

USE OF STEINMANN PINS AS POSTERIOR CORTICAL BLOCKADE DURING TIBIAL INTRAMEDULLARY NAILING

Kashfullah Khalid¹, Anas Yahya¹, Kee Hoe Tiong¹, Wan Mohamed Hanif Wan Osman¹, Mohamad Helmi Hamid¹, Nurul Iylni Mohamad Noor¹, Mohamad Hifzhan Arimi¹, Sharil Abd Rahim¹

¹Hospital Sultan Abdul Halim

Introduction: Intramedullary nailing (IMN) is gold standard for treatment of diaphyseal fractures of the tibia.^{1,2} Occasionally, despite the use of guidewire and reaming techniques, nail might pass posteriorly outside of the medullary canal if the posterior cortex is fractured. Several Steinmann pins were carefully applied into the posterior cortex from medial side of the upper leg to act as blockade to prevent posterior translation of the nail during fixation.

Discussion: IMN of the tibia has been preferred in fixation of simple mid-diaphyseal tibia fracture as it is minimally invasive^{1,2,3}, preserves fracture biology for promotion of bone healing^{3,4} and is load sharing device allowing for early mobilization of patients.¹⁻⁴ Certain situations such as proximal 3rd diaphyseal fractures, obese patients, and a non-intact posterior cortex poses risks of passing an IMN to the distal fracture site with acceptable reduction.^{1,2} Strategies to overcome such challenges are such as using a suprapatellar incision (intra-articular approach through fat pad)⁵, unicortical plating¹ to maintain reduction before insertion of IMN and using blocking screws/pins/wires.^{2,3,4} In this instance, several Steinmann pins were used to guide through an IMN into the distal fracture fragment as it kept coming out from a non-intact posterior cortex.

Conclusion: Anticipation of possible complexities during internal fixation such as IMN of the tibia and familiarity of reduction strategies is vital for achieving good outcomes. In worse case scenarios, IMN procedure abandonment will require open reduction and fixation via plating or external fixation.