Different treatment modalities for Femoral shaft fracture in children (literature review)

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Abstract

we reviewed 12 different studies (679) patients with total of (697) fracture ,we further gathered the information from these studies and subdivided to be discussed into four main modalities : those patients who treated by non-operative methods , plating , external fixation and finally those who treat with intramedullary nailing .

collectively patients with femur fractures that treat by :

- non operatively (223) , from them (30 patient) had shortening , (1 patient) had malalignment , and by comparing it with elastic stable intramedullary nailing , spica overall cost was higher , with less scar acceptance , and lower overall patient satisfaction .
- Plating (40 fracture) , it is studies shows that plate fixation is a reasonable treatment option for femoral fracture care in children aged less than 11 years with severe head injury or associated polytrauma , with single case had malalignment, and no infection
- External fixation (209 fracture)irritation and inflammation of surrounding soft tissue were common but those who need antibiotic was (13 patients), no one went deep to develop osteomyelitis , (10 patients) had shortening , 6 of them up to 2 cm , (5 patients) had malalignment, (4 patients) had re-fracture , (2 patients) the fracture not healed at the time of elective fixator removal, necessitating additional time in the fixator , (5 patients) had quadriceps muscle wasting , (1 patient) hip rotation limitation and (1 patient) had mild pain after 14 moth follow-up , as compared with intramedullary mailing , the time to full weight-bearing, full range of

movement and return to school were longer in those with external fixation , but those treated with formation compared with nailing .

- Intramedullary nailing (225 fracture) ,minor skin ulceration by the end of rod is common , bursitis and irritation at insertion site occur in (6 patients) , which lead to deep infection or osteomyelitis in (3 patients), all fracture were union and there is no malalignment , only (patient) had shortening >1cmsome tranisent foot drop occur in (1 patient) , other complication like quaricepes wasting (1 patient) , mild pain (1 patient) after 14 month follwup , after all the Intramedullary nailing have rapid mobilization and associated with a lower overall cost than spica casting (TXN/CST). ESIN also resulted in better scar acceptance, and higher overall parent satisfaction , Less cost and comparable clinical outcome make ESIN a better option than traditional Spica casting (TXN/CST) for femoral fracture care in the skeletally immature patient. studies also recommend the use of flexible intramedullary nailing for fractures of the femoral shaft which require surgery, and reserve external fixation for open or severely comminuted fractures , at the same time as it had .