

# Emergency Available Drugs in Markets to Treat COVID-19

Amir Hassan (✉ [AMIRHASSAN741@GMAIL.COM](mailto:AMIRHASSAN741@GMAIL.COM))

Department of Chemistry, Government Post Graduate College Mardan, Abdul Wali Khan University, 23200 Mardan, Khyber Pakhtunkhwa, Pakistan. <https://orcid.org/0000-0002-8725-186X>

Abrar Hussain

Department of Biological Sciences, International Islamic University Islamabad Pakistan.

<https://orcid.org/0000-0003-2580-7161>

---

## Method Article

**Keywords:** Corona-Virus infection, Antibiotics, Drugs, Injections, Syrup, Capsule, Tablets, Infusions R/L

**Posted Date:** August 2nd, 2021

**DOI:** <https://doi.org/10.21203/rs.3.rs-764141/v1>

**License:** © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

# Abstract

Our current study is focused on emergency available drug in market to treat COVID-19 a viral infection that produces pneumonia and respiratory disorder. By pharmacology knowledge base treating viral-respiratory infection and immune inflammation, which posses' direct effect against corona virus (COVID-19) the different antibiotics were evaluated from market on COVID-19 symptoms which includes Provas 100ml, Injections: Azithma 500mg, Oxidil 1gm, Gen-M 180mg and Bejectal. The Pladex 100ml, Infusion R/L 500ml, Tablet Panadol Extra, Syrup Pelton – V and Capsule Vibramycin in laboratory CatA21 (LRHP1) and CatB20 (AMCMDN2) for 1 to 3 days treatment and the Patients ages range from 37-56 and their recovering ratio calculated from the laboratory test by immune system and physical health comparison which were recorded as 95% with positive rate with a good health.

## 1. Introduction

The viral-infection transmission reported at the end of December-2019 in Wuhan City China affecting Humans immune system and migrated from one person to another with a number of severe infections called the Corona Virus Infection [1]. This viral infection spread very rapidly across the china and multiplied in number in a very short time and migrated to other country by person migration. The WHO (World Health Organization) director general declared on January 30, 2020 that corona virus outbreak, health safety and emergency are recommended under the international health regulations [2]. On February 2, 2020 the China NHC (National Health Commission) reported about 304 deaths in a total of 14,488 cases in china and from other country total 146 cases confirmed with death number 1.. The viral infectious disease transmission is still continuous and affected throughout the world a large number of countries. It's necessary to highlight the control of this viral-spread by any synthetic or natural therapeutic agent with proper attention by people isolation from affected people, social distancing, avoid hand shaking, wearing masks and doing proper sanitization at high risk at both positive and negative stage because any suitable drug-discovery and treatment need some specific time. So, proper care is required during this outbreak because there are no such effective Corona-Virus vaccines or, antiviral drug available. However, SARS (Sever Acute Syndrome) 2003 Outbreak was controlled via Traditional Chinese Medication [3]. The Chinese Government noticed the sign and symptoms of viral-pneumonia and administrated herbal medication by applying full-literature during the outbreak of SARS (Sever Acute Syndrome) may it contain direct anti-viral effect and provide a great help in medication and targeted corona viral compound [4-12]. The studies highlighted the number of basic protein in this virus like *Spike*, *3CL<sub>prot</sub>* (3C Like Protease) and *PL<sub>prot</sub>* (Papain like Protease) provide help in replication. The Virus enzyme deubiquitinating and polypeptide protein do the Ub (Ubiquitin) system elimination for host mostly carried out by *PL<sub>prot</sub>* in Virus. While [13, 14] reported in SARS (Sever Acute Syndrome) that *PL<sub>prot</sub>* declined the UB-like proteins: ISG15 and Connects LYS58 with Poly-Ub chain by releasing the DIUbLys48 product. The [15] studies that *3CL<sub>prot</sub>* provide help in life cycle of Virus by acting as Cysteine-Protease while *Spike* protein in corona-virus maintain them in the cell by utilizing converting enzyme-II

angiotension [16]. The discovery of targeted drug designing might be easy from protein analysis as of direct inhibition potential if found as in SARS protein comparative in Corona-Virus [17-23]. While study [24, 25] reported that SARS (Sever Acute Syndrome) and MERS (Middle East Respiratory Syndrome) Corona-Virus are very closed in protein gene sequencing so, for this viral-pneumonia infection treatment should be design by applying comparative knowledge of the SARS and MERS in a very short time for treatment of Corona-Virus 2019 [26-28]. Our current study is focused on emergency available drug in market to treat COVID-19 a viral infection that produces pneumonia and respiratory disorder by utilizing various antibiotics experimentally for treatment.

## 2. Methodology

This Experimental workup/setup conducted from two different hospitals laboratories registered under Government of Pakistan. A surveyor type treatment prescribed/provided to the patients possesses COVID-19 symptoms. The patients were categorized in two categories that is CatA21 (Category A having 21 people from different areas and ages) in Laboratory Leading Reading Hospital Peshawar 1(LRHP1) and CatB20 (Category B having 20 people from different localities with different ages) in Laboratory Amad Medical Center Mardan 2(AMCMDN2). The patients were screened in laboratory through proper channel after physical and mental analysis by the Physician Dr. Muhammad Amad Zaman Khan MBBS (KMU Peshawar), MCPS (Pak), FCPS I-II (LRH Peshawar) and specialist in TB, Fever, Malaria, Blood Pressure and other Health related sever infectious diseases.

## 3. Tested Drugs On Patient Cata21 And Catb20

Antibiotics Includes Provas 100ml, Injections: Azithma 500mg, Oxidil 1gm, Gen-M 180mg and Bejectal. The Pladex 100ml, Infusion R/L 500ml, Tablet Panadol Extra, Syrup Pelton – V and Capsule Vibramycin all the drugs were recommended of standard Multinational ISO-Certified Companies.

## 4. Experimental Treatment

The Proper Medication administrated to the patients in both Cata21 in LAB LRHP1 CatB20 in LAB AMCMDN2 for regular 1 to 3 days. On first day the Infusion Provas first dose started, the antibiotics Injection Azithma 500mg in 100ml Pladex diluted IV, the Injection Oxidil 2gm first in start, and the Injection Gen-M 180mg diluted in 100ml Pladex given after regular sequence. The Infusion R/L 500ml mixed with Injection Bejectal with low concentration also given with the passage of time. The tablet Pandaol extra given to relief pain after antibiotics 1–2 hrs and syrup Pelton – V administrated for appetite and vomiting relevance with the capsule Vibramycin 100mg to relief the infections. The same doses as in start of days first repeated on day 2 and day 3 but only the infusion R/L and Injection Bejectal was eliminated in that case when the patient recovered 75% and feel safe only.

## 5. Statistical Analysis Of Recovered Patients By Age

The different Patients engaged during the experimental analysis were from different area of Khyber Pakhtunkhwa, Pakistan. Their ages range from 37–56 and their recovering ratio calculated from the laboratory test by immune system and physical health comparison which were recorded as 95% with positive rate with a good health.

## 6. Results And Discussion

Antibiotics Includes Provas 100ml, Injections: Azithma 500mg, Oxidil 1gm, Gen-M 180mg and Bejectal. The Pladex 100ml, Infusion R/L 500ml, Tablet Panadol Extra, Syrup Pelton – V its composition and ingredient is listed in the [Table 1]. The Proper procedure followed for the patients in both CatA21 in LAB LRHP1CatB20 in LAB AMCMDN2 for regular 1 to 3 days as mentioned in [Table 2] and [Table 3]. On first day the Infusion Provas first dose started, the antibiotics Injection Azithma 500mg in 100ml Pladex diluted IV, the Injection Oxidil 2gm first in start, and the Injection Gen-M 180mg diluted in 100ml Pladex given after regular sequence. The Infusion R/L 500ml mixed with Injection Bejectal with low concentration also given with the passage of time different Patients engaged during the experimental analysis were from different area of Khyber Pakhtunkhwa, Pakistan. Their ages range from 37–56 and were noticed as 95% positive rate with a good health recoded with these antibiotics. The general discussion on these antibiotics and their importance are as follows: The antibiotics include Oxidil injection 1gm/IV having chemical composition of *Ceftriaxone Sodium* a Cephalosporin. It is highly effective for the treatment of several bacterial infections such as, lower respiratory tract infection, pneumonia, prevent infection in several surgeries, meningitis, and sever threatening *E. coli* and urinary tract infection. The Gen-M injection 180mg (60mg + 120mg) in *Artesunate* is mostly used for treatment of malaria a pediatric patients in adult commonly with the other indication including, dizziness, fever, weakness, chills, loss of appetite. The Azithma injection 500mg in (Lyophilized powder for IV only) in *Azithromycin* antibiotics is very common and administrated for treatment of chest infection, like pneumonia infection in throat, nose, sinus infection as sinusitis, Lyme diseases and skin infection. The Tablet Panadol Extra 500mg contains *Paracetamol* 500mg and *Caffeine* 65mg. It is orally administrated to relief the pain, including in rheumatic, muscles, period, headache and backaches pain having less side effect and does not irritated the stomach.

Table 1  
Available drugs administrated during Tests with its Chemical Composition.

Serial No.	Available Drug	Composition	Insertion
1	Provas Infusion	Paracetamol 1g/100ml	I.V only
2	Azithma Injection	Azithromycin 500mg (Lyophilized Powder)	I.V only
3	Oxidil Injection	Ceftriaxone Sodium 1gm	I.V only
4	Gen-M Injection	Artesunate 60mg + 120mg (180mg)	I.V/IM
5	Panadol Extra Tablet	Paracetamol 500mg; Caffeine 65mg	Orally administrated
6	Pelton – V Syrup	Domperidone Maleate 120ml	Orally administrated
7	Infusion R/L	Fluid 500ml	For Injection I.V only
8	Bejectal Injection	Vitamin Supplement	Injection I.V + Infusion
9	Vibramycin Capsule	Doxycycline 100mg	Orally administrated

The Syrup Pelton – V 120ml is anti-sickness medicine chemically fall in *Domperidone*. It's mostly administrated for digestive tract movement and regulates the stomach ailments pain and reduced feeling of vomiting and Nausea by capturing the activity of hormones inside the brain. The Infusion R/L (Ringer's Lactate Solution) 500ml commonly called as *Sodium Lactate* and *Hartmann's solution*. It is a short linked fluid used for an electrolyte replacement in low blood pressure and blood volume and is mostly consist of sodium chloride, sodium lactate, potassium chloride and calcium chloride dissolved in water and it basically replenishes the salt and electrolyte level in the body and Acid – Base balance during the treatment. The Pladex 100ml is 5% ingredient of *dextrose* solution help in dilution of intravenous infusion and as carbohydrate.

Table 2  
COVID-19 Tested Drug on Patient CatA21 in LAB LRHP1.

Day 1– 3	Drug Type	Treatments		Dose- I	Course Time	Patient CatA21
	Infusion	Provas 100ml				
	Injection	Azithma 500mg	100ml Pladex		START	Patient CatA21
	Injection	Oxidil 1gm			START	Patient CatA21
	Injection	Gen-M 180mg	100ml Pladex		START	Patient CatA21
	Infusion R/L	500ml + Bejectal			START	Patient CatA21
	Injection					
	Tablet	Panadol Extra			START	Patient CatA21
	Syrup	Pelton – V			START	Patient CatA21
	Capsule	Vibramycin			START	Patient CatA21

It is administrated in severe pain in chest, circulation problems that causes stroke and it's a platelet inhibitor reduces chances of platelets clumping and prevention of blood.

The injection Bejectal 1Ampox10ml having composition of vitamin B6, vitamin B2, Vitamin B1, Benzyl alcohol, Nicotinamide, Sodium Sulfide, Sodium Formaldehyde Sulfoxylate and D-Sodium Pantothenate is used during vitamin B2 deficiency, diarrhea, thiamine deficiency, heart problems, eye disorder and migraine headache. Injection works by metabolizing carbohydrate thus maintains normal growth maintaining tissues of the body to prevent vitamin B2 deficiency, it help tissue in respiration and metabolism of fats, protein thus lowers blood cholesterol by inhibiting the synthesis of LDL; producing antibodies and hemoglobin by keeping blood sugar level in normal range; preventing lice from breathing. The antibiotics Vibramycin (*Doxycycline*) 100mg capsule commonly called *tetracycline antibiotics* it help us in treatment of several bacterial infection and prevention of malaria mainly it stop bacterial growth and bacterial infections such as gonorrhea, gum-disease (periodontitis), blemishes, bumps, Chlamydia and urinary tract infections. So after proper experimental analysis these medications is might help in course of treatment for corona-virus 2019 and is easily accessible in market to used as a first dose during symptoms of corona-virus (COVID-19).

Table 3  
COVID-19 Tested Drug on Patient CatB20 in LAB AMCMDN2.

Day 1– 3	Drug Type		Treatments			
	Infusion	Provas 100ml		Dose- I	Course Time	Patient CatB20
Injection	Azithma 500mg	100ml Pladex	- do-	START	Patient CatB20	
Injection	Oxidil 2gm		- do-	START	Patient CatB20	
Injection	Gen-M	100ml Pladex	- do-	START	Patient CatB20	
Infusion R/L	500ml + Bejectal		- do-	START	Patient CatB20	
Injection						
Tablet	Panadol Extra		- do-	START	Patient CatB20	
Syrup	Pelton – V		- do-	START	Patient CatB20	
Capsule	Vibramycin		- do-	START	Patient CatB20	

## 7. Conclusion

Finally it is concluded that these antibiotics as illustrated above possess such a great potential in emergency case treating Corona-Virus (COVID-19) pneumonia a respiratory viral infection so there consideration and further evaluation are very important to highlight its well known mechanism and actual pathway of the drug with molecular analysis.

## Declarations

### Acknowledgment

Special Thanks to all staff of Chemistry Department Government Post Graduate College Mardan for Encouragement; Mind-Mapping and Support. Especially acknowledges the Dr. Muhammad Amad Zaman LRH PESHAWAR.

### Funding Statement

Declared None.

### Conflict of interest

None

### **Research Involving Human Participants Ethical Approval:**

The research protocol was approved by Laboratory Leading Reading Hospital Peshawar (LRH), and Amad Medical Center Mardan (AMC). All procedures performed in studies involving humans were performed in accordance with the Declaration of Helsinki. All participants and/or legally authorized representatives were provided complete information about the risks and benefits of participation prior to informed consent being obtained. Subjects were made aware that results of the study would potentially be published free of any subject identifiers. We are extremely grateful to our study participants for allowing us to participate in their care, especially during the most challenging of times of great uncertainty during the COVID-19 pandemic.

### **References**



1. Paraskevis D, Kostaki EG, Magiorkinis G, Panayiotakopoulos G, Sourvinos G, Tsiodras S. Full-genome evolutionary analysis of the novel corona virus (2019- nCoV) rejects the hypothesis of emergence as a result of a recent recombination event. *Infect Genet Evol* 2020;79:104212.

---

2. World Health Organization. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). (2020-01-30) [2020-02-02].

---

3. Chen Z, Nakamura T. Statistical evidence for the usefulness of Chinese medicine in the treatment of SARS. *Phytother Res* 2004;18(7):592-4.

---

4. Lai L, Han X, Chen H, Wei P, Huang C, Liu S, et al. Quaternary structure, substrate selectivity and inhibitor design for SARS 3C-like proteinase. *Cur Pharm Des* 2006;12(35):4555-64.

---

5. Wang SQ, Du QS, Zhao K, Li AX, Wei DQ, Chou KC. Virtual screening for finding natural inhibitor against cathepsin-L for SARS therapy. *Amino Acids* 2007;33 (1):129-35.

---

6. Kesel AJ. Synthesis of novel test compounds for antiviral chemotherapy of severe acute respiratory syndrome (SARS). *Curr Med Chem* 2005;12 (18):2095-162.

---

7. Wu CY, Jan JT, Ma SH, Kuo CJ, Juan HF, Cheng YS, et al. Small molecules targeting severe acute respiratory syndrome human coronavirus. *Proc Natl Acad Sci U S A* 2004;101(27):10012-7.

---

8. Liu B, Zhou J. SARS-CoV protease inhibitors design using virtual screening method from natural products libraries. *J Comput Chem* 2005;26(5):484-90.

---

9. Hoever G, Baltina L, Michaelis M, Kondratenko R, Baltina L, Tolstikov GA, et al. Antiviral activity of glycyrrhizic acid derivatives against SARS-coronavirus. *J Med Chem* 2005;48(4):1256-9.

---

10. Li SY, Chen C, Zhang HQ, Guo HY, Wang H, Wang L, et al. Identification of natural compounds with antiviral activities against SARS-associated coronavirus. *Antiviral Res* 2005;67(1):18-23.

---

11. Chen L, Li J, Luo C, Liu H, Xu W, Chen G, et al. Binding interaction of quercetin- 3-b-galactoside and its synthetic derivatives with SARS-CoV 3CL(pro): structure-activity relationship studies reveal salient pharmacophore features. *Bioorg Med Chem* 2006;14(24):8295-306.

---

12. Park JY, Yuk HJ, Ryu HW, Lim SH, Kim KS, Park KH, et al. Evaluation of polyphenols from *Broussonetia papyrifera* as coronavirus protease inhibitors. *J Enzyme Inhib Med Chem* 2017;32(1):504-15.

13. Bhoj VG, Chen ZJ. Ubiquitylation in innate and adaptive immunity. *Nature* 2009;458(7237):430-7.

---

14. Bhoj VG, Chen ZJ. Ubiquitylation in innate and adaptive immunity. *Nature* 2009;458(7237):430-7.

---

15. Mukherjee P, Shah F, Desai P, Avery M. Inhibitors of SARS-3CLpro: virtual screening, biological evaluation, and molecular dynamics simulation studies. *J Chem Inf Model* 2011;51(6):1376-92.

---

16. Li W, Moore MJ, Vasilieva N, Sui J, Wong SK, Berne MA, et al. Angiotensin-converting enzyme 2 is a functional receptor for the SARS coronavirus. *Nature* 2003;426(6965):450-4.

---

17. Wen CC, Kuo YH, Jan JT, Liang PH, Wang SY, Liu HG, et al. Specific plant terpenoids and lignoids possess potent antiviral activities against severe acute respiratory syndrome coronavirus. *J Med Chem* 2007;50 (17):4087-95.

---

18. Ryu YB, Park SJ, Kim YM, Lee JY, Seo WD, Chang JS, et al. SARS-CoV 3CLpro inhibitory effects of quinine methide triterpenes from *Tripterygium regelii*. *Bioorg Med Chem Lett* 2010;20(6):1873-6.

---

19. Park JY, Kim JH, Kim YM, Jeong HJ, Kim DW, Park KH, et al. Tanshinones as selective and slow-binding inhibitors for SARS-CoV cysteine proteases. *Bioorg Med Chem* 2012;20(19):5928-35.

---

20. Park JY, Kim JH, Kwon JM, Kwon HJ, Jeong HJ, Kim YM, et al. Dieckol, a SARS-CoV 3CL(pro) inhibitor, isolated from the edible brown algae *Ecklonia cava*. *Bioorg Med Chem* 2013;21(13):3730-7.

---

21. Song YH, Kim DW, Curtis-Long MJ, Yuk HJ, Wang Y, Zhuang N, et al. Papain-like protease (PLpro) inhibitory effects of cinnamic amides from *Tribulus terrestris* fruits. *Biol Pharm Bull* 2014;37(6):1021-8.

---

22. Park JY, Ko JA, Kim DW, Kim YM, Kwon HJ, Jeong HJ, et al. Chalcones isolated from *Angelica keiskei* inhibit cysteine proteases of SARS-CoV. *J Enzyme Inhib Med Chem* 2016;31(1):23-30.

---

23. Shen L, Niu J, Wang C, Huang B, Wang W, Zhu N, et al. High-throughput screening and identification of potent broad-spectrum inhibitors of coronaviruses. *J Virol* 2019;93(12):e00023-e119.

---

24. Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 2020 [Epub ahead of print].

25. Amir Hassan & Himayat Ullah 2019. Antibacterial and Antifungal Activities of the Medicinal Plant *Veronica biloba*. *Journal of Chemistry*, 2019, 7.

---

26. Amir Hassan, Zakarya Akmal, and Himayat Ullah 2020. The Phytochemical Screening and Antioxidants Potential of *Schenoplectus Triqueter* L Palla. *Journal of Chemistry*, 2020.

---

27. Hu W, Fu W, Wei X, Yang Y, Lu C, Liu Z. A network pharmacology study on the active ingredients and potential targets of *Tripterygium wilfordii* Hook for treatment of rheumatoid arthritis. *Evid Based Complement Alternat Med* 2019;2019:5276865.

---

28. Amir Hassan 2020. Traditional Chinese Herbal Medication for CORONA-VIRUS 2019. *Journal of Travel Medicine and Infectious Disease*, 36, 2020, 1-2