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Bloodless Management of Significantly Elevated Transcranial Doppler Velocity Value in a Jehovah's Witness Child with Sickle Cell Disease: A Tertiary Centre Experience*Nri-Ezedi CA¹, Ulası TO¹, Efobi CC², Aneke JC², Ugwu NO¹*¹Department of Paediatrics, Nnamdi Azikiwe University Teaching Hospital Nnewi²Department of Haematology, Nnamdi Azikiwe University Teaching Hospital Nnewi**Correspondence:** Dr. Efobi CC Email: chylowb@yahoo.com

Objective: To show the possibility of the management of SCD patients with significantly elevated transcranial Doppler (TCD) velocity values suggestive of a high risk of stroke.

Case Presentation: A 3-year old Jehovah's Witness male with SCD who presented with a 9-month history of elevated TCD velocities ranging between 193 and 203cm/s despite the daily intake of hydroxyurea, iron-free blood tonic and proguanil. Multiple investigations revealed neutrophil counts of approximately 3000 cells/mm³, and rising Haemoglobin F values. Exchange blood transfusion was not provided owing to the caregivers' religious convictions against blood transfusion. Following a rise in TCD value to 227cm/s, hydroxyurea dosage was increased to 30mg/kg and omega 3 supplements initiated at 1000iu twice daily. A month later, an alarming TCD value of 242cm/s was detected with elevated neutrophil count of 8670 cells/mm³. The urgent need for exchange blood transfusion was again rejected by the caregivers. On the suspicion of omega-3 induced neutrophilia and Vitamin A overdose which can lead to raised intracranial pressures, omega-3 was withdrawn and the tonic substituted with folic acid and multivitamin tablets. Hydroxyurea was further increased to 35mg/kg. Within two weeks, a repeat TCD ultrasound showed a remarkable drop in velocity to 188cm/s. The neutrophil counts also significantly declined to 3630 cells/mm³. The child is currently stable and no longer at high risk of stroke.

Conclusion: Hydroxyurea continues to play a key role in the management of stroke in SCD patients. The impact of omega 3 and blood tonics in the routine management of SCD in children require further evaluation.

Keywords: sickle cell disease, stroke, omega 3, hydroxyurea, Jehovah's witnesses Sect, transcranial Doppler, fish oil

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