

Rare Case of Type IV Capitellum Fracture

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INTRODUCTION:

Type IV capitellum fractures are rare and belong to complex articular injuries. It constitutes less than 1% of all elbow fractures. Treatment modalities vary from conservative, closed reduction and immobilization, fragment excision and open reduction and internal fixation. This is a case report of type IV capitellum fracture treated with open reduction and Herbert screw fixation.

REPORT:

Mr. MZ, 22yo Malay gentleman with no medical illness post trauma 1-month, alleged sport injuries, while playing takraw sustained type IV left capitellum fracture. Open reduction and Herbert screw fixation was done. The Herbert screw offers distinct advantages over others mode of fixation because it provides excellent compression and stable fixation at the fracture site with the least damage to articular surfaces. In biomechanical investigation, headless screw fixation such as Herbert screw was stronger than Kirschner wire or cancellous lag screw and indicated when the osteochondral fragment is large enough and consists of adequate bone to accept a screw without significant risk of iatrogenic fracture.

However, fixation with compression screws irritates the cartilage of the radial head, because the metal head protrudes from the articular surface. To avoid this problem, study by Silveri et al advocated directing screw insertion from posterior to anterior.¹ But, study done by Sano et al found it is difficult to bury the leading thread under the cartilage surface of fragments completely if the fracture fragments were small and thin, it is more reliable to insert the screws from the articular side to the posterior especially with Herbert screw.² More study done by Ajay Pal Singh et al noticed that there was no difference of stability intraoperatively, functional outcome and clinicoradiological outcome in term of direction of screws.³



FIGURE A :
Pre operative Xray

FIGURE B :
Post operative Xray

Figure A showed type IV capitellum fracture on plain preoperative radiograph and Figure B showed post operative plain radiograph, the fracture was fixed by 2 Herbert screws.

We used lateral approach for this fixation and able to achieved a good outcome. Above elbow back slab was applied for a month before patient was allowed to start rehabilitation for joint motion and it is uninterrupted because the screw did not need to be removed.

CONCLUSION:

Type IV capitellum fractures are rare and complex articular injuries. We able to achieved stable fixation and good functional outcome to this patient with open reduction and Herbert screws fixation.

REFERENCES:

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3. Ajay Pal Singh, Ish Kumar Dhammi, Vipul Garg. Outcome of surgical treatment of type IV capitellum fractures in adults. *Chinese Journal of Traumatology* 2012; page 201