

β-Thalassemia Major and Coronavirus-19, Mortality and Morbidity:**A Systematic Review Study**

Hemoglobin, 45:1, 1-4

Background & Objectives: β-Thalassemia (β-thal) is the most prevalent inheritable disease in the world. the COVID-19 pandemic represents a significant challenge for haemoglobinopathy patients, their families and their attending physicians. The objective of this systematic review study was to determine mortality and morbidity of infected β-thal patients with coronavirus disease 2019 (COVID-19).

Methods:The search in PubMed, Elsevier, and Scholar Google was done to obtain related papers. The time of search was 21 June until 17 July 2020. All original and review articles and case reports were searched with key words: COVID 19, beta or β-thalassemia (β-thal), mortality and morbidity. Data were extracted after quality assessment of all articles. They obtained seven, 21 and six articles from PubMed, Scholar Google and Science Direct, respectively. Finally, seven articles were discussed in the study.

ACADEMIC P.E.A.R.L.S**P**ediatric **E**vidence **A**nd **R**esearch **L**earning **S**nippet**Celebrating International Thalassemia Day (ITD) : 8th May 2021**

Results: The number of patients in each article was 1–15 (total: 34). Most of the patients were female (33). Six patients were NTDT(non transfusion dependent thalassemia) and 26 patients were TDT(transfusion dependent thalasemia). Twenty-four patients had splenectomy and one patient had pulmonary hypertension. The reported prevalence of COVID-19 in thalassemia patients was 8.17/10,000 vs. 11.01/10,000 in the general population. The most prevalent clinical symptoms were fever, cough, pain and dyspnea. Most of the patients recovered, nine patients died.

Conclusion:

- Subjects with blood group A were a higher risk, while subjects with blood group O were associated with a lower risk for this infection.
- Clinical manifestations range from asymptomatic to severe pneumonia and respiratory failure. Hospitalization rate was higher in people with advanced age.
- Chronic associated conditions high iron overload, heart failure, pulmonary hypertension and diabetes are susceptible to increase mortality of COVID-19.
- Splenectomy was not significantly associated with the fatal outcome.
- Viral RNA has been detected in plasma or serum of infected patients, but data do not suggest the risk of infection via blood transfusion. Certain international organizations have suggested deferral of blood donation for 3 weeks after testing positive or 1 month after symptoms of infected cases

Key message: Prevalence of Covid 19 in thalassemia patients is not higher compared to general population , however morbidity and mortality is high in infected patients especially those having associated conditions like diabetes , pulmonary hypertension, heart disease and high iron overload.

EXPERT COMMENT

“COVID-19 pandemic represents a significant challenge for haemoglobinopathy patients, their families and their attending physicians. Also, restriction of human mobility and fear of COVID-19 infection has put thalassemia patients in a life-threatening situation because of an acute shortage of blood supply. Physicians and centres should come up with measures and strategies to deal with the issues faced by the patients at local level and should triage the care as per the risk and associated comorbidities in infected patients .”

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With warm regards,

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