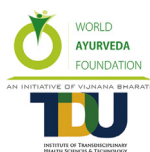




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## Case Report

## A case series sharing novel experience of treating viral pandemic cases of morbid, mid aged, mild, moderate &amp; severe grade with only Ayurvedic Medicines

Shrinivas Patil<sup>1</sup>

Shri Ayurveda Clinic, Opp. Ajanta Hotel, RPD Cross, Tilakwadi, Belgaum, Karnataka, 590006 India

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## ABSTRACT

In ongoing viral pandemic named as COVID-19 also Severe Acute Respiratory illness (SARI) or Flue Like illness (FLI) reported surging in many cities of India and many of the patients opted for traditional medicine, in spite of they have been given a option of contemporary line of treatment instructed by health authorities, they opted to take traditional indian medicine that is Ayurvedic medicine. Present case series is a same novel experience of early diagnosing and treating mid aged, morbid individuals who took only Ayurvedic treatment and could get out of the disease without any complications. This case series had 10 mid aged, morbid patients with maximum symptoms of COVID-19 disease and their hemogram and CRP was suggestive of moderate to severe type COVID-19/FLI/SARI. They were diagnosed by contemporary methods of pathology and treated with Ayurvedic classical medicines Tamra Sinduradi Yoga and Bhunimbadi Kwath for 20 days along with continuing the medicines for their ongoing morbidities. All 10 patients showed recoveries without any complications, they reduced their all symptoms, drastic reduction in their CRP and corrections in their hemograms were observed and also they showed any complications neither physically nor in their pathological tests. Hence it can be concluded that early diagnosis and treating it with Ayurvedic medicine can manage viral pandemic issue in a very successful way.

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## 1. Introduction

Viral pandemic named as COVID-19 is a novel disease for all humans. It is just a 12 months known to whole medical fraternity of world. First time such pandemic reported in recorded history of medical sciences. The SARS-CoV-2 is the responsible virus for this pandemic and modern medical fraternity including WHO and various medical agencies and institutes of world are struggling hard to study this and control it by doing various observations on suffering cases and trying hard to invent vaccine on this novel virus. Though the Ayurveda has no such description of this novel virus

nor it has any medicines known to cure and manage the condition, it has given a world the description of epidemic concept and its causes plus its management through the way of symptomatic relief. The old ancient literatures of Ayurveda given the description of *Janapadodhwansa* [1] which means sufferings of human race by epidemic infections it has given the causes and its signs and symptoms plus the concept of its management. The same concept we can take it as lead to manage COVID-19 disease. Ayurveda under the epidemics headers already included *Jwara* i.e. fever is one of the disease can be spread as epidemic due to external causes like viruses or bacteria (*Agantuja Krimi*) either by *Vikrut Vayu* or *Vikrut Jala*

**Abbreviations:** CRP, Critical reactive protein; RT-PCR, Reverse transcription polymerase chain reaction; ESR, Erythrocyte sedimentation rate; NLR, Neutrophils to lymphocyte ratio; WBC, White blood corpuscles; HR CT, High resolution computerized tomography; SpO2, Oxygen saturation; D Dimer, Fibrin degradation product; LDH, Lactate dehydrogenase; IgM, Immunoglobulin M; IgG, Immunoglobulin G.

E-mail: [progenresearchlab@yahoo.co.in](mailto:progenresearchlab@yahoo.co.in).

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<sup>1</sup> Corresponding Office postal address: Progen Research Lab, Muchandi Mala, Off Mahatma Fule Road, Behind Copperleaf restaurant, Shahapur, Belgaum, Karnataka 590003, India.

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or *Vikrut Desha* (contaminated Air or Water or Land). Considering the signs and symptoms of this novel disease COVID-19 it can be correlated to *Vatakaphaja Jwara* along with *Shwas Kasa* due to *Agantuja Krimi* i.e. virus. And, to control it the line of treatment should be adopted as the same line of treatment mentioned in literatures to manage *jwara*.

The present article is an observational outcome of cases treated with Ayurvedic medicines. More than 50 pandemic cases were treated as they were kept home isolated and few of them instead of going for contemporary line of treatment and in-fact when there was no availability of indoor facilities and as local authorities instructed them to be in home isolated condition they opted to go for only Ayurvedic treatment. Keeping in view their faith in Ayurveda and on their own risk, they were given some instructions with Ayurvedic medicine's combinations and observed them continuously for their physical parameters and blood plus radiological investigations. While in home isolation conditions they were instructed strictly to follow home isolation protocols and their family members were also instructed and educated about it. Out of them the present study of 10 patients separately presented as this group is of mid aged people plus maximum are with some known morbidity especially diabetes and all have opted only Ayurvedic medicines. As an outcome of the treatment all the cases with all stages mild to severe successfully treated and managed without any complications. All cases were also instructed by author to check for their presence of COVID anti bodies out 10 seven patients volunteer for testing for antibodies after exact 1 month from the first symptom reported and those all have developed good number of COVID-19 antibodies on the basis of their ECLIA/Elisa test.

## 2. Patients information

Ten cases of all genders and mid aged to old age groups of Viral pandemic few are labeled as Covid 19 few are Flue like illness (FLI) and few Severe acute respiratory illness (SARI) were approached in the month of August 2020 to the author who is an Ayurvedic doctor with MD degree. The classification in the diagnosis of the cases are on the bases of their confirmation those with their RT-PCR test positive are labeled as covid 19 those who didn't approach for testing RT-PCR but their signs and symptoms and pathological findings are suggestive of viral pandemic like conditions either SARI or FLI. All these 10 cases selected are amongst the total cases of 50 plus cases treated but selected only 10 in this article as they opted only for Ayurvedic treatment and not the other treatments and also they are above mid age group and with some co morbidities. Almost all the cases though mid aged and above with some co morbidities requested local health authorities to be in home isolation and they were allowed by authorities on conditions to follow the isolation rules strictly and relatives were instructed to update the conditions regularly plus there was tremendous pressure on local health infrastructure in those days as it was a peak period of pandemic in that area. Somehow looking at the scenario maximum patients were reluctant to get admitted and opting for other available treatment. Mortality rates of hospitalized patients were more so patients moral was not so strong and as soon one patient got relieved out of disease or his or her threat on the life reduced by Ayurvedic treatment they started referring other patients known to them, in same manner patients were kept on approaching to the author.

Out of these 10 cases 6 were having diabetes in them two were with hypertension and diabetes both and other four were not with any morbidities but almost all were above mid aged group to older ones.

On the bases of severity of condition they are classified in four categories mild, moderate, severe and critical. In this critical reactive proteins which is sign or marker of inflammation in body which happens due to more cytokine release was marker for

severity. Almost 5 patients were in severe category as their CRP was above 60, three were moderate as the CRP was in between 30 and 60, and two were mild as CRP was in between 10 and 30.

## 3. Clinical findings

In viral pandemic, diagnoses of the case by contemporary methods in its earlier stage before it progresses, this is a very important step which should be adopted by physician. That's why detecting a case in early condition is necessary which can be possible by following points.

Reading of Hemogram: on onset of few symptoms getting hemogram done after couple of days along with Platelets count and ESR is very important step. Calculating Neutrophils to Lymphocyte ratio (NL Ratio) [2] gives very clear idea about advancing cases, if NL ratio is equal or above 3.5 it is an indication that the condition is advancing to moderate or severe or even critical stage. Similarly Leucocytosis can lead to severity and Leucopenia can be of mild type. Also Platelets number slightly going down shall be sign of progressing type and platelets normal or increasing can be a sign of recovering stage. Almost all the 10 cases soon they approached to author they were asked to test hemogram and CRP and also asked to recheck it after interval of 7–10 days till they become normal. In every case there was disturbances found in all above points those are WBC count either increase or decreased, high ESR values. Either neutrophils increased and lymphocytes decreased or Lymphocytes increased and Neutrophils lowered, either platelets are increased or decreased; Early Markers like C Reactive Protein [3]: CRP is a marker of inflammation in body and if it is very strongly positive (Above 25 mg/dl), it indicates the increasing severity of COVID-19/SARI/FLI in all the 10 cases every person showed increase in CRP in their first reports (mentioned in Table 1); After objective parameters few subjective parameters like signs and symptoms of the patients and blood oxygen saturation level is also considered in present study, these symptoms are quite helpful to correlate the disease with few disease or conditions mentioned in Ayurved literature especially as mentioned in introduction it is a *jwara* told in *Janapadavidhwansa* but to be specific it can be correlated to *Vatakaphaja Jwara* (type of *dwandwaja Jwara*) mentioned in *Charaka Samhita Nidanasthanas Jwaranidanam* [8]. As mentioned in table no. 1 fever, headache, cough, body ache, fatigue, taste lose, smell lose, breathlessness and dyspepsia all were the common symptoms amongst these 10 cases and all these symptoms are present in *Vatakaphaja Jwara*, in fact fever (*jwara*) is the very important symptom in viral pandemic almost all scientific articles available on covid mentions the same.

## 4. Diagnostic assessment

Above mentioned clinical findings are only the diagnostic criteria are of importance to diagnose the stages earlier before they progress. Other test like HRCT of chest and few blood parameters like ferritin, D dimer, LDH and procalcitonin are also considered as major diagnostic parameters to assess stages, HRCT can be earlier marker to help in early diagnoses but the others are more significant in later stages. In the present study cases first two diagnostic criteria those are hemogram, and CRP were only considered or included. And reduction in their symptoms and most important is survival of patient.

## 5. Therapeutic intervention

Symptomatic management is adopted solely by Ayurvedic medicine. And as it can be correlated to *jwara* specifically *vatakaphaja jwara* its *shaman aushadhi chikitsa* was considered first and

**Table 1**  
Common symptoms of COVID-19/Sari/FLI Patients found on day one before treatment.

Patients ID →	01	06	07	08	010	015	032	037	041	044
Age & Gender	52, Male	53, Female	49, Male	46, Male	54, Male	57, Male	47, Male	48, Male	62, Male	69, Male
Morbidity Present	DM, Bp	DM	DM	—	DM	DM	—	—	—	DM, BP
CRP Value mg/Lit	90	64	99	80	23	31	121	24	50	38
Lowest Spo 2% Reported during treatment	91%	93%	94%	92%	95%	88%	92%	91%	92%	85%
Severity by CRP value/→ Symptoms ↓	Severe	Severe	Severe	Severe	Mild	Moderate	Severe	Mild	Moderate	Moderate
Fever	Y+	Y+	Y+	Y++	Y+	Y+	Y++	Y+++	Y++	Y++
Head ache	Y+	N	Y++	Y++	Y++	Y+	Y+	Y++	Y+	Y++
Cough	Y+++	Y+	Y+++	Y++	Y+++	Y+	Y++	Y+	Y+	Y++
Body ache	N	Y+	N	Y++	Y+	Y++	Y++	Y+++	Y++	Y+++
Fatigue	Y+	Y+	Y+	Y+++	N	Y+	Y++	Y+++	Y+	Y+++
Taste loss	N	N	Y+	Y+	N	N	Y+	Y+	N	Y+
Smell loss	N	N	Y+	N	N	N	N	N	N	N
Breathlessness	Y+	N	Y+	Y+	N	Y++	Y++	Y+	Y+	Y+++
Dyspepsia	Y+	Y+	Y++	Y++	Y+	Y+++	Y++	Y+++	Y+	Y+++

Y- Yes, N- No, + mild, ++ moderate, +++ High/DM — Diabetes, Bp- Hypertensive/CRP- Critical reactive protein, Spo 2 is blood oxygen saturation.

whichever easily available licensed drugs with more strong capacity to breakdown the samprapti or pathophysiology of viral pandemic is administered with *Yukti, Anuman and Apta pramanas*.

On the bases of symptoms and laboratory findings; from Ayurvedic point of view there should be Chikitsa sutra which follows *Jwara chikitsa* management with following drugs or medicines which are having *Jwaraghna* (antipyretic), *Agantuja Krimighna* (antiviral or antibacterial or anti parasite), *Kasahara* (anti-tussive and cough reducing) and, *Shwasahara* (antiasthmatic), *Vedanasthapaka* (anti-inflammatory) and *Rasayana* (rejuvenating or anti oxidants) properties.

For almost all patients of viral pandemic in this study following Ayurvedic medicines are given till they reduce their symptoms or their maximum pathological findings reaches normal or near normal values.

**Tamra Sinduradi Yoga 250 mg** twice daily ie. repeated after every 12 h (classical medicine indicated for *Tivra kasa* and *Darun Shwasa* ie. Acute respiratory illness) (Ref: *Rasatarangini*) [4] In this *Tamra Bhasma* and *Rasa sindura* quantity was 30 mg each (It is lesser than therapeutic dose for adults mentioned in classics) and rest was *Kantakari* though it is mentioned in *Rasatarangini* for *Atyayik chikitsa* (Emergency treatment) of *Shwas* and *Kasa* here major role of *Tamra Bhasma* was considered, looking at the pathophysiology and requirement of strong therapeutic agent which in very small quantity can work quickly and equally effective, *Rasa aushadhis* are in very minute quantity can work very faster and effective as they are *tikshna* and *sukshma*. *Tamra Bhasma* is proven, *Jwaraghna*, *Vishahara*, *Jantughna*, *Kasa* and *Shwasahara*, *Shothaghna* and *Agnideepka* along with these it is *Rasayana* [13]. Considering all the properties of *Tamra bhasma* it was expected to work against the SARS-CoV-2 virus there was few references available in scientific publications about the copper nano particles or copper surface can act as a strong antiviral against SARS-CoV-2. The other two ingredients *Rasasindura* which is *Yogavahi* and *Rasayana* and third one is herbal origin ie. *Kantakari* (*Solanum xanthocarpum*) is said to be *Shwasahara* and *Kasahara* all these three ingredients are safe as per the toxicity study available in scientific literatures [Refs, 9–12]

**Bhunimbadi Kwath 10–20 mL** thrice daily (Classical medicine indicated for *Vata Kaphaja Jwara* or viral fever) (Ref: *Bharat Bhaishajya Ratnakara*) [5].

This Kwath is mentioned in *Bharat Bhaishajya ratnakara* for *Vatakaphaja jwara* it is different than regularly used *Bhunimbadi kadha* used for *Amlapitta*, This formula contains *Bhunimba*, *Katuki*, *Guduchi*, *Duralabha*, *Parpata*, *Musta* and *Shunthi*, all these herbs are proven *jwaraghna* and best *ama pachana* which are required in the breaking down pathophysiology of this pandemic.

The patients who were on the verge of developing multiple organ problems like liver and kidneys.

They are treated additionally with following medicines. Amongst the 10 only three patients were about to develop complications with involvement of reduction in their liver and kidney functioning and they were given.

**Nefpro Liquid and capsule** (10 mL thrice or 1 cap bid, its indications are CKD) this formula is polyherbal formula with major ingredient as *Gokshura*, *Punarnava*, *Bhumyamalakai* etc.

**Carmiliv capsule** 1 bid (its indications are Infective liver disorders) this formula is also polyherbal formula with *Katuki*, *Bhumyamalakai*, *Guduchi*, *Triphala* etc.

**Ashwagandha capsule** 2 at night (Classical single herb as *Vatahara* and *Rasayana*)

**The rationality behind using proprietary formulation medicines where little complications seen is; these medicines are proven on liver and kidney diseases and regularly in practice by author on such diseases.**

(All the Ayurvedic Medicines are licensed Ayurvedic medicines and are produced by Progen Research Lab which is a GMP certified Ayurvedic Pharmaceuticals).

The other medications like anti diabetics and anti hypertensive which were ongoing were allowed to continue as it is. Almost all diabetic patients were on metformin and glimepiride combination or other anti diabetic medicines like vildagliptin and pioglitazone and three patients were on insulin and Anti hypertensive which they were taking previously like Telmisartan and Atenolol were continued.

The relatives of patients were instructed to monitor oxygen saturation with portable pulse oximeter and wherever possible to check blood glucose levels and BP at home itself with available electronic machines. They were strictly advised to maintain proper distancing with all hygienic conditions to avoid infection been spread to other members of family. One healthy family member of every patient volunteered for this work and used to report regularly to author, almost all family members of these home isolated patients were instructed to consume 10 mL of *Bhunimbadi* Kwath twice as a preventive prophylaxis medicine. Total duration of treatment was 20 days. Every day SPO<sub>2</sub>, temperature and pulse chart were monitored by family member and was reporting to author and author was available on telephone 24 h to these patients. All the patients were instructed to take very light food which is easily digestible to them especially, boiled rice water and *Khichadi* (*Krushara*) only and as their appetite become corrected in few days allowed to switched on to their regular food habits, strong spicy and non vegetarian food was avoided. They were allowed to drink more water as per their need of water and allowed to eat less sweet fruits like citrus fruits but no any record of which fruits they consumed or not consumed kept. Almost daily author used to talk to patients on phone call and used to instruct them and get their feedbacks on the ongoing condition, a very important point should be mentioned here is that not a single patient who was under treatment was allowed to get demoralized by the fear or pain, every time author used to boost their moral by assuring them.

## 6. Follow up and outcomes

Following points considered to assess the management by above mentioned line of treatment, assessment is considered in both the ways one is subjective parameters another objective parameters.

1. Symptomatic improvement or total cure of symptoms in patients.

2. Increase in oxygen saturation to normal or maintaining Spo<sub>2</sub> to normalcy.
3. Improvement and normalizing effect in Hemogram i.e. correction in the total WBC counts, normalized NL ratio, Normalized platelets count.
4. Reduction in CRP to normal value.
5. Reduction or normalized values of other markers like Ferritin, D-Dimer, LDH etc.
6. Negative RT-PCR test which was previously positive.
7. Survival of Patient.
8. Presence of Antibodies of COVID-19 in patient's blood.
  - Out of these points, symptomatic improvement and survival of patients stand very important assessment criteria. And in present case studies along with these criteria control over CRP is considered as the ongoing improvement criterion and was considered as major criterion.
  - Every patient was told to do hemogram and CRP after seven or tenth day till they relieve out of their symptoms or their reports come normal, generally there are three reports generated, CRP of before treatment and After treatment mentioned in [Tables 1 and 2](#). On second time report only maximum patients' CRP reduced drastically to near normal and on third report the CRP of all patients restored to normal.
  - Almost in every patient on 5th or 7th dose of medication that is on third day or fourth day of treatment Oxygen saturation restored to normalcy
  - On fifth dose only almost all patients maximum symptoms started reducing especially fever reduced, body ache stopped, frequency and intensity of cough reduced, on sixth day appetite and digestion improved to normal.
  - In those with taste and smell lose almost all cases 5th to 7th day of treatment they regained back senses. About fatigue and cough few patients continued with symptoms after span of 20 days.
  - Not a single patient developed any major complications and all survived. No any known adverse drug reaction of the

**Table 2**  
After completion of treatment.

Patients ID	01	06	07	08	010	015	032	037	041	044
→										
Age	52,	53,	49,	46,	54,	57,	47,	48,	62,	69,
&	Male	Female	Male	Male	Male	Male	Male	Male	Male	Male
Gender										
Morbidity	DM, Bp	DM	DM	—	DM	DM	—	—	—	DM, BP
Present										
CRP Value mg/Lit	5	2.7	2.9	1.86	3.96	3.02	0.62	4.4	2.16	3.43
Spo <sub>2</sub>	96%	97%	97%	96%	98%	94%	97%	96%	96%	94%
Severity by CRP value/ →	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Symptoms ↓										
Fever	N	N	N	N	N	N	N	N	N	N
Head ache	N	N	N	N	N	N	N	N	N	N
Cough	Y+	N	Y+	N	Y+	N	N	N	N	N
Body ache	N	N	N	N	N	N	N	N	N	Y+
Fatigue	N	N	N	N	N	N	N	N	Y+	Y+
Taste loss	N	N	N	N	N	N	N	N	N	N
Smell loss	N	N	N	N	N	N	N	N	N	N
Breathlessness	N	N	N	N	N	N	N	N	N	N
Dyspepsia	N	N	N	N	N	Y+	N	Y+	N	Y+
Sr. Creatinine	—	0.7	0.9	—	0.6	1.28	1.1	1.17	0.9	1.0
SGPT	—	16	—	—	—	37.5	34.0	68.9	26.5	24.7
SGOT	—	14	—	—	—	39.2	37.5	33.5	24.9	37.1
COVID-19 antiB.	—	—	Present	94.32	present	54.28	28.09	—	32.09	42.98

Y- Yes, N- No, + mild, ++ moderate, +++ High/DM — Diabetes, Bp- Hypertensive/CRP- Critical reactive protein, Spo<sub>2</sub> is blood oxygen saturation, AntiB- Antibodies.



ingredients noticed nor any new symptoms developed in patients. Not single family members of them newly developed symptoms of disease during entire treatment period.

- At the end of one month from first symptom reported; patients were requested to undergo major markers of liver and kidney function i.e. serum creatinine and SGOT, SGPT along with COVID-19 antibodies ECLIA/Elisa test. All patients kidney and liver parameters were normal. 7 patients only volunteered for covid 19 antibodies test and they showed presence of antibodies in their blood.
- During active stage of pandemic almost all patients of diabetes were having uncontrolled blood sugar level even though they were on their regular medicines; but as soon they are relieved out of pandemic disease their blood sugar came to their previous values, in hypertensive patients those were under monitor didn't show much changes in BP than slight increase during night time.

## 7. Discussion and conclusion

In viral pandemic COVID-19, patients of mid aged with morbid conditions are reported many times as these cases are susceptible to develop complication as there will be increased markers like CRP which is a sign of inflammation and as per the patho-physiology of SARS-CoV-2 infection usually it has two major phases of infestation one is Immune defense based second is inflammation driven [6], In first stage body has its own tendency to immuno-modulate by doing immune Hemostasis which activates Helper T cells which are antibody secreting cells which produce CD4 and CD8 cells which increase the IgM and IgG this process stops the multiplication of SARS-COV-2 in body. It controls the viral load and becomes normal, in case if it could not do and if there is more viral load and opposition it starts its second phase of defense which is inflammation driven, there will be cytokine release syndrome or also called as cytokine storm happens due to secretions of Interleukins, in this condition of blood it damages the haemoglobin and Haem get separated and flow freely as free radical in blood, this produces oxidative stress at every tissue level & this triggers off three levels of defense. Initially human lungs try to detect such haem and try to control these free radicals by inflaming their basic units alveoli, if still not controlled. Next, it produces layer of epithelial cells which binds these free Fe (Haem) ions these two action produces pneumonia like condition (but not pneumonia) and reflects in CT Scan as ground glass opacities of lobes of lungs. This is the condition where hypoxemia like condition occurs and then there will be "Happy Hypoxia" (Slow reduction in Oxygen saturation in blood) at this stage the marker like CRP reaches to maximum in blood. Thirdly, defensive action is liver involvement, as it starts separating free Fe ions, at this level ferritin increases in blood. After that there will be increase in SGPT in blood which is the sign of starting of multiple organ damage which is not a good sign or prognosis.

The reason behind explaining the patho-physiology of SARS-CoV-2 is the scope for intervention in managing the cases. In above said cases the results of the mid aged morbid cases if we try to understand, it has been observed that the symptoms produced in almost all cases are the sign of response to immune hemostasis (Fever is the major symptom) and almost all had significant increase in critical reactive protein in their blood it means they were on second phase of infection and then as a intervention when the Ayurvedic medicines given to them they

showed significant decrease in CRP along with reduction in almost all symptoms. Hence it can be put forth as hypothesis that the Ayurvedic medicines used in treating these cases though they were symptomatic remedies they played a very significant role in controlling the condition like cytokine storm. These medicines might have three major roles the hypothesis goes in following way one is antiviral (Ingredients of *Bhunimbadi Kwath* and the *Tamra Bhasma* of *Tamra sinduradi Yoga*) second as *Rasayana* -strong antioxidants (*Tamra Bhasma*, *Rasa sindura*) and third one is very important role might be of *Tamra Bhasma* as chelating agent for Free Fe ions [7] They catches the free radical like flowing free haem ions and quarantine them which results in reduction in inflammation response and reduction in CRP. The overall outcome or observation in treating these 10 cases of mid aged morbid persons suggestive of diagnosing cases in early stage and treating it by understanding patho-physiology can save many lives and reduce the death rates in this viral pandemic. There might be still better outcomes if similar interventions done on bigger samples and multi-centric studies which will help researchers to understand management of COVID-19 in better way.

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## Conflict of Interest

None.

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