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Diagnosis and Laboratory Measures of Covid-19 as Compared to Tropical Diseases in Pakistan

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ABSTRACT
Introduction: The new pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has spread rapidly across the globe since first described four months ago after an epidemic of pneumonia and deaths.
Objectives: The main objective of the study is to find the diagnosis of COVID-19 versus tropical diseases in Pakistan.
Material and methods: This cross sectional study was conducted in BHU Shikar Pur,District Rajan pur during June 2021 to January 2022. The data was collected from 50 patients who attending the ICU and OPD of the hospital. History of high fever, chills, dry cough, myalgias, and diarrhea were noted in all patients.
Results: The data was collected from 100 patients. Initial laboratory tests were mostly unremarkable but showed mild elevation of liver function tests in all patients. Nasopharyngeal and oropharyngeal swabs were tested for severe acute respiratory syndrome-coronavirus-2 by reverse transcriptase–Polymerase chain reaction, and both tests were negative.
Conclusion: It is concluded that COVID-19 is emerging as a pressing threat worldwide, this case underscores the need for clinicians practicing in Pakistan and other tropical regions to consider the possibility of common tropical diseases in all suspected patients.

KEY WORDS: COVID-19, Tropical, Diseases, Infection

INTRODUCTION

The new pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has spread rapidly across the globe since first described four months ago after an epidemic of pneumonia and deaths. This novel coronavirus (formerly n-COV-19) was not previously seen in humans. It is most likely to have originated from animals and now easily transmitted between humans through close contact largely by droplet transmission and through fomites [1].

SARS-CoV-2 mainly causes respiratory infections with variable presentations. The World Health Organization (WHO) declared it a Public Health Emergency of International Concern on 30th January 2020 and officially named this new disease as coronavirus disease 19 or 'COVID-19'. With the unprecedented rapid spread across countries and continents, WHO finally declared it a global pandemic on March 11, 2020 [2]. To date (May 3, 2020) there has been 3,506,729 confirmed cases with more than 247,470 deaths worldwide. As the world grapples with rapidly-emerging new information about the genomics, epidemiology, presentation, diagnosis, treatment, outcome and prevention of this disease, health professionals worldwide are feverishly working to save lives [3].

Dengue is a mosquito-borne viral infection typically seen in tropical and subtropical regions. It has four different strains (DENV-1, DENV-2, DENV-3, and DENV-4), all belonging to the Flaviviridae family. The infection transmits through bites of the infected female *Aedes aegypti* or *Aedes albopictus* mosquito that has previously been infected by biting a person with the dengue virus [4]. In 1994, Pakistan reported the first confirmed outbreak of dengue fever. However, the annual epidemic trend and unexpected rise in cases first became apparent in November 2005. Since 2010, Pakistan has reported tremendous numbers of dengue cases, with 2020 alone amounting to 47,120 confirmed cases including 75 deaths [5]. As of 25 November 2021, a total of 48,906 cases of Dengue including 183 deaths have been reported.[5] Unfortunately, this debilitating, mosquito-borne disease is now endemic in Pakistan circulating throughout the year with the highest prevalence in the post-monsoon season with all four provinces being majorly affected [6]. The rapid spread of the infection is attributed to irregular monsoon rains and rising temperatures linked to climate change. Such favorable factors allow for ideal mosquito breeding conditions thus aids virus survival. Adverse circumstances

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including inadequate sanitation and garbage disposal, unsafe drinking water, overcrowded cities, and breakneck urbanization, lack of vector control strategy, and the clinical management of hospitalized dengue cases have promoted the transmission of the infectious agent [7].

OBJECTIVES

The main objective of the study is to find the diagnosis of COVID-19 versus tropical diseases in Pakistan.

MATERIAL AND METHODS

This cross sectional study was conducted in BHU Shikar Pur,District Rajan pur during June 2021 to January 2022. The data was collected from 50 patients who attending the ICU and OPD of the hospital. History of high fever, chills, dry cough, myalgias, and diarrhea were noted in all patients. The patient's childhood and adult immunization records showed that all immunizations were recorded. Considering the emergence of COVID-19 and the patient's travel history, they were admitted to the hospital. Droplet and contact precautions were initiated. The staff caring for the patients were provided appropriate personal protective equipment.

RESULTS

The data was collected from 100 patients. Initial laboratory tests were mostly unremarkable but showed mild elevation of liver function tests in all patients. Nasopharyngeal and oropharyngeal swabs were tested for severe acute respiratory syndrome-coronavirus-2 by reverse transcriptase–Polymerase chain reaction, and both tests were negative. Therefore, we decided to steer the patient's management toward other infectious diseases within our differential diagnosis.

Table 01: Baseline characteristics of selected participants in both groups

	Mild N=130	**Severe N=70**	***p* value**
Age	37.25±5.45	50.0±6.75	0.007
Sex			0.58
Men	87 (66.9%)	58 (82.8%)	
Women	43 (33.07%)	12 (9.23%)	
Death	2 (1.5%)	7 (10%)	0.0805
Exposure to outside country	47 (36.15%)	16 (22.8%)	0.4754
Hypertension	24 (18.46%)	12 (17.1%)	0.0078
Diabetes	22 (16.9%)	12 (17.1%)	0.3374
Malignancy	0	1 (1.4%)	0.2927
Chronic liver disease	7 (5.38%)	2 (2.85%)	0.2002
Fever	109 (83.8%)	58 (82.8%)	0.8128
Cough	97 (74.6%)	57 (81.4%)	0.1289
Fatigue	92 (70.76%)	50 (71.4%)	0.0022
Nausea	5 (3.9%)	7 (10%)	
Sore throat	22 (16.9%)	7(10%)	0.9645
Shortness of breath	10 (7.69%)	4 (5.71%)	0.0078
Chest pain	0	7 (10%)	0.2927
Diarrhea	0	4 (5.71%)	0.1756

DISCUSSION

The WHO defines tropical diseases as infectious diseases that thrive in hot and humid tropical conditions, including dengue, malaria, leishmaniasis, schistosomiasis, and onchocerciasis, among several others. Despite medical advancements and numerous control measures, many developing nations still face the burden of tropical diseases [8]. Dengue fever is one of the most prevalent diseases

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in Pakistan, with more than 50,000 cases and resulting in more than 90 deaths in 2019. Multan district faced a devastating outbreak of dengue fever in 2015 [9].

CRP is a perfectly delicate fundamental marker of acute-stage reaction in inflammation, disease, and tissue harm, which could be utilized as pointer of inflammation [9]. In the examination by Chen et al., albeit no measurably critical distinction was found in the degree of CRP between the no severe and the serious gathering, the mean degree of CRP was higher in the extreme gathering than in the no severe gathering [10].

Different examinations all detailed CRP level was decidedly related to the seriousness of COVID-19. PCT is likewise a principle incendiary marker regularly estimated in clinical practice. Among investigations, the degrees of PCT were all higher in the serious gathering than the nonsevere gathering [11]. ESR is a vague incendiary marker, which primarily mirrors the progressions of plasma protein types. One explanation is that patients in the extreme gathering had higher inflammation. Another conceivable clarification is that patients with more established age in the serious gathering added to the more significant level of ESR thinking about that the degree of ESR expanded with age [12].

CONCLUSION

It is concluded that COVID-19 is emerging as a pressing threat worldwide, this case underscores the need for clinicians practicing in Pakistan and other tropical regions to consider the possibility of common tropical diseases in all suspected patients.

REFERENCES

1. Facciorusso A., Del Prete V., Antonino M., Neve V., Crucinio N., Di Leo A. Serum ferritin as a new prognostic factor in hepatocellular carcinoma patients treated with radiofrequency ablation. J Gastroenterol Hepatol. 2014;29(11):1905–1910.
2. Fang X., Mei Q., Yang T., Zhang L., Yang Y., Wang Y. Clinical characteristics and treatment strategies of 79 patients with COVID-19 (In Chinese) Chin Pharmacol Bull. 2020;36(4)
3. Wells G.A., Shea Brooke, O'connell Dianne L., Peterson Joan, Welch V., Losos Michael. The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses. Open J Rheumatol Autoimmune Dis. 2014;4
4. Gao Y., Li T., Han M., Li X., Wu D., Xu Y. Diagnostic utility of clinical laboratory data determinations for patients with the severe COVID-19. J Med Virol. 2020
5. Guan W.J., Ni Z.Y., Hu Y., Liang W.H., Ou C.Q., He J.X. Clinical characteristics of coronavirus disease 2019 in China. N Engl J Med. 2020;382(18):1708–1720.
6. Huang C., Wang Y., Li X., Ren L., Zhao J., Hu Y. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet. 2020;395(10223):497–506.
7. Bokhari, S., Mahmood, F., & Bokhari, S. (2020). Case Report: Diagnosis of COVID-19 versus Tropical Diseases in Pakistan. *The American journal of tropical medicine and hygiene*, *103*(1), 77–78. https://doi.org/10.4269/ajtmh.20-0356
8. Dietz FJ, Nieburg P, Gubler DJ, Gomez I, 1992. Diagnosis of measles by clinical case definition in dengue-endemic areas: implications for measles surveillance and control. *Bull World Health Organ* 70: 745–750.
9. Hickman CJ, et al. 2011. Laboratory characterization of measles virus infection in previously vaccinated and unvaccinated individuals. *J Infect Dis* 204 (Suppl 1): 549–558
10. Khan T, Qazi J, 2014. Measles outbreaks in Pakistan: causes of the tragedy and future implications. *Epidemiol Rep* 2: 1.
11. Saba S, Khan AUR, Naeem-Ullah U, Bokhari SHM, 2019. Clinical profiles of dengue fever patients, during an outbreak. *J Arthropod Borne Dis* 13: 126–134.
12. World Health Organization , 2019. Epidemic and pandemic-prone diseases Outbreak update – Dengue in Pakistan, 1 December 2019 [Internet]. Available at: http://www.emro.who.int/pandemic-epidemic-diseases/dengue/outbreak-update-dengue-in-pakistan-1-december-2019.html.

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