# Management of Benign Hematological Disorders during COVID-19 Pandemics

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## Immune thrombocytopenia (ITP):

Visits to clinics should be minimized as much as possible. General measures of self-isolation, hand hygine and shielding with masks are necessary.

Adult, newly diagnosed patienst can be treated with IVIG or eltrombopag. IVIG should be considered for fast response. Tranexamic acid can be considered for bleeding patients, but for those patients with COVID-19 positivity, avoiding its use would be more rationale in order not to increase virus associated thrombophilia risk.

Patients with chronic ITP who are on low-dose immune suppressant treatment (IST) may continue their treatment. The patients who are on high-dose IST might be considered for transition to a TPOmimetic agent and/or IVIG. Chronic ITP patients may continue to their existing therapies in case that they are stable. On the other hand, rituximab would be better if avoided.

If a patient with ITP becomes SARS-CoV-2 positive, IVIG will be the treatment of choice for those with platelet counts below 10-20 000/$mm^3$. Patients with major bleeding can be treated with platelet transfusions. Patients with splenectomy who are SARS-CoV-2 positive and has fever, should be considered for antibacterial treatment initiation, since bacterial superinfection in COVID-19 is common. The patients should be considered individually for the initiation anti-coagulation.

**Sickle cell anemia:**

COVID-19 infection and acute chest syndrome have clinical and radiological similarities. Fever, chest pain and cough is encountered in 34%, 96% and 42% of acute chest syndrome attacks, respectively. Wheras, these complaints are encountered in 82-87%, 5-10% and 36-65% of COVID-19 infections, respectively. On the other hand, pulmonary consolidations and ground-glass appearances are possible in both conditions on radiological examinations. These lesions are more localized in acute chest syndorme, wheras more spread in COVID-19 and in any patient with sickle cell disease and suspected acute chest syndrome, thorax CT and swab test for SARS-CoV-2 should be ordered.

The patients who are on transfusion programme should continue with subgroup compatible transfusions in order to prevent alloimmunizations. In case of blood supply issues, initiation of hydroxyurea may be considered. The patients who are already on hydroxyurea may continue on this treatment.

Hamatopoietic stem cell transplantation (HSCT) and gene therapies would be better if delayed during this time.

The patiets with vaso-occlusive crises, who have no fever may start to take their analgesics at home and if no response may come to the hospital .

If a patient with sickle cell anemia has fever, testing for COVID-19 needs to be done in addition to blood cultures. Isolation should continue till COVID-19 test results are available and standard treatment of fever in sickle cell patients should be started. If COVID-19 test is negative, out-patient treatment may be considered, if possible.

Patients with sickle cell anemia, have higher risk to have co-morbidities such as pulmonary hypertention and asthma, conditions that may complicate COVID-19 infection.

**Thalassemia:**

There is no data about SARS-CoV-2 transmission through transfusion. Blood donations should be encouraged during the pandemics in order to prevent blood shortage.

Patients should continue their iron chelation treatments. If patients become positive for SARS-CoV-2 infection, in those patients with moderate to severe infection course, it is suggested to stop iron chelation treatment.

Patients with splenectomy who are SARS-CoV-2 positive and has fever, should be considered for antibacterial treatment initiation, since bacterial superinfection in COVID-19 is common.

If a thalassemia patient becomes critically ill due to COVID-19, possible adrenal insufficiency and initiation of steroids should be considered. On the other hand, potential risk of slowing of viral clearance by steroids must be taken into account.

The patients who are on luspatersept may continue their therapies.

HSCT and gene therapies would be better if delayed during this time.