

Trochanteric Hip Fractures and SIGN Hip

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Purpose: To ensure hip function in trochanteric fractures, the anatomical reduction needs to be performed. So the different materials of bone implant such as dynamic hip screw (DHS) or proximal femoral nail (PFN) are one of the frequent choices for this kind of fracture. However, in some countries where there is a lack of this modern equipment, another material, the SIGN (Surgical Implant Generation Network) Hip Construct (SHC), also plays an essential role for the treatment of trochanteric fractures until the union of fracture side. Our objective was to report the safety profile and complication rates and to evaluate hip fracture by the using of the different types of SHC, which include standard hip nail, standard SIGN nail, and standard fin nail (using compression screws or intramedullary nail only), without C-arm and fracture traction table, and also analyze the results.

Methods: For this retrospective review of trochanteric fractures in department of neurotrauma and orthopaedic surgery from August 2015 to September 2016, 12 patients with trochanteric fractures were recruited. 7 patients were followed up by appointment or phone with a clinical and radiological complete file. 5 patients are incomplete for follow-up or lost contact. Inclusion criteria were standard hip nail, standard SIGN nail, standard fin nail, and fracture radiographs available; exclusion criterion was inadequate radiographs.

Results: During 1 year, 12 patients with trochanteric fractures in the age group of 15 to 60 years old were operated by using the SHC nail for our study. By Gustilo classification, 11 cases are closed fracture (91.63%), 1 case is open fracture (8.37%). Based on AO/OTA classification there are 1 case of A1 fracture, 8 cases of A2 fracture, and 3 cases of A3 fracture. Based on the reduction quality, the average days of bone callus is 45 days, with the longest duration being 6 months. By using Salvati and Wilson score, 7 patients have complete follow-up; 4 cases in our study were rated as excellent results, 1 was rated as good results, and 1 case was rated as poor results, which means that >90% of the results are acceptable.

Conclusion: The 3 kinds of SHS provide the early mobilization from maintaining acceptable fracture reduction until the union of fracture side. These kinds of implants can be achieved safely without an image intensifier and also gives us good stability and good function with an acceptable result. It may be good equipment for developing countries where access to fluoroscopy is limited or nonexistent.