ID 858

Survival Analysis of Fracture Complications Following Dynamic Hip Screw Fixation of Fracture Neck of Femur: A Ten-Year Follow-up Study

CR Karunathilaka[1#], P Cool[2], PTR Makuloluwa[1], S Mendis[1], and U Banagala[3]

[1]Faculty of Medicine, General Sir John Kotelawala Defence University, Sri Lanka
[2]Robert Jones and Agnes Hunt Orthopaedic Hospital, Keele University, United Kingdom
[3]National Hospital of Sri Lanka

[#]chandana375@hotmail.co.uk

Abstract Extracapsular fracture neck of the femur (ENOF) is a common injury among elderly patients in Sri Lanka. Open reduction and surgical fixation with a Dynamic Hip Screw (DHS) are the most commonly used surgical interventions. Fracture complications and implant failures affect patient mobility and also it affects the patient's family, and society psychosocially. The literature contains minimal studies related to DHS implant failures. No follow-up studies on fracture complications and implant survival following DHS fixation for ENOF has been published in Sri Lanka. A survival analysis of fracture complications over ten years following DHS implant for ENOF and their association with DHS implant failure was studied. A descriptive longitudinal study was conducted on a cohort of patients (n=514). Fracture complications were assessed radiologically in the 2nd, 5th, and 10th postoperative years and compared between implant-failure (n= 259) and non-failure patients (n= 255). The fracture complications studied included non-union, malunion, metal loosening, over-collapsed fractures, and DHS screw cut-off. Kaplan Meier survival time analysis was done for all fracture complications. The median survival time for all fracture complications was 15 months. The median survival times in months for non-union was 7; malunion 12; metal loosening 10; over-collapsed fractures 15 and DHS screw cut off 10. The Chi-square test showed a statistically significant association between all fracture complications and implant failure ($p < 0.001$). Fracture complications following DHS implant for EFNF were positively correlated with implant failure. Over-collapsed fractures and non-union had the longest and shortest survival times, respectively. Further studies are recommended to minimize fracture complications and to improve implant survival.

Keywords: *fracture neck of femur, DHS fracture complications, implant failure*