally defined as disease resulting in mass destruction of people. *Vayu* (air), *Jala* (water), *Deśa* (land) and *Kala* (time),¹⁵ being the four common factors in a community often getting contaminated, result in producing *Janapadoddhvaṃsa* (outbreak causing mass destruction). *Adharma*¹⁶ (unrighteousness) is said to be the root cause for *Janapadoddhvaṃsa*. However, *Janapadoddhvaṃsa* is a broad term and a vast number of diseases can be included under this; hence deducing COVID-19 pandemic to a separate disease entity as per Ayurveda is crucial. Later *Acaryas* like *Acarya Gaṇanatha Sen* had described a disease named *Shleshmaka Jvara* in his book 'Siddhanta Nidana' which is in accordance with the characteristics of the present pandemic COVID-19.

Siddhanta Nidana, written by *Acarya Gaṇanatha Sen* in 1922 was a book of *Nidana* which was compiled meticulously in accordance with updated modern diseases. *Acarya Caraka* had clearly mentioned that diseases are innumerable¹⁷. Considering this, *Acarya Gaṇanatha Sen* had made

an attempt to update some of the teachings of old classics according to the present world wherever necessary and named some diseases according to the nomenclature norm stated by *Acarya Caraka*. Explaining *Prasiddha Agantu Jvara*¹⁸ (famous exogenous fevers) under *Jvaradhikara* was one such attempt by him. They can also be interpreted as *Vishabhishanḅaja Agantuja Jvara*. they specified that *Nanavidhavishotthana* (different kinds of poison) as the cause for these types of *Agantuja Jvara*. They also highlighted that such *Visha* are *Prayena Jivanu sambhavam* (predominantly produced by microorganisms such as bacteria, virus etc.) or *Kvacidanyavidham* (some others also); they cause *Samanyam dvitradoshaprakopanam* (vitiation of two or three *dosha* generally).¹⁸ *Shleshmaka Jvara* is one of these *Agantuja Jvara* whose features are in accordance with the present pandemic 'Coronavirus disease-2019 (COVID-19)'.

Shleshmaka Jvara is defined as a *Jvara* (fever) associated predominantly with much *Śleshmaupadrava* (complication of strong increase of *Kapha dosha*), sometimes appearing as *Janapadoddhvaṃsa* (epidemic) as well. *Jivanu visha* (toxins of microorganisms) *Vayuvahita* (carried through the air) spreads quickly through the community; they predominantly enter through the *Śvasamarga* (respiratory route) and cause *Jvara* (fever), sometimes they also enter through *Annamargam* (oral route); with the feature of *Janajjane ca saṃkrantiḅ* (transmitting from

person to person) through *Śvasanadhi nimittah* (through respiration)¹⁹.

Most of the symptoms of *Shleshmaka Jvara* are confined to the *Śvasayantra* (respiratory system), sometimes *Annamargam* (gastrointestinal system) and sometimes *Sarvadhatu* (all tissues) as well. It is *Sannipatikam* (vitiating of all three *doshas*) with *Kaphavatolbaṇam* (predominance of *Kapha* and *Vata*). As a result of this *doshic* imbalance and vitiating, endotoxins are generated, which thus hinders the normal physiological activities of the body and results in progression of pathological changes in the tissue either mildly or grossly¹⁹.

Pratiśyaya (coryza), *Śiraḥśūla* (headache), *Śitakampaḥ* (chillness and shivering), *Aṅgamarda* (malaise), *Kaṭīpr̥sh̥thorasamtīvraścavedana* (severe pain in the hip, back and chest), *Kasa* (cough), *Jvara* (fever), *Avasada* (lassitude), *Karśyañcalpaidinairbhṛśam* (becoming emaciated within few days), *Atyartha balahani* (increased loss of strength) are the *Samanya lakṣaṇa* (general symptoms) of *Shleshmaka Jvara*²⁰.

Precisely, if *Phuppusa* (lungs) is invaded there will be *Sarakta sṭīvanam* (spitting of sputum mixed with blood), *Pralapa* (delirium) and *Shvasanam* (shortness of breath). If gastrointestinal system is attacked there will be *Vami* (vomiting), *Atisara* (diarrhoea) or both; when anyone of vomiting or diarrhoea is relieved then *Shula* (abdominal pain) or *Kamala* (jaundice) will manifest. With *Atyartha Visha* (too much toxin)

occurs *Sarva dhatupraduṣaṇat* (vitiating of all tissues) which leads to the development of symptoms similar to *Abhinyasa Jvara*, from which none will escape; it becomes difficult to treat when there is *Bahudoshā* (excessive *doshas*), *Balahaniścira* (loss of strength that continues for long period)²⁰.

CONCLUSIONS

From the above illustration, it can be clearly understood that the features of both *Shleshmaka Jvara* and COVID-19 are analogous. Diseases are innumerable with multi-fold clinical presentation; due to combination of various etiological factors new diseases are emerging, hence any new disease condition must be understood in terms of *dosha* and *dushya* only as stated by *Caraka*. The criteria like type of pain, appearance, aetiology, site, symptoms and name shall be applied for identification. Based on clinical presentation, *dosha* and *dushya*'s identified in COVID 19 in this study we have correlated it with *Shleshmaka Jvara* with due respect to the Ayurvedic diagnostic principles. Understanding the nature of the disease, its location and etiological factors is of prime importance for the physician to initiate the best treatment appropriate for the disease. Now, it is therefore, the responsibility of present Ayurvedic physicians to apply their *yukti* (knowledge) to fight against this pandemic effectively.

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Conflicts of interest

Nil.

REFERENCES

- Centers for disease control and prevention (CDC) about COVID -19, Available at <https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html>, Accessed: 2nd November 2020
- Gallegos Alicia. WHO Declares Public Health Emergency for Novel Corona virus., Medscape Medical News. Available at <https://www.medscape.com/viewarticle/924596>, January 30, 2020; Accessed: 2nd November 2020
- Cucinotta D, Vanelli M, WHO Declares COVID-19 a Pandemic, *Acta Biomed.* 2020 Mar 19;91(1):157-160. doi: 10.23750/abm.v91i1.9397. PMID: 32191675; PMCID: PMC7569573
- WHO Coronavirus Disease (COVID-19) Dashboard Data last updated: 2020/11/4, 4:00pm CET available at <https://covid19.who.int/>
- Agnivesha, Charaka Samhita - Revised by Charaka and Dridhabala with Ayurveda Deepika commentary of Chakrapani Datta, 5th edition. Chaukambha Sanskrit Sansthana; 2001, pg no. 240; pp738
- Kaviraj Gananath sen, Siddhanta Nidanam Parts I and II, English translation by K.R. Srikantha murthy, Chaukambha Sanskrit series, Varanasi, Second edition, 2017, pg no.73-76; pp276.
- Coronaviridae Study Group of the International Committee on Taxonomy of Viruses. The species Severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2. *Nat Microbiol.* 2020 Apr;5(4):536-544. doi: 10.1038/s41564-020-0695-z. Epub 2020 Mar 2. PMID: 32123347; PMCID: PMC7095448.
- National Institute of Allergy and infectious diseases about Coronaviruses available at <https://www.niaid.nih.gov/diseases-conditions/coronaviruses> , Accessed on November 5th, 2020.
- He F, Deng Y, Li W. Coronavirus disease 2019: What we know? *J Med Virol.* 2020 Jul;92(7):719-725. doi: 10.1002/jmv.25766. Epub 2020 Mar 28. PMID: 32170865; PMCID: PMC7228340.
- World Health Organisation, Coronavirus disease (COVID-19): How is it transmitted? Available at <https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19-how-is-it-transmitted>, Accessed on November 7th, 2020.
- Verdecchia P, Cavallini C, Spanevello A, Angeli F. The pivotal link between ACE2 deficiency and SARS-CoV-2 infection. *Eur J Intern Med.* 2020;76:14-20.

12. Hamming I, Timens W, Bulthuis ML, Lely AT, Navis G, van Goor H. Tissue distribution of ACE2 protein, the functional receptor for SARS coronavirus. A first step in understanding SARS pathogenesis. *J Pathol.* 2004 Jun; 203(2):631-7.
13. Centres for disease control and prevention about coronavirus available at <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>; Accessed on November 10, 2020
14. World Health Organisation about Coronavirus disease (COVID-19) available at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19>, Accessed on November 6th, 2020.
15. Agnivesha, Charaka Samhita - Revised by Charaka and Dridhabala with Ayurveda Deepika commentary of Chakrapani Datta, 5th edition. Chaukambha Sanskrit Sansthana; 2001, pg no. 241; pp738
16. Agnivesha, Charaka Samhita - Revised by Charaka and Dridhabala with Ayurveda Deepika commentary of Chakrapani Datta, 5th edition. Chaukambha Sanskrit Sansthana; 2001, pg no. 241; pp738
17. Agnivesha, Charaka Samhita - Revised by Charaka and Dridhabala with Ayurveda Deepika commentary of Chakrapani Datta, 5th edition. Chaukambha Sanskrit Sansthana; 2001, pg no. 108; pp738
18. Kaviraj Gananath sen, Siddhanta Nidanam Parts I and II, English translation by K.R. Srikantha murthy, Chaukambha Sanskrit series, Varanasi, Second edition, 2017, pg no. 64; pp276
19. Kaviraj Gananath sen, Siddhanta Nidanam Parts I and II, English translation by K.R. Srikantha murthy, Chaukambha Sanskrit series, Varanasi, Second edition, 2017, pg no. 74; pp276
20. Kaviraj Gananath sen, Siddhanta Nidanam Parts I and II, English translation by K.R. Srikantha murthy, Chaukambha Sanskrit series, Varanasi, Second edition, 2017, pg no. 75; pp276