

A RANDOMISED CONTROLLED TRIAL BETWEEN BURIED VS EXPOSED KIRSCHNER WIRES IN HAND & WRIST FIXATIONS

Ngiam Choong Jin¹, Shalimar Abdullah¹, Jamari Sapuan¹, Parminder Singh¹

¹Hospital Canselor Tuanku Muhriz

Introduction: The versatility and cost effectiveness of Kirschner wire (K-wire) has made it the commonest implant utilised in hand and wrist fixations. Presence of pin tract infections is a major concern when it comes to leaving k-wires exposed as the wrist and hand is constantly exposed to the surrounding. To the best of our knowledge our study proposes to examine infection rate in buried and exposed k-wires of only closed injuries of the wrist and hands in healthy individuals .

Methodology: This was a randomized control trial between the buried and exposed k-wire method fixation conducted in a tertiary centre in Kuala Lumpur from 1st September 2018 to 1st June 2019. The total number of k-wires included were 21 in the buried group and 20 in the exposed groups. The patients were followed-up for a total duration of three months and assessed for clinical and radiographic evidence of infection based on Modified Oppenheim classification .Patients with grade 2 and above were deemed as having infection.

Discussion: Two out of twenty one wires in the buried group developed grade 4 infection following open reduction and k-wires insertion over the left 5th metacarpal base for a closed injury while twenty wires in the exposed group were deemed not to have any significant infection. There is no significance in infection rate between both groups (P=0.15).

Conclusion: There is no clinical significance of infection rate between buried and exposed k-wires in healthy individuals with closed injuries of the wrist and hand. We recommend caution and closer observation when leaving k-wires in situ in metacarpal injuries.