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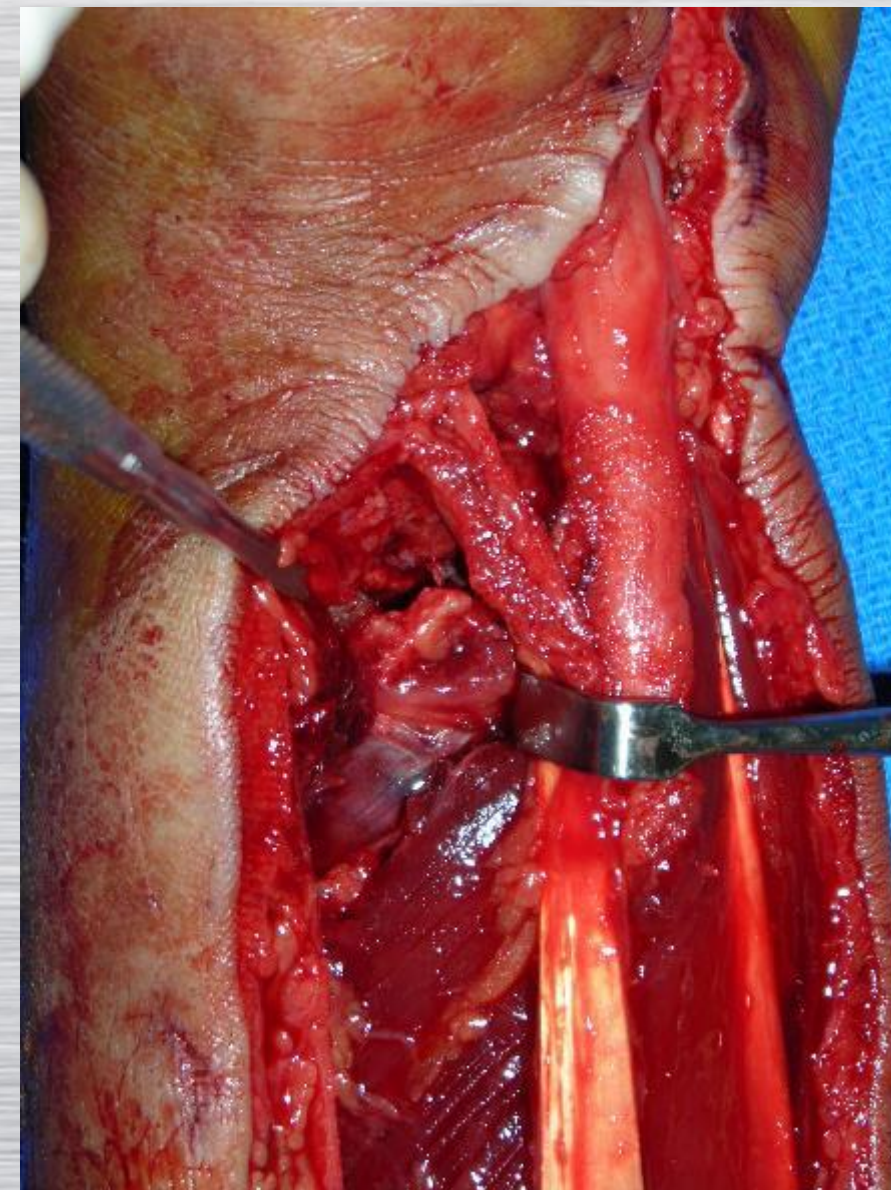
INTRODUCTION

Distal radius fractures remain one of the most common orthopaedic injuries. Over the last two decades there has been an increased utilization of volar plating with the goal of reducing post-operative complications. The purpose of this meta-analysis was to investigate incidence of complications associated with volar fixation of distal radius fractures.

MATERIALS & METHODS

A search of the Scopus® database was performed from 2006 through 2016. Studies were considered eligible if they had a diagnosis of distal radius fracture and were treated with a volar locking plate. A complication was defined as an adverse treatment event that was reported by the authors of the study.

TABLE & FIGURE



NERVE complications were most common with an overall rate of 5.66%, with carpal tunnel syndrome being most common at 2.03%.

TENDON complication rate was 3.81% with extensor tendon rupture accounting for 1.04% and extensor tenosynovitis 0.86%. Flexor tendon tenosynovitis and rupture were reportedly lower at 0.69% and 0.33% respectively.

HARDWARE complications were the least common at 1.65% with a reoperation rate of 0.3%.

RESULTS

The literature search identified 633 citations, of which 55 were eligible for inclusion in the meta-analysis (total n = 3938).

- The overall tendon complication rate was 3.81% with extensor tendon rupture accounting for 1.04% and extensor tenosynovitis 0.86%. Flexor tendon tenosynovitis and rupture were reportedly lower at 0.69% and 0.33% respectively. De Quervain's, intersection syndrome and trigger finger were equally low at 0.03%.
- Nerve complications were reportedly higher with an overall rate of 5.66%, with carpal tunnel syndrome being most common at 2.03%.
- Hardware complications were the least common at 1.65% with a reoperation rate of 0.3%.

DISCUSSION

Overall complication rate following volar plate fixation of distal radius fractures range from 0.3% to 5.66%. Nerve complications were reportedly higher than tendon and hardware combined. Despite the varying complication rates in the literature, this Systematic Review identifies an overall low complication rate associated with volar plating of distal radius fractures.