

Angiojet mechanical thrombectomy induced intravascular hemolysis leading to hyperbilirubinemia

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Introduction: Percutaneous mechanical thrombectomy(PMT) using the Angiojet (Boston scientific, USA) is a treatment option for acute deep vein thrombosis, The AngioJet system use high velocity saline jet to eradicate thrombus. However, AngioJet PMT causes severe intravascular hemolysis and results in acute kidney injury(AKI). AKI was well known for complication of AngioJet PMT treatment, but Hyperbilirubinemia has not been reported yet. Now we report first case of transient hyperbilirubinemia due to severe intravascular hemolysis after AngioJet PMT.

Case report: A 78 year old male visited emergency room suffering from pain and swelling in left lower extremity. His leg was edematous and had cyanotic suggested deep vein thrombosis(DVT), CT venography showed thrombus at left proximal iliac vein to the common femoral vein(Fig.1). We performed inferior Vena Cava filter insertion and PMT was done. Post venography showed restored venous flow(Fig.2) and improvement of edematous lower extremity. But, Eight hours after the procedure, he complained dark red colored urine(Fig.3) and whole body jaundice. Next day, there was noted elevated AST(1440 U/L), ALT(131U/L), Total bilirubin(15.3mg/dL), Direct bilirubin(9.17mg/dL), Indirect bilirubin(6.13mg/dL), BUN(34mg/dL), Creatinine(2.0mg /dL) and LDH(5984U/L). Non-enhanced CT Abdomen image showed there is no liver parenchymal disease or biliary obstruction. 2 days later, Total bilirubin and direct bilirubin level were restored to normal range, but 8 days post procedure, his creatinine level kidney function was deteriorated to level 6.0mg/dL despite of hydration and urine alkalization. Patient's caregiver did not want to do hemodialysis, so we focused on hydration and urine alkalization, His serum creatinine level got normalized 18 days after procedure.

Conclusion: In our case, Massive intravascular hemolysis following PMT caused hyperbilirubinemia. Massive hemolysis makes excessive heme pigment and it resulted in indirect hyperbilirubinemia which triggered hepatic conjugation. This lead to elevate direct bilirubinemia. The possibility of hyperbilirubinemia should be considered when treating DVT with Angiojet.

