OBJECTIVE: To identify optimal treatment for children with Monteggia fracture based on data from 128 patients.

METHODS: 128 children with Monteggia fracture were included in the study. 50 patients treated with closed treatment were fresh Monteggia fracture. 78 patients were treated by surgical operation. Of them, 30 cases were fresh Monteggia fracture, and 48 old Monteggia fracture. The surgical operation included open reduction and internal fixation. The surgical operation patients were randomly divided into two groups, i.e. groups one (n=45) and two (n=33). Group one (16 fresh fractures, 29 old fractures) was treated with a kirschner wire fixation after re-dislocation of radiohumeral without fixation of ulna fracture. Group two (14 fresh fractures, 19 old fractures) was treated by kirschner wire fixation for both radiohumeral and ulna fractures. During surgical operation, annular ligament could be repaired simply and no reconstruction needed for fresh Monteggia fractures. For old Monteggia fracture, there was no need to repair and reconstruct annular ligament. Groups one and two were treated with plaster-splint for 4-6 weeks after surgical operation.

RESULTS: All the 128 patients were followed-up completely. According to motion criteria of elbow and forearm, non-operation patients were classified as: 42 excellent, 4 good, 2 fair, and 2 poor. The effective rate was 92.0%. For the operation patients, 37 patients were rated as excellent, 5 good, 2 fair, and only 1 poor. The effective rate was 93.3% for group one. Group two, 22 excellent, 7 good, 2 fair, and 2 poor. The effective rate 87.9%.

CONCLUSIONS: Based on our data, non-operation treatment is treatment of choice for fresh Monteggia fracture in children. It should be treated with single kirschner wire fixation after open reduction of radiohumeral and applied plaster-splint for old Monteggia fractures and fresh cases who could not be closely reducted. This is a simple, safe and effective treatment for Monteggia fracture. Key words: children  Monteggia fracture  treatment  kirschner wire