



OUTCOMES OF COLLE'S FRACTURE TREATED WITH OPEN REDUCTION AND INTERNAL FIXATION

Orthopaedics

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ABSTRACT

Fractures of lower end radius are most common fractures of the upper extremity, encountered in practice and constitute 17 % of all fractures and 75% of all forearm fractures. The treatment was mainly manipulation and casting, since the generally accepted concept proposed was that although these fractures would heal with deformity, the functional deficit would be acceptable. With better understanding of the various fracture types, classifications, there was a need for a better method of treatment after careful study of the individual fracture pattern. The purpose of this study is to evaluate the outcome result of management of colles fracture in adults (>50) using variable angle volar locking plate.

KEYWORDS

Colles, fracture, distal radius, DER, fracture, Plating

INTRODUCTION

Distal radius fractures make up 8%–15% of all bony injuries in adults. Abraham Colles is credited with description of the most common fracture pattern affecting distal end radius in 1814, and is classically named after him. Colles' fracture specifically is defined as metaphyseal injury of cortico-cancellous junction (within 2–3 cm of articular surface) of the distal radius with characteristic dorsal tilt, dorsal shift, radial tilt, radial shift, supination and impaction.²

Moreover, the need for better outcomes in these fractures has frequently been revisited as newer methods of treatment have been developed. Fracture union is no longer the only goal, as the restoration of normal anatomy with early functional recovery, as well as resultant full and painless motion of the wrist, take over as the ultimate goals of treatment.

High-energy injuries frequently cause shear and impacted fractures of the articular surface of the distal aspect of the radius with displacement of the fracture fragments and vice versa.

Outcome assessment has become important in evaluating the efficacy of surgical procedures. In accordance with this, most orthopaedic surgeons are now of the opinion that a proper outcome assessment should be performed after any form of surgery. Such an assessment facilitates surgeons in distinguishing between various treatment methods and helps to identify effective treatment options which, in turn improves patient care.

METHOD

Sixty adult patients with colles fracture were included in this study who were treated at a tertiary care hospital.

Inclusion criteria:

1. Age group (>50)
2. Radiologically diagnosed with Colles fracture.
3. Consent to participate in the study.

Exclusion Criteria

1. Open fractures.
2. Undisplaced fracture.
3. Colles fracture needing vascular repair.
4. Fracture with articular extension.
5. Refusal to provide informed consent.

Standard radiographs were taken to confirm the diagnosis and also to know the type of fracture (AO), and Open reduction and internal fixation was done.



Fig 1 – Immediate post-operative radiograph – Volar plate

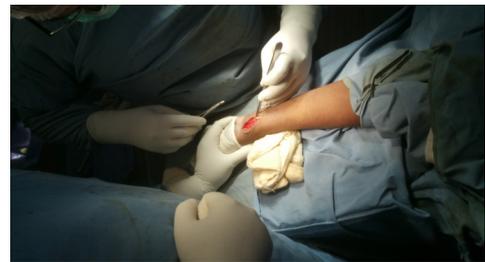


Figure 2 – Intra-operative photograph

RESULTS –

Table 1 – Time taken for union (weeks)

Time (weeks)	Number of patients	Percentage
Upto 12 weeks	35	58.33
12-15 weeks	25	41.66
>15 weeks	0	-
Mean time	12.30±0.97	
Range	12-15	

Table 2 – Complications

Complications	Number of patients	Percentage
No complications	50	83.33
Infection	4	6.66
Wrist movement restriction	6	10

FINAL OUTCOME ACCORDING TO GREEN'O BRIEN SCORE

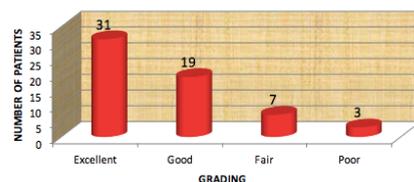


Chart 1 – Final outcome according to Green'O Brien score

CONCLUSIONS –

The present study was conducted on sixty adult patients with Colles Fracture. This study assessed the outcome result following treatment of Colles fracture by using variable angled volar locking plate and the effectiveness and complications of this procedure. In 90% patients we faced no problem but in 2 patients (3.33%) patients with locking and in 4 patients (6.66%) reduction cases noted. In all the patients fracture united. In our study, half of the patients did not report any type of complications. A total of 4 patients got infected and 6 six patients complained regarding wrist movement. Range of motion was evaluated postoperatively of all the patients and maximum number of patients 48 (80%) found with 100% normal side by using scoring

system of Green'O Brien. None of the patient reported severe pain that is intolerable. Patients were followed up regularly depending upon their union time and any other complications. Final assessment of all the patients evaluated by using Green'O Brien score. More than 50% of cases i.e. 31 (51.66%) found to be excellent (31.66%) with good and 7 (11.66%) reported as fair. Only 3 patients observed with poor outcome.

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