



CASE REPORT

AYURVEDIC MANAGEMENT OF POST-COVID CONDITION WITH BHARANGI GUDA NAIMITTIKA RASAYANA – A CASE REPORT

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ABSTRACT

Post-COVID conditions are wide range of new, returning or ongoing health problems that people experience after being infected with the virus during epidemic [COVID-19]. Most people with COVID-19 presented with different health problems noted in different opd clinics. Anyone who as infected can experience post-COVID conditions. Most people with post-COVID conditions experience symptoms days after first learning they had COVID-19, but some people who later experienced post-COVID conditions didnot know when they got infected. People with post-COVID conditions can have wide range of symptoms that can last weeks, months or even years after infection. Sometimes the symptoms can even go away or come back. In Charaka Samhita Vimana sthana; Janapadhodwamsa adhyaya, mentioned about treating the condition with Panchakarma followed by Rasayana. Here in this case report, Mridu Kayashodhana followed by Rasayana is taken to see the changes in post-covid subjects. A 61year old female subject suffers from Breathlessness, depends on oxygen mask since 6months after discharge from the hospital due to COVID-19 followed by sever fatigue, cough, sleep disturbance, anorexia etc. Treated subject with only Bharangi Guda (Naimittika Rasayana) for 30 days as disease management and rejuvenative therapy to see the variations.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by virus, the sever acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first known case was identified in Wuhan, China, in December 2019. The disease quickly spread worldwide, resulting in the COVID-19 Pandemic. Symptoms of COVID-19 are variable, but often include fever⁵, cough, headache⁶, fatigue, breathing difficulties; loss of smell and loss of taste^{7, 8, 9}. Symptoms may begin one to fourteen days after exposure to the virus. At least a third of people who develop symptoms noticeable enough to be classed as patients, most(81%) develop mild to moderate symptoms (up to mild pneumonia), while 14% develop severe symptoms (dyspnoea, hypoxia or more than 59% lung involvement on imaging), and 5% develop critical symptoms (respiratory failure, shock or multiorgan dysfunction)¹⁰. Older people are at higher risk of developing severe symptoms. Some people continue to experience a range of effects (Long COVID) for months after recovery and damage to organs has been observed. COVID-19 transmits when people breathe air contaminated by droplets and small airborne particles containing the virus. The risk of breathing these is highest when people are in close proximity, but they can be inhaled over long distances, particularly indoors. Transmission can also occur if splashed or sprayed with contaminated fluids in the eyes, nose or mouth and rarely via contaminated surfaces. People remain contagious for upto 20days and can spread the virus even if they do not develop symptoms. In Charka Samira Viand sthana⁵; Janapadhodwamsa adhyaya, mentioned about treating the condition with Panchakarma followed by Rasayana. Rasayana⁶ is Ayurvedic rejuvenation therapy. From this promotive treatment one attains Dheergha ayu, smriti, medha, arogya, taruna vayah, prabha, Varna, swara, audaarya, deha bala, and indriya bala and vak siddhi. Rasayana means the way to attain excellent Rasadhi dhatu, Improve agni capacity, Improvement in Optimum attainment dhatu, ojus etc. Among them Naimittika Rasayana are given for short duration for specific conditions. Bharangi guda is such formulation mentioned in Hikka-shwasa roga in Bhaishjya Ratnavali is suited for post-COVID condition with Dyspnoea, Fatigue, sleep disturbance, cough, weight etc. Nidana (Etiology). Subject is exposed to COVID-19 (RT-PCR positive). Use of Antibiotic, Anti Viral, Anti coagulant therapies, on ventilators for long duration may be after effect of the condition. Due to over exertion of immune cells in defending the body against virus leads to Low Immunity power in later stages to defend from after effect in the body. Post Intensive Care Syndrome (PICS) may contribute to the Post-COVID condition.

Roopa's (signs and symptoms): Subject dependent on Concentrated Oxygen mask without which her saturation lowers below 70% which makes her breathlessness, Cough while bending forward, severe fatigue, Sleep disturbance, Loss of appetite, weight loss.

Brief Patient History: A 61 years old female subject came to Kayachikitsa OPD (OPD No.22548) of D.G.M. Ayurvedic Medical College and Hospital, Gadag with complaint of severe breathlessness as subject was supported on oxygen mask at home without which she cannot breathe properly associated with cough, weight loss, vomiting, generalised weakness, loss of appetite since 1year.

History of present illness: Subject has history of COVID-19 positive 1year back, was admitted to hospital and was on ventilation for few months due to low oxygen saturation level. Subject was apparently normal before epidemic without any complaints. After the exposure to COVID-19, subject was unable to perform her routine activities due to post-covid complaints. Subject has consulted with every possible doctor, surgeon and every other alternative medicine for her condition but did not find any relief. Hence subject came to DGM Ayurvedic medical hospital for treatment.

Chikitsa Vrittanta: Subject has received Anti-biotic, Anti-viral, Anticoagulants, Vitamins, Zinc and was on ventilation for few months.

Poorvavyadhi Vrittanta: Not known case of Diabetic and Hypertension or any other systemic illness.

Kula Vrittanta: All family members were also tested positive for COVID-19. But were treated on OPD basis.

Clinical examination

Ashtavida pariksha: *Nadi* (Pulse): 60b/min, *Mala pravrutti* (Stool): once daily, *Mutra pravrutti*(urine): 4-5 times daily, *Jihva* (Tongue): liptata, *Shabda* (Speech): khandita (interrupted) kshama, hina (low pitched), *Sparsha* (Skin): Anushna, Khara, *Drik* (Eyes): Ruksha, Antah pravishta (dry, sunken), *Akruti* (Stature): Avara

Systemic examination:

CNS: Conscious, oriented; O/E- Unable to walk without help of oxygen mask and needed a hand for help

RS : Crepitations ++++ B/L lungs

Abdomen : Soft, NAD

CVS : S₁, S₂ heard

Table 1. Compositon of Bharangi guda

Sl no.	Name of the drug	Botanical name ^{11,12,13}	Part used	Proportion (parts)
1	Bharangi	Clerodendrum serratum (Linn.)Moon.	Root	10
2	Bilva	Aegle marmelos (Linn.)Corr.	Root	1
3	Syonaka	Oroxylum indicum Vent.	Root	1
4	Gambhari	Gmelina arborea Roxb.	Root	1
5	Patala	Stereospermum suaveolens Dc	Root	1
6	Agnimantha	Clerodendrum phlomidis Linn.f.	Root	1
7	Shalaparni	Desmodium gangeticum Dc.	Root	1
8	Prishniparni	Uraria picta Desv.	Root	1
9	Brihati	Solanum indicum Linn.	Root	1
10	Kantakari	Solanum xanthocarpum Sebr. and wende.	Root	1
11	Gokshura	Tribulus terrestris Linn.	Root	1
12	Haritaki	Terminalia chebula Retz.	Fruit	10
13	Water for decoction Reduced to			4800 1200
14	Guda		-	¼
15	Madhu		-	100
16	Shunti	Zingiber officinale Roxb.	Rhizome	1/4
17	Maricha	Piper nigrum Linn.	Fruit	¼
18	Pippali	Piper longum Linn.	Fruit	¼
19	Twak	Cinnamomum zeylanicum Breyn.	Bark	¼
20	Ela (Suksmaila)	Elettaria cardamomum Matom.	Seed	¼
21	Patra (Tejapatra)	Cinnamomum tamala Nees. and Eberm.	Leaf	¼
22	Yavakshara	Hordeum vulgare Linn.	plant	¼

Table 2. Treatment schedule

01.	Deepana and Pachana	Chitrakadi vati 3days	250gm-TID Before food Anupana with Sukoshna jala
02.	Koshta Shodhana	Harithakyadhi yoga ⁶ 2days	1tsp at night After food Anupana with Ushna Jala
03.	Shamanaushadi (Rasayana)	Bharangi guda ^{11,12} 30days	12gms-BD After food Anupana with Ksheera
04	Pathya and Apathya is advised	PATHYA Laghu Bhojana Drava Ahara Shandanga paniya Shunti jala Pranayama Dadima, Mudga, Madhu, Saindhava lavana, Ksheera, Gritha etc	APATHYA Guru and Snigdha bhojana Divaswapna Chinta, Vicharya, Uha- Ratrijagarana Katu rasa

Exercise

- Pranayama- Inspiration and expiration
- Chandra and Surya nadi Pranayama
- Walking for 50 steps daily twice
- Practice to stay without oxygen mask for 10 min in increasing order alternate days

Table 3. Dashamoola

Drug name	Part used					Dosha ghnata	Chemical composition	karma	Pharmacological action
Dashamoola dravya		Rasa	Guna	Veerya	Vipaka				
Bilva L-Aegle Marmelos F-Rutaceae	Root, leaf, fruit, bark	Kashaya, Tikta	Laghu, Ruksha	Ushna	Katu	KV↓	Marmelosin, Alloimperatorin, Tannic acid, fatty acid, essential oil	Shothahara, Vedanasthapana, Deepana, Pachana, Pittasarakka, Raktastambana	Sedative, Hypnotic, Anticonvulsive, Antipyretic
Agnimantha L-Clerodendrum multiflorum F-Verbenaceae	Root, leaf	Tikta, Katu, Kashaya, Madhura	Ruksha, Laghu	Ushna	Katu	KV↓	Clerodin, ceryl alcohol, alerosterol, apigenin	Shothahara, Vedanasthapana, Deepana, Pachana, Raktashodhaka	Hypoglycaemic, Anthelmintic
Shyonaka L-Oroxylum Indicum F-Bignoniaceae	Root, root bark, leaf, fruit, seed	Madhura, Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	KV↓	Baicalein, Pruetin, oleic acid, palmitic acid etc	Shothahara, vedhanasthapana, Deepana, Pachana, Rechana, Grahi, Krimighna	Diuretic, Spasmogenic, Antiinflammatory
Gambhari L-Gmelina Arborea F-Verbanaceae	Root, Bark, Leaf, Flower, Fruit	Tikta, Kashaya, Madhura	Guru	Ushna	Katu	VPK↓	Gmelofuran-a, gmelinol, campesterol, cerylalcohol	Snehana, Medhya, Vedhanasthapana, Shothahara, Rasayana	Hypoglycaemic, Antiviral
Patala L-Stereospermum suaveolens F-Bignoniaceae	Root, root bark, leaf, fruit, seed	Tikta, Kashaya	Laghu, Ruksha	Anushna	Katu	VPK↓	Lapachol, Stereolensin, galactoside, oleic, palmitic and stearic acids	Vedanasthapana, Vranaropana, Shothahara, Dahaprashamana, Jwarghna	Anticancer, Antiviral
Shalaparni L-Desmodium gangeticum F-Fabaceae	Root, Whole plant	Madhura, tikta	Laghu, Snigdha	Ushna	Madhura	VPK↓	Desmodin, gangeticum, hordenin, caudicine	Deepana, Snehana, Anulomana, Shothahara, Shonitasthapana	Anti-inflammatory, Analgesic, Spasmolytic, Smooth muscle stimulant, CNS stimulant and depressor
Prishniparni L-Uraria picta F-Fabaceae	Root, leaf	Madhura, tikta	Laghu, Snigdha	Ushna	Madhura	VPK↓	Amino acids, Fatty acids	Deepana, Nadibalya, Shonitasthapana, Shothahara, Dahaprashamana	Antiviral, Antimicrobial, Acaricidal
Brihati L-Solanum indicum F-Solanaceae	Root, Fruit	Katu, tikta	Laghu, ruksha, tiksha	Ushna	Katu	KV↓	Solanine, Solanidine	Vedanasthapana, Deepana, Pachana, Raktashodaka, Shothahara	
Kantakari L-Solanum virginianum F-Solanaceae	Whole plant	Katu, tikta	Laghu, ruksha, sara	Ushna	Katu	KV↓	Carpesterol, Solanine-S, Glucoalkaloid, campesterol, solamargine	Vedanasthapana, Shothahahra, Deepana, Pachana, Rechana, Bhedana, Amadoshanashaka, Raktashodaka	Vasoconstrictor, Anti-inflammatory, hypotensive, Analgesic, Antibacterial
Gokshura L-Tribulus terrestris F-Zygophyllaceae	Whole plant	Madhura	Guru, snigdha	Sheeta	Madhura	VP↓	Chlorogenin, diosgenin and its acetate, gracillin, astragalin, glycoside, furostanol	Vedanasthapana, Deepana, Saraka, Shothahara, Kaphanissarka, RP shamaka	Hypotensive, CNS stimulant, spasmogenic, Analgesic, Vasodepressant

Total course of treatment is 30 days with follow up of 15days

Probable Mode of action

Bharangi^{16,17,18,19,20}

- Rasa - Katu, Tikta, Kashaya
- Guna - Laghu, Ruksha
- Veerya - Ushna
- Vipaka - Katu
- Root bark extract shows antihistaminic and anti allergic property
- Polyhydric alcohol in root is hypotensive and bronchoconstrictor
- Antinoceptive, anti-inflammatory and anti pyretic effects of ethanol extract of Clerodendrum serratum Linn. Roots in experimental animals
- The antioxidant effects of ethanolic extract of roots of clerodendrum serratum Linn. (CSR) at various concentrations in the DDPH radical assay, FRAP assay (Ferric Reducing Antioxidant Power) and the hydrogen peroxide radical scavenging assay

Fig. 1. Images of before, after and during follow up the procedure



RESULTS

Table 3.

Sl No.	Signs and symptoms	Before treatment	After treatment and first follow up after 15days
01	Without Oxygen mask	Hardly 10min	8hours per day
02	Saturation level without Oxygen mask	Below 70% difficult to breathe	85% maintained no difficulty in breathing
03	Dyspnoea	Present	Absent
04	Cough	Present	Absent
05	Appetite	Loss	Improvement
06	Vomitting	Present	Absent
07	Weight	48kgs	55kgs
08	Fatigue	Severe	Mild
09	Sleep	Disturbed	Improved for 4hour sound

Here below for few parameters we have taken scales to see the changes:

Table 4

Sl No.	Sign and symptoms	Before treatment (gradation)	After treatment and first follow up after 15days (gradation)
01.	Fatigue ²² (Chalder fatigue scale)	3	0
02.	Sleep ²⁴ (Sleep Quality scale)	2	0
03.	Dyspnoea ²⁶ (M R C Dyspnoea scale)	4	After treatment =2 After 1 st follow up= 0
04.	Anorexia ²³	2	0
05.	Body weight	48kgs	55kgs
06.	Cough ²⁵ (Cough Severity Index)	1	0

DISCUSSION

- Post-COVID conditions may not affect everyone the sameway. People with post-COVID condition may experience health problems from different types and combinations of symptoms happening over different lengths of time.
- For some people, post-COVID conditions can last weeks, months or years after COVID-19 illness and can sometimes resulting in disability.
- Chikitsa sutra explained by Acharya Charaka in Janapadhodwamsa chapter in Charaka samhita is followed in this post-COVID Subject for trial.
- Deepana-Pachana followed by Koshta shodhana improves agni followed by Rasayana improves absorption capacity and nourishing the Dhatus.

CONCLUSION

- Subject was lost hope after visiting all the hospitals after proper counselling. Subject advised with Deepana and pachana followed by Koshta shodhana and Rasayana
- Subject felt good within 7days hence her confidence in taking medicine regularly helped us to get good results
- Acharya Charaka has said After Panchakarma accordingly to Roga and rogi bala Rasayana should be adopted for Optimum development in the Dhatus has it will be diminished in the fighting against disease and application of the therapies.
- Nithya sevaniya dravyas and nourishing pathya is advised to subject.

REFERENCES

1. [https://www.who.int/india/emergencies/coronavirus-disease-\(covid-19\)/india-situation-report](https://www.who.int/india/emergencies/coronavirus-disease-(covid-19)/india-situation-report) -India Situation Report www.who.int
2. SARS-CoV-2 Delta variant, Wikipedia contributors, Wikipedia, The Free Encyclopaedia. Date of last revision: 28 July 2021, Date od retrieved: 28 July 2021, https://en.wikipedia.org/w/index.php?title=SARS-CoV-2_Delta_variant&oldid=1035927812, Page version ID: 1035927812
3. Townsend L, Dyer AH, Jones K, Dunne J, Mooney A, Gaffney F, et al.(2020) Persistent fatigue following SARS-CoV-2 infection is common and independent of severity of initial infection. PLoS ONE 15(11):e0240784. <https://doi.org/10.1371/journal.pone.0240784>
4. Sushruta, with the Nibandhasangraha commentary of Sri Dalhanacharya, edited by Jadavji Trikamji Acharya, Chikitsasthana, 27th chapter, Reprint edition: 2014, Chaukhamba Orientalia, Varanasi-221001, page no.498.
5. Agnivesa, edited by Jadavji Trikamji Acharya, Charaka samhita, Vimanasthana, 3rd chapter, Shloka no.-14, Reprint edition:2015, Chaukhamba orientalia, Varanasi, Page no.-241
6. Agnivesa, edited by Prof. Priyavat Sharma, English translated book, Charaka samhita, Chikitsasthana, 1st chapter, Shloka no.- 7-8, edition:2014, Chaukhamba orientalia, Varanasi, page no.-5.
7. Shri Govinda Dasji, edited and enlarged by Bhisagratna Shri Brahmashankar Mishra, editor Shri Rajeshwaradatta Shastri, Bhaishajya Ratnavali , 16th chapter, Shloka no.-90-95, Eighteen Revised Edition :2005, Chaukhamba Sanskrit Bhawan, Varanasi, Page no.-470-471.
8. www.thepharmajournal.com The Pharma Innovation Journal 2017;6(2);07-19,Government Ayurveda College, Pancheshar Road, Junagadh-362001, Gujarat, India,accepted:03-02-2017
9. www.thepharmajournal.com The Pharma Innovation Journal 2017;6(2);155-166,Government Ayurveda College, Pancheshar Road, Junagadh-362001, Gujarat, India,accepted:24-01-2017
10. Expanding our understanding of post COVID-19 condition: report of a WHO webinar, 9 February 2021. Geneva: World Health Organization; 2021. Licence : CC BY-NC-SA 3.0 IGO.
11. The Ayurvedic Pharmacopoeia Of India, Part 1, Vol 2-3-4, Botanical names of drugs, First edition: 1999, Published by The Controller of Publication, Civil Lines, Delhi: 110054, Page no.:44-176.
12. Ayurvedic Formulary Of India, Part-1, Department of Indian system of medicine and Homeopathy, Second Revised English edition 2003, Published by: The Controller of Publication, Civil line, Delhi-110054, Page no.-44-45.
13. Chakradatta, commentator shri jagadishwar Prasad tripati, editor Shri Brahmashankar shastri, Reprint- 5th edition, Cahukambha Sanskrit series office, Varanasi, Agnimandhya chikitsa, 75th shloka, Page no. 103.
14. Chakradatta, commentator shri jagadishwar Prasad tripati, editor Shri Brahmashankar shastri, Reprint- 5th edition, Cahukambha Sanskrit series office, Vrsnasi, Kasa chikitsa, 7th shloka, Page no. 142-143.
15. Chakradatta, commentator shri jagadishwar Prasad tripati, editor Shri Brahmashankar shastri, Reprint- 5th edition, Cahukambha Sanskrit series office, Vrsnasi, Hikka-shwasa chikitsa, 30th shloka, Page no. 152.
16. K Narayana, Poisonous and Medicinal Plants, 1st ed. Bangalore: Jayashri Publications; 2003, p-243
17. Shastri JLN , Illustrated Dravyaguna Vignana, Vol 2, Varanasi: Chaukhamba Orientalia; 2004, pg.no. 424
18. <http://nopr.niscair.res.in/bitstream> Accessed on 07.10.2009
19. <http://www.sciencedirect.com> Accessed on 07.10.2009
20. <http://www.phcogmag.com/antioxidant-effects> accessed on 07.10.2009
21. Prof. JLN Shastri edited Dravyaguna vijnana edition 2004, 1st volume, Chaukhamba oriental, Varanasi- Page no: 108, 419,399, 403, 426, 160, 164, 371, 367, 198.
22. Exploring the validity of the Chalder Fatigue scale in chronic fatigue syndrome- pubmed.ncbi.nlm.nih.gov/9835234/
23. A STANDARD COMPARATIVE CLINICAL STUDY ON PANDUROGA W.S.R. TO IRON DEFICINCEY ANEMIA WITH SAMMOHA LOHA OVER FERROUS SULPHATE: By : Dr.Rajeshwari M S and under guidance of Dr. R.V. Shettar, MD(AYU), Pofessor, D.G.M Ayurvedic Medical College, Gadag
24. Yi H, Shin K, Shin C. Development of the sleep quality scale. J Sleep Res. 2006 Sep;15(3):309-16. doi: 10.1111/j.1365-2869.2006.00544.x. Erratum in: J Sleep Res. 2006 Dec;15(4):465. PMID: 16911033. <https://pubmed.ncbi.nlm.nih.gov/16911033/>
25. Shembel, A. C., Rosen C. A, Zullo T. G. (2013). "Development and validation of the cough severity index: a severity index for chronic cough related to upper airway." Laryngoscope 123(8): 1931-1936. <https://melbentgroup.com.au/wp-content/uploads/2016/10/MEG-Cough-Severity-Index-CSI-SCORING.pdf>
26. Usefulness of Medical Research Council(MRC) dyspnoea scale as a measuring scale pubmed.ncbi.nlm.nih.gov/1037721/
