Haematological Correlates of Ischemic Stroke and Transient Ischemic Attack: Lessons Learned

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Abstract : Haematological abnormalities are known to cause Ischemic Stroke or Transient Ischemic Attack (TIA). The identification of haematological correlates plays an important role in a management and secondary prevention. The objective of this study was to describe haematological correlates of stroke and their association between stroke profile. The haematological correlates screened were Lupus Anticoagulant, Dysfibroginemia, Paroxysmal nocturnal haemoglobinurea (PNH), Sickle cell disease, Systemic Lupus Erythematosis (SLE) and Myeloploriferative Neoplasms (MPN). A cross sectional descriptive study was conducted in a sample of 152 stroke patients referred to haematology department of National Hospital of Sri Lanka for thrombophilia screening. Different tests were performed to assess each hematological correlate. Diluted Russels Viper Venom Test and Kaolin clotting time were done to assess Lupus anticoagulant. Full blood count (FBC), blood picture, Sickling test and High Performance Liquid Chromatography were the tests used for detection of Sickle cell disease. Paroxysmal nocturnal haemoglobinurea was assessed by FBC, blood picture, Ham test and Flowcytometry. FBC, blood picture, Janus Kinase 2 (V617F) mutation analysis, erythropoietin level and bone marrow examination were done to look for the Myeloproliferative neoplasms. Dysfibrinogenaemia was assessed by TT, fibrinogen antigen test, clot observation and clauss test. Anti nuclear antibody test was done to look for systemic lupus erythematosis. Among study sample, 134 patients had strokes and only 18 had TIA. The recurrence of stroke/TIA was observed in 13.2% of patients. The majority of patients (94.7%) have had radiological evidence of thrombotic event. One fourth of patients had past thrombotic events while 12.5% had family history of thrombosis. Out of haematological correlates screened, Lupus anticoagulant was the commonest haematological correlate (n=16) and dysfibrigonaemia(n=11) had the next high prevalence. One patient was diagnosed with Essential thrombocythaemia and one with SLE. None of the patients were positive for screening tests done for sickle cell disease and PNH. The Haematological correlates were identified in 19% of our study sample. Among stroke profile only presence of past thrombotic history was statistically significantly associated with haematological disorders (P= 0.04). Therefore, hematological disorders appear to be an important factor in etiological work-up of stroke patients particularly in patients with past thrombotic events.

Keywords : stroke, transient ischemic attack, hematological correlates, hematological disorders
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