Bleeding news



Treating periprocedural bleeding in patients with cirrhosis

Antoni Sabate, Ecaterina Scarlatescu

PMID: 38281228 PMCID: PMC10961284 DOI: 10.1007/s11239-023-02941-4

Author of the comment: *Dra. Raquel Ferrandis Comes.* Anesthesiology and Resuscitation. Hospital Universitari iPolitècnic La Fe, Valencia. Member of the SEDAR-COVID working group.

Reduced levels of factors, both coagulation factors and anticoagulants produced in the liver, in cases of liver failure, lead cirrhotic patients to a situation difficult to balance, with an increased thrombotic and bleeding risk. Additionally, the most advanced cases include low platelet count, in different degrees. It is hard to assess this situation with lab tests, and so viscoelastic tests (VETs) can play a significant role. In this context, the authors offer, as an expert opinion, a perioperative—and peri-transplant—bleeding management based on the principles of Patient Blood Management (PBM).

In the preoperative assessment of cirrhotic patients, the medication is considered, as well as any comorbidities that may appear and be potentially optimised. The platelet count and lab coagulation values must also be known at baseline, even though they are not predictive of bleeding. A significant factor in the bleeding of cirrhotic patients is portal hypertension, which should always be assessed in the preoperative setting, particularly in surgeries or procedures with a high bleeding risk. In this regard, prophylactic correction of the coagulopathy with frozen fresh plasma is not recommended—on account of the volume overload it can cause. Additionally, in order not to increase portal pressure, the patient benefits from a strongly controlled fluid therapy—restrictive, yet not hypovolemic,—as well as a restrictive transfusion with hemoglobin thresholds of 7-8 g/dl, during the whole procedure. Current guidelines recommend preoperative optimisation of anemia (iron, folic acid, B6, B12)

However, there are individual recommendations to assess VET and consider correcting the platelet count or fibrinogen, or the supply of factor concentrate, according to procedure, since it has proven to decrease further need for transfusion. In fact, it is recommended to base the management of bleeding, both during and after surgery, on VET, which also studies fibrinolysis. Routine use of antifibrinolytic agents is not recommended—only in cases of bleeding with clinically-suspected or VET-diagnosed hyperfibrinolysis.

Regarding liver transplant, hemostasis must be assessed through VET, ideally at baseline, after reperfusion and before would closure, as well as if there is bleeding and after administering the treatment. Close monitoring of hemostasis will be maintained after surgery due to the risk of bleeding, thrombosis, liver dysfunction. As discussed, a careful management strategy of the patient's volemia should be adopted, avoiding overload and congestion, yet ensuring optimal hemodynamics and perfusion, maintaining hemoglobin levels around 7-8 g/dl.







In conclusion, cirrhotic patients require close monitoring of hemostasis—if possible, through viscoelastic tests, with which transfusions have been significantly reduced. However, higher-quality studies are required to base recommendations for the management of anemia and bleeding in this scenario.

