**Title** : Role of Hydroxyurea in Pain Management of Sickle Cell Disease Patient.

Krishna Kumar A/L Antrean

Emergency Department, Hospital Kuala Lumpur

**Introduction**

Vaso-occlusive crisis occurs when microcirculation is obstructed by sickled RBCs, causing ischemic injury to the organ, and resulting pain. We report such a case where pain management is given together with hydroxyurea.

**Case Presentation**

24 years old Nigerian gentleman with underlying history of sickle cell disease (HB analysis January 2018: homozygous Hb S presented to emergency department with high grade fever associated with severe bone pain at shin area over right lower limb for 2 days without recent history of trauma or injury. On further history, he has history of motor vehicle accident 4 years ago in Nigeria and sustained closed undisplaced right femur and tibia-fibula fracture, treated conservatively with cast and no plating. On examination abdomen is soft, no hepatosplenomegaly, and no swelling, no open wound over anterior shin of right leg with circulation intact. Adequate fluid given intravenously. For pain management regular oral morphine 2.5mg 4 hourly and oral hydroxyurea 1g once daily was given, where his pain reduced significantly. Blood investigation wise, white cell count; haemoglobin: 10.4 g/dl, platelet 637 x10^9 /L with retic count 413.7 x10^9/L(11.9%). X-ray of tibia-fibula showed malunion, periosteum reaction mid tibia with osteoporotic bone but no new fracture seen. Full blood picture showed, hypochromic microcytic anaemia with reticulocytosis, presence of target cells, boat-shaped cells, sickle cells and presence of Howell-jolly bodies. It also showed leucocytosis with lymphocytosis but no blast cells. Patient was treated as veno-occlusive crisis of right lower limb with underlying sickle cell anaemia. He referred to medical team and planned for medical ward admission.

**Discussion**

Based on studies, Hydroxyurea is a myelosuppressive agent is the only effective drug proven to reduce frequency of pain in sickle cell disease. In this case, analgesia was given together with oral hydroxyurea to reduce the symptom of pain.

**Conclusion**

This case illustrates that hydroxyurea should be given together with analgesia as a complete pain control in treatment of vaso-occlusive crisis and to reduce frequent hospitalization in sickle cell disease.