

Letter to Editor

Central Line Insertion and Thrombocytopenia...A Dilemma

Sir,

Presence of thrombocytopenia is always a contraindication for central venous line placement. A 65 year old man with history of intermittent fever, diarrhea and vomiting, and with decreased urine output since one day, presented to our intensive care unit. He was a known case of hypertension and ischemic heart disease on treatment with clopidogrel, aspirin and telmisartan. On presentation, patient was conscious and oriented, febrile, his pulse rate was 90 per min and blood pressure was 100/60 mm of Hg. Chest auscultation revealed scattered fine crepitations in bilateral basal lung fields and SpO₂ of 75% at room air which increased to 92% with 10 lts. O₂/min by face mask, while cardiovascular and other system examination was unremarkable. Blood investigations showed elevated total counts with blood urea of 137 mg/dl, serum creatinine - 3.6 mg/dl, Na⁺ - 142 mEq/L, K⁺ - 5 mEq/L and hyperbilirubinemia without elevated liver enzymes. However, platelet count was 15000/ cu mm with prothrombin time of 18.6 sec with INR being 1.28. Ultrasound abdomen revealed cholelithiasis with cholecystitis and grade III nephropathy. Echocardiography showed regional wall motion abnormalities with ejection fraction of 45%. Chest X ray revealed bilateral diffuse opacities. He was started on broad spectrum antibiotics, nor adrenaline infusion, and titrated amounts of intravenous fluids. 4 units of fresh frozen plasma and 4 units of platelets were transfused to correct coagulation parameters. Patient's renal function (B. urea - 291 mg/dl, serum creatinine - 5.6 mg/dl, Na⁺ - 133 mEq/L, K⁺ - 5.3 mEq/L) and mentation started deteriorating, and there was worsening of acidosis. The need for dialysis was explained to the patient's relatives. Platelet count had increased to 19000/ cu mm, and prothrombin time was 14.5 sec with INR of 1.14. Under strict asepsis, right internal jugular vein was cannulated with 11.5 Fr, 13.5 cm double lumen dialysis catheter (Mahurkar™, Coviden, Costa Rica) under ultrasound guidance and haemodialysis was started. Following one setting of haemodialysis, there was reduction in blood urea and serum creatinine, but patient had to be intubated due to deterioration of lung function. After a day of dialysis and ventilation patient

started showing signs of recovery. However, the patient's attenders wanted to shift the patient to another center due to financial constraints.

In a systematic review, the incidence of minor bleeding complications following central line insertion was found to be 0 to 18.6% without pre-procedure correction of haemostatic disorders, and 0.2 to 20% with pre-procedure correction of haemostatic disorders¹.

The level of platelet count to ensure safe placement of central vein catheter without bleeding complications is still a controversy, with threshold varying from 10,000/ cu mm to 50,000/cu mm². Although guidelines suggest a threshold of 50,000/ cu mm for pre-procedural platelet transfusion, the available evidence is not strong³. In a study, pre-procedural platelet transfusion with a trigger of 50,000/ cu mm failed to mount an increase in the platelet count⁴. A recent Cochrane review has found less evidence in favour of pre-procedural platelet transfusion. Further, it was observed that central line insertion was safe with platelet counts up to 20,000/ cu mm². In a retrospective analysis, thrombocytopenia was the common bleeding disorder noted and bleeding was not found to be significant even with platelet counts up to 20,000/cu mm, further the need for platelet and red blood cell transfusion was not significant in the low platelet group⁵. In an emergency situation, central vein cannulation to internal jugular vein performed by a senior experienced person is recommended when platelet counts are less than 50000/cu mm⁴. In the present scenario, it was an essential intervention to be done and hence the risk was explained to patient's relatives and procedure was done and ultrasound guidance added safety to the procedure.

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