Asian Journal of Pharmaceutical Technology and Innovation

Abstract

The new configuration of cannulated hip screws for the fixation of femoral neck fractures: A biomechanical study

Na takuatoong N

Sunpasitthiprasong Hospital, Ubonratchathani, Thailand

Abstract:

Femoral neck fracture is one of fracture that is frequently faced in our practice.In Pauwels 3, compression force is less but varus and shearing force is more. This cause more instability as angle of fracture line increasing.Although there is a number of studies about number, position, or direction of screws to make the strongest formation of implant to reduce the rate of fixation failure, but in the fact, there is no study that show the formation we accepted has enough strength to withstand the fixation failure especially in Pauwels 3 and osteoporosis bone.The objective of this study is to study about biomechanics of two configuration of screws that is normal inverted triangle (conventional screw fixation; CFIX), and new configuration that make biplane screw support and penetrated more calcar (Double calcar cannulated screw fixation; DCCS). The axial stiffness was significantly higher in the DCCS group than the CFIX group(1755 Newton/mm vs 1130 Newton/mm, p = 0.03). The axial failure load was significantly higher in DCCS group than the CFIX group(1040 Newton vs 815 Newton, p = 0.04). The AP stiffness was comparable in the DCCS group and the CFIX group (4.95 Nm/degree vs 4.32 Nm/degree, p = 0.08)

Biography:

Napat Na takuatoong is a fourth-year orthopedic resident in Sunpasitthiprasong Hospital, Thailand. He graduated with second-class honor in Doctor of Medicine, Chulalongkorn University. Napat has 5 years of public practice as doctor.

Webinar on Pharmaceutical Sciences; September 22, 2020; Rome, Italy

Citation: Na takuatoong N;The new configuration of cannulated hip screws for the fixation of femoral neck fractures: A biomechanical study; Webinar on Pharmaceutical Sciences; September 22, 2020; Rome, Italy