

Thrombocytopenia and Coagulopathy in COVID-19 Manifesting as Upper Gastrointestinal Bleed and Epistaxis

Erum Shakeel*, Noor Baig and Sohaib Haider Hashmi

Department of Emergency Medicine, Aga Khan University Hospital, Karachi, Pakistan

***Corresponding author:** Damtew Solomon, Resident Emergency Medicine, Department of Emergency Medicine, Aga Khan University Hospital, Karachi, Pakistan, Tel: +92321-8728608; E-mail: erum.shakeel@aku.edu

Received: June 12, 2023; **Accepted:** June 27, 2023; **Published:** July 04, 2023

Abstract

COVID-19 is an acute febrile illness, and the common manifestations are cough, flu, and fever. COVID19 infection with severe thrombocytopenia and coagulopathy is a rare life-threatening presentation. We are presenting a case of a gentleman in 20's with history of positive animal contact, who presented to emergency department (ED) with history of fever of more than a week and nasal bleed. Relevant examination showed unstable vitals, anterior nasal packing in place, left lower zone crackles and ongoing black stool. Laboratory workup revealed bicytopenia with platelet count of (6×10^9), low hemoglobin, deranged INR, low fibrinogen levels. The patient was managed for viral hemorrhagic fever leading to disseminated intravascular coagulation (DIC). He was managed with antipyretics, antibiotics. resuscitated with blood products, admitted to inpatient facility. His blood counts started improving favoring the possibility of thrombocytopenia secondary to viral illness, and later discharged in stable condition. COVID-19 is acute viral infection. Any patient with fever and bleeding should be kept on high suspicion for other viral illness as well. Treatment approach can be conservative. Thrombocytopenia and coagulopathy with 2 organ bleeds is the first case reported to the best of our knowledge.

1. Introduction

COVID-19 started in 2019, three months later the infection labelled as pandemic by WHO. It has had a huge impact on every single aspect of life. Since then, it has changed many aspects of diagnostic as well as management approach to patients in hospital settings and testing for COVID-19 has become an integral part of screening of patient coming to hospital. Most of the patients infected with COVID-19 are asymptomatic or either have fever and respiratory symptoms but GI symptoms have been seen commonly [1]. COVID-19 related coagulopathy at once has a major diagnostic aid in terms of predicting thromboembolic

Citation: Shakeel E, Baig N, Hashmi SH. Thrombocytopenia and Coagulopathy in COVID-19 Manifesting as Upper Gastrointestinal Bleed and Epistaxis. Clin Case Rep Open Access. 2023;6(3):261.

©2023 Yumed Text.

events same way it has prognostic implication as well. Reports by Huang C et al, Tang N et al showed that non survivors developed significantly higher D-dimer and FDP levels, longer PT and aPTT compared with survivors at admission [2].

The pathophysiology of epistaxis secondary to COVID-19 infection is difficult to understand but postulated mechanisms is being nasal epithelial cells that demonstrate the highest expressions of the SARS-CoV-2 receptor, and chronic inflammation secondary to rhinosinusitis [3].

The homeostatic defects seen most commonly in COVID-19 infections are excessively raised D-Dimer, prolonged prothrombin time PT while prolonged aPTT seen less frequently and fibrinogen levels can be normal or high [4].

In our case report we are presenting a case of a patient with 2 organ bleeds as a manifestation of COVID-19 as low platelets and coagulopathy as an identifiable cause and managed conservatively.

2. Case Presentation

Here is a case of a gentleman in 20's now with complaints of fever for 7 days and nasal bleed for 1 day. Clinical examination revealed young male who is tachycardiac, borderline low blood pressure. Physical examination showed left lower zone chest crackles, absence of abdominal visceromegaly and rash. The patient was resuscitated with blood products owing to the low hemoglobin and deranged INR and low platelets. His nasal bleed was stopped but GI bleeding was ongoing, so gastroenterology team taken onboard for the possible need of endoscopy but the patient maintained vitals and ongoing bleed stopped after blood products so conservative management approach applied on him helped in recovery and patient admitted in inpatient facility for further management.

3. Investigations

HGBg/dl	8.5	8.3	8.7	8.9	8.8	8.7	9.2
HCT%	25.6	24.3	26.5	26.5	25.3	24.6	27.1
MCV	84.5	83.8	84.9	83.9	81.9	81.7	79.9
WBC	6.5	6.7	6.6	10.4			8.3
NEUTRO	44.8	33.1	41.4	52.5			58.2
LYMPHO	40.9	52.9	46.7	40.8			37.7
PLT×109/L	106		39	24	35	28	6

PTT sec	12.2	17.0
INR	1.2	1.7
APTTTsec		27
DIDmg/L		3.7
Dengue IgM Antibody and DAG		Not detected
FDP		>5Ug/ml
FLT		120 mg/dl (156-400)
CCHF		Negative
ICTMA		Negative

4. Differential Diagnosis

The patient with acute febrile illness with two organs bleeding the important differential we thought were dengue fever, malaria, CCHF, hepatotropic viral infection and hematological malignancy. Since patient platelets started improving as days of illness passed so possibility of immune mediated thrombocytopenia was our differential as well.

5. Treatment

The patient was treated symptomatically, initially he was transfused platelets and pack cells and FFPs. Hemoglobin was static despite transfusion and for ongoing lower GI bleed, gastroenterology (GI) team was taken onboard, and patient was taken on proton pump inhibitor infusion. Antibiotic coverage for pneumonia was also given.

6. Outcome and Follow Up

He was admitted to inpatient facility, his platelets started improving, INR improved, hemoglobin was static without ongoing bleeding, he later discharged in stable condition with follow up in clinic.

7. Discussion

Pakistan is one of the developing countries to be endemic in communicable disease. Gastrointestinal bleeding in patients infected with covid 19 have different postulated mechanisms like corticosteroid use, especially among those who are hospitalized and on mechanical ventilation, use of antithrombotic agents, abnormal coagulation profiles, low platelets are well-established risk factors for GI bleeding in critically ill patient [5]. Patients presenting with potential life threatening bleeding are the ones that need aggressive treatment both in terms of early resuscitation and cause identification for definitive

management. In study done in 2021, COVID-19 related deaths were mostly attributable to multi organ dysfunction and secondary bacterial infection [6] but mortality secondary to isolated GI bleeding is still under study and should be considered and pre-empt early before this can lead to irreversible outcomes.

8. Conclusion

There is no high-quality evidence regarding the association between thrombocytopenia, coagulopathy and COVID-19. This case report may help to be a stepping stone for researchers around the world to design robust studies to explore such associations and the role of antiviral in patients presenting with life threatening non respiratory manifestation of COVID-19.

9. Declaration

9.1 Ethical approval and consent of participants

Approval for publication will be taken from Ethical Review Committee of Aga Khan University Hospital, Karachi, Pakistan. Written informed consent was obtained from the patient's attendant.

REFERENCES

1. Grant MC, Geoghegan L, Arbyn M, et al. The prevalence of symptoms in 24,410 adults infected by the novel coronavirus (SARS-CoV-2; COVID-19): A systematic review and meta-analysis of 148 studies from 9 countries. *PloS one*. 2020;15(6):e0234765.
2. Tang N, Li D, Wang X, et al. Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia. *J Thromb Haemost*. 2020;18(4):844-7.
3. Xu H, Zhong L, Deng J, et al. High expression of ACE2 receptor of 2019-nCoV on the epithelial cells of oral mucosa. *Int J Oral Sci*. 2020;12(1):8.
4. Levi M, Iba T. COVID-19 coagulopathy: is it disseminated intravascular coagulation? *Intern Emerg Med*. 2021;16(2):309-12.
5. Krag M, Perner A, Wetterslev J, et al. Prevalence and outcome of gastrointestinal bleeding and use of acid suppressants in acutely ill adult intensive care patients. *Intensive Care Med*. 2015;41(5):833-45.
6. de Roquetaillade C, Bredin S, Lascarrou JB, et al. Timing and causes of death in severe COVID-19 patients. *Crit Care*. 2021;25(1):224.