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Research Article

**Clinical Improvement in COVID-19 Patients with Timely Intervention of Panchagavya Medicine: A Preliminary Finding**Pavan Tijare<sup>1\*</sup>, Niteen Ambatkar<sup>1</sup> and Vaibhav Tiwari<sup>2</sup><sup>1</sup>Panchgavya Ayurved Physician & Consultant, Govigyan Anusandhan Kendra, Deolapar, Nagpur, India<sup>2</sup>Guide (Principal Shri Shankarcharya Institute Of Pharmaceutical Sciences, Junwani Bhilai C.G), India**Abstract**

**Introduction:** The World Health Organization declared the COVID-19 outbreak as a pandemic on March 11<sup>th</sup>, 2020. There is no approved medication suggested by WHO till date. *Panchagavya* and other traditional medicines have been used from thousands of years for many chronic diseases where no treatment possible by modern medicines.

**Methods:** *Gomutra Arka* i.e. Cow urine distillate was given, along with prescribed medication to COVID-19 positive patients.

**Result:** All three patients recovered from COVID-19 with no complications.

**Discussion:** Many researches on cow urine and its components (like free volatile fatty acids, phenolic compounds, inorganic and organic compounds) showed that it has not only potent and significant inhibition effects on viral and bacterial replication but also enhances the activity of antiviral and antibacterial drugs. Some scientific literatures also reveal that Cow urine and its components have antioxidant and immunomodulator activities which are also helpful in recovery of COVID-19.

**Conclusion:** The recovery of these three patients suggests that there is significant role of *Panchagavya* Medicine i.e. *Gomutra Arka* (CUD) as a safe and effective therapy of COVID-19. Hence, further research on large population and in vitro study is required to analyze effect *Gomutra Arka* (CUD) on COVID-19.

**Keywords:** COVID-19, *Panchagavya*, Ayurved, natural compounds, antiviral, *Gomutra*, Cow urine distillate.

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**1. Background**

On 30 May 2020, a 27 years young male patient develops Body ache, Throat irritation and fever and was treated locally by General Physician for the same. On 01 June 2020 his two family members developed same symptoms so; he telephonically consulted with *Panchgavya* Ayurved Physician. After taking brief history *Panchagavya* Medicine i.e. *Gomutra Ark* (CUD) suggested and advised to go for COVID-19 test to nearby Quarantine centre. On 02 June 2020 he went to quarantine centre for test, swab taken and the test results of all three patients were found positive, hence admitted. CUD continued by patient themselves along with

prescribed medicines. On 11 June 2020 all the three patients were discharged from quarantine centre due to fast clinical recovery.

**2. Introduction**

An outbreak happened in December, 2019 in Wuhan, China, has now been identified to be caused by a novel corona virus. It is named as Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2) The disease has since spread to many countries all over the world.[1,2] In COVID-19 after viral infection major problem with patient

are rapidly progressive to acute respiratory distress syndrome, Septic Shock, Metabolic Acidosis, Haemorrhage, Coagulation Dysfunctions, Decreases in WBC and lymphocytic and lastly Multiple organs failure.[3] These symptoms are progressive and interconnected with each other and causes major role of patient death. Anti-viral and anti-inflammatory combinations therapy is required for the treatment of patient,[4,5] but current medication of anti-viral and anti-inflammatory is not giving support with many patients. So, there is need of safe and effective for it. The World Health Organization has also recommended inclusion of traditional medicine with modern medicine in preparedness and response plan of COVID-19[6] Despite worldwide efforts to restrict it, the pandemic is spreading very fast. Consequently, it is necessary that scientists need to draw on pluralistic knowledge of all systems available globally.[7-9] By considering the fact that no system of medicine has any evidence-based treatment for COVID-19 as yet, clinical interventions are being done worldwide for it. A strategy is required to be implemented by Ayurveda system of medicine also. While the disease is almost controlled in China[10], it is still widespread in Europe and US which have emerged as the new hotspots of the COVID-19.[11,12] There are various reasons for the control of the disease in China, yet the evidence of role played by Traditional Chinese Medicine (TCM) cannot be overlooked.[13,14] TCM was officially included in the Chinese Guideline on diagnosis and treatment of COVID-19.[15] In this context, a few important issues need to be stated for boosting immunity among the masses.[16] However, it is not limited to prophylaxis alone. It addresses the therapeutic domain as well although within an integrative model of care. In coherence with the success of TCM in managing a communicable pandemic, it is logical and essential to explore how Ayurveda can help in addressing the COVID-19 challenge.[17-19]

Gou {(cow) *Bos indicus*} is most valuable animal in all Veda's, it is called as the "Mother of all" The composition containing cow's excretions urine, dung, cow's milk, curd and ghee the five ingredients together known as "*Panchagavya*" is given to women after she delivers a baby. *Panchagavya* is the main ingredient of many of our Ayurvedic preparations. The use of "*Gaumutra*" in India can be traced back to the Vedic times. In Vedas and *Dharmashastras* it has been well documented as a purified substance as an ingredient of the *Panchagavya* (Milk, Urine, Dung, Ghee and Curds of cow). Ayurveda has elaborate information on the medicinal use classified under *Mootravarga*. *Goumutra* is a *Kshara dravya* and finds place in chemical preparation and also as a substance for purification. In India *Goumutra* is used by the majority of rural population as folklore remedy in almost all the states. As per Ayurvedic literature *Goumutra* having *katu*,

*Tikta*, *Kashaya rasa*, *Ushna-veerya* (potency) *kshra*, *laghu* and *deepana prabhav*. It is useful in number of diseases particularly in *Gulma* and *Kusta*, Ascitis, Elephenthsis and *aburda* (cancer) etc. There is lot of discussion on urine in Ayurveda. In *Charaka-Samhita* (1/7, 29/7, 15/6), *Sushruta Samhita* and *Vagbhata*, as per literature, there are eight types of animal urine that can be used in medicine. These can be divided in two groups: 1) Male: - Elephant, Camel, Horse and Ass. 2) Female: - Cow, Goat, Sheep, Buffalo. But according to *Sushruta Samhita* (1/221) and Ayurveda *Samgraha* for medicinal and other propose cow urine is beneficial and better than all other animals. According to *Charaka Samhita*, generally urine is *Ushna*, *Tikhra*, *Ruksh* and *katu and lavanya rass* which can be used as *ubtan*, *lapa*, in stomach disease, leprosy, *Pandu* disease, Cough, Pancreatic disease, antimicrobial etc. The Main Chemical composition of cow urine is Water 95%, Urea 2.5% , Mineral salt 2.5%, Uric acid, carbonic acid, iron, lactose, Calcium 0.1-1.4mg/l, Magnesium 3.7mg/l, potassium 0.15mg/l, sodium 1mmol and Enzymes like cytokine and urokinase. The concentration of F.V.P. (Free volatile phenols) in the healthy cow urine sample was ranged from 0.691 to 0.753 mg/dl with the mean value of 0.714±0.011 mg /dl. Similarly the concentration range of C.V.P. (Conjugate volatile phenols) obtains by distillation after acidification of urine was ranged from 1.298 to 1.411 mg/dl with the average value of 1.347±0.081 mg/dl and the A.H.A (Aromatic hydroxyl acid) obtained by ether extraction of remaining distillate left after distillation of C.V.P. were ranged from 2.218 to 2.732 with the mean value of 2.613±0.099 mg/dl.[20-22]

### 3. Methodology

Three people were telephonically consulted with *Panchgavya* Ayurved Physician for the treatment of their below mention symptoms. They were suggested to take *Panchagavya* Medicine i.e. *Goumutra Ark* (CUD) and advised to go for COVID19 test centre. After swab analysis, they were declared COVID-19 positive hence they were admitted in COVID-19 hospital in Nagpur. CUD continued by patient themselves along with prescribed medicines. All data like physical examination, Complete blood counts, liver functions profiling, kidney functions tests and Chest X ray images were analysis to assess the severity of diseases and recovery. All measures have been taken to follow the guideline prescribe by Government authorities and no hindrances were produced during treatment by *Panchgavya* Ayurved Physician. Various test reports were analyzed as per method used by Rammanohar et al. 2020[23], to examine the primary impact of CUD on COVID-19 patient in reference of their recovery and healing from diseases.

**Table 1: Symptom profile based on COVID-19 patients perspective<sup>#</sup>**

<b>a) Patient number 1</b>											
Symptoms	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	
Fever	✓	✓	✓								
Tiredness	✓	✓	✓								
Dry Cough											
Body Ache	✓	✓	✓	✓	✓						
Nasal congestion											
Runny Nose											
Throat Pain	✓	✓	✓	✓	✓						
Diarrhoea											
Difficulty in breathing											
<b>b) Patient number 2</b>											
Fever	✓										
Tiredness											
Dry Cough											
Body Ache	✓	✓									
Nasal congestion	✓										
Runny Nose	✓	✓									
Throat Pain	✓	✓	✓								
Diarrhoea											
Difficulty in breathing											
<b>c) Patient number 3</b>											
Fever	✓										
Tiredness											
Dry Cough	✓	✓									
Body Ache	✓	✓									
Nasal congestion											
Runny Nose											
Throat Pain	✓	✓	✓								
Diarrhoea											
Difficulty in breathing											

Source: <https://www.mohfw.gov.in/pdf/FAQ.pdf>**Table 2: Analysis of clinical symptoms of a COVID-19 patients received CUD**

Patient No.	Age	Sex	Occupation	Co-Morbidity	Active Medication	Concomitant Medications continued	CUD dose	Length of Stay	Test negative Day from admission	Outcome R-Recovered D-Death
1	27	male	Pharmacist	Nil	1)Tab.HCQ 400mg BD on first day Then Tab.HCQ 200mg BD *5 days 2)Tab. Pantop 40mg OD 3)Tab. Ondem 4mg OD 4)Tab. Vit C 1 Tab OD 5)Tab.Calcium+VitD3 1 Tab OD 6)Tab. Tamiflu 250mg BD 7)Tab. MVBC 1 Tab BD 8)Tab. Paracetamol 1 Tab OD	Nil	10ml OD on empty stomach			R
2	25	Female	student	Nil	1)Tab. Augmentine 625mg BD 2)Tab.HCQ 200mg BD 3)Tab. Pantop 40mg OD 4)Tab. Vit C 1 Tab OD 5)Tab. Tamiflu 150mg BD 6)Tab. MVBC 1 Tab BD		10ml OD on empty stomach			R
3	52	Female	House wife	Nil	1)Tab. Augmentine 625mg BD 2)Tab.HCQ 200mg BD 3)Tab. Pantop 40mg OD 4)Tab. Vit C 1 Tab OD 5)Tab. Tamiflu 150mg BD 6)Tab. MVBC 1 Tab BD 7)Calcium+ vit D3 sachets OD		10ml OD on empty stomach			R

**Table 3 Physical and Pathological parameters of patients**

Parameters	Patient 1		Patient 2		Patient 3	
	On admission 02/06/2020	On discharge 11/06/2020	On admission 02/06/2020	On discharge 11/06/2020	On admission 02/06/2020	On discharge 11/06/2020
<b>1)Physical Examination</b>						
G.C	Mod	Good	Mod	Good	Mod	Good
Temperature	Afeb	Afeb	Afeb	Afeb	Afeb	Afeb
Pulse/min	88	88	88	88	88	88
R.R	16	14		97		97
SPO <sub>2</sub> %	98	97	98		98	98
B.P(mmHg)	120/80	120/80	120/80	120/80	120/80	120/80
RS	NAD	NAD	NAD	NAD	NAD	NAD
CVS	NAD	NAD	NAD	NAD	NAD	NAD
CNS	NAD	NAD	NAD	NAD	NAD	NAD
<b>2)Complete Blood Count</b>						
Hb	14.3		16.5		13.6	
TLC	5800		5400		7300	
Platelets	194000		195000		213000	
N	50%		60%		63%	
L	36%		25%		32%	
M	6%		94%		32%	
E	5%		67%		04%	
<b>3) Kidney function test</b>						
Blood urea	20		16		34	
Sr. Creatinine	0.8		0.7		0.6	
Sr. Sodium	140		135		136	
Sr. Potassium	4.8		3.8		3.8	
<b>4)Liver function test</b>						
SGOT	24		37		32	
SGPT	17		14		23	
ALPT	74		94		107	
SPT	6.9		7.1		9.9	
Albumin	4.5		4.7		4.5	
Bilirubin T	0.3		0.16		0.4	
Bilirubin D	0.1		0.10		0.1	
<b>5) CXR chest</b>						
	N		N		N	

#### 4. Result and Discussion:

After clinical improvement of COVID19 Patients as per government guidelines, all the three patients were discharged from hospital with fast clinical recovery. The parameter on first day of hospitalization and on discharge is shown in table 1, 2 and 3. Cow urine is believed to have therapeutic value. Alike of medicine its safety, efficacy and quality data are available. It is used as a medicine for many diseases like Cancer, diabetes including its complications, several types of infections including virus, bacterial and fungal, liver damage, and inflammation. Cow urine is utilized for synergism of herbal and systemic medicinal compound.[24-42] The therapeutic uses of cow urine are given in table 4. It is assumed that CUD has increased the immunity response of patient against COVID-19; this immunity stimulation effect is supported by research work carried out by Gosavi *et al*[24] in which CUD at dose of 0.2 ml BD for 21 days were given to mice. the result of this experiment suggested that CUD increased quantity of

antibody titers. it was highly significant in compared to control mice those not treated by any medication against immunized with Sheep RBC (SRBC) 0.5 X 10<sup>9</sup> cells/ml/100 grams intraperitoneally. Literature also reveals that Cow Urine (CU) enhances the humoral, and cell-mediated immune response in mice. It was found that after the ninety one days feeding of 1 ml dose per mice per day with water, increases the B- and T-lymphocyte blastogenesis; IgG, IgA and IgM value that confirmed it use as immunity stimulate.[25-26] Another study was performed to evaluate the whole freeze dried cow urine and the fractions for their immune modulator potential in rats, using Delayed type hypersensitivity reaction, neutrophil adhesion test, hematological parameters (like RBC, WBC counts) and Carbon clearance test for phagocytic index it was found that regular use of freeze dried cow urine could be increases the Delayed type hypersensitivity reaction. It also proved in cow urine has increased the Phagocytosis effect in rats.[27] According to some literatures [21,24-27] cow urine has protective effect due to antioxidant property

that may be responsible for fast recovery and retardation from the deuteriation effects of COVID-19 virus. Data *et al*[28] worked on Protective effect of distillate and redistillate of cow's urine in human polymorphonuclear leukocytes, they found that the redistillate of cow's urine have antioxidant activity which was contributed mainly by volatile fatty acids (1500 mg/L), these Free volatile fatty acid is also known as short chain fatty acid, They are responsible for structural component of biological membranes, Participate in transportation utilization of cholesterol, Prevent fat accumulation in liver and Requires for synthesis of prostaglandins, They play role in signal-transduction pathways, They found in composition of hormones and lipids Energy storage within adipose tissue (specialized fat cells) in the form of triglycerols. Free fatty acids also sensitized G protein-coupled receptors. GPCRs have revealed involved in

many biological functions like. A) GPR41 is highly expressed in adipose tissue those role in role in obesity, b) GPR40 is highly expressed in pancreatic beta cells and which play role insulin regulation, similarly c) GPR43 is abundant in leukocytes and adipose tissue. D) GPR120 is mainly expressed in endocrine cells control hormonal secretions and e) GPR84 is expressed in leukocytes and monocyte/macrophage important role in immunity [30-32]. So there is possibility that the medicinal value of cow urine, ghee and other products is related to free fatty acids which has effect on GPCRs and found in significant quantities. Many research works [21,24-28] also suggested the antioxidant and other properties are due to organic (fatty acids and phenolic) and inorganic (trace metallic salts) compounds in cow urine and it's distillate.

**Table 4: The pharmacological used and responsible compounds of CUD**

Medicinal Use	Responsible Compound and Mechanism Of Action	Reference
Antimicrobial activity	Urea, creatinine, swarn kshar (aurum hydroxide), carbolic acid, phenols, calcium, and manganese amino acids and urinary peptides. Constituents enhance the bactericidal effect by increasing the bacterial cell surface hydrophobicity. They enhances the phagocytic activity of macrophages.	[31-39]
Antifungal	phenolic acids (gallic, caffeic, ferulic, o-coumaric, cinnamic, and salicylic acids)	[20-21,24-28,40-41]
Improves immunity	Due to the presence of swarn kshar (aurum hydroxide), free volatile fatty acid,	[24-26]
Anticancer or anti chemotrathy	Phenolic compounds, uric acid and allantoin present and Antioxidant property correlates with its anticancer effect	[42-45]
Wound healing	Allantoin & antioxidant compound like phenols & free volatile fatty acids and increases granulation tissue formation as well as collagen content due to antioxidant properties	[47-48]
Repairs of DNA damaged	Free volatile fatty acids and Antioxidant property correlates with its anticancer effect	[28]
Bio enhancer	It enhances the transport of antibiotics like rifampicin, tetracycline and ampicillin across the gut wall by 2-7 folds. It also enhances the potency of taxol against MCF-7 cell Lines	[45-49]
Anti-helmintic activity	In combination of Panchgavya and Bauhinia variegata were found to have excellent anthelmintic activity	[50-51]

## 5. Conclusion

Constitutes of cow urine already proved to play important role in many chronic diseases like cancer, diabetics chronic kidney failure etc. by protection and repair mechanism, these properties were helpful in treatment of patient specially elderly, diabetic, patient with chronic disease those have highly risk of morbidity. In this study the recovery of three patients suggests that there is significant role of *Panchagavya* Medicine i.e *Gomutra Arka* (CUD) as a safe and effective therapy of COVID-19. Hence, further research on large population and in vitro study is required to analyze effect *Gomutra Arka* of (CUD) on COVID-19.

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## Conflict of Interest Statement:

The authors declare that they have no Conflict of Interest.

## Abbreviations

Afeb – Afebrile, B.P- Blood Pressure, BD-Bis on day, COVID19- Corona Virus Disease-2019, CNS - Central Nervous system, CVS - Cardiovascular System GC – General Condition, HCQ - hydroxycloquine, Mod – Moderate, NAD – No Acute distress RS - Respiratory System, SPO<sub>2</sub>- Blood Oxygen Saturation Level, TCM-Traditional Chinese Medicine, CUD = Gomutra Ark i.e Cow Urine Distillate

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