

# 166 CASES OF *MYCOBACTERIUM MARINUM* TENOSYNOVITIS OF THE HAND AND WRIST: CLINICAL FEATURES, MANAGEMENT AND RESULTS

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**INTRODUCTION:** *Mycobacterium marinum* infections followed an unpredictable clinical course and delay in definitive diagnosis was frequently encountered. Chow et al. found that the average duration of infection before patients were seen by the Orthopaedics unit was 3.3-3.7 months.<sup>1</sup> The initial diagnosis was commonly found to be mistaken for conditions such as rheumatoid arthritis and trigger finger which may lead to inappropriate management like steroid injections. The objective of this study was to review our experience with treatment of *Mycobacterium marinum* tenosynovitis of the hand and wrist and to assess for any clinical parameters that were associated with poor functional outcome and also suggest a treatment algorithm for these infections.

**METHODS:** All patients with *Mycobacterium marinum* tenosynovitis of the hand and wrist from 1981 to September of 2009 were included in this retrospective study. Inclusion criteria included tendon sheath infections of the hand and wrist, exposure to a marine environment, history of trauma by marine life and positive histology of granulomata by biopsy or positive culture. Exclusion criteria included positive culture of organisms other than *Mycobacterium marinum*, cutaneous and lymphoid lesions. Analysis of clinical parameters was performed to identify any associations with functional outcome (Total Active Motion system).

**RESULTS:** 166 patients were studied but 156 patients completed the entire follow-up protocol. Most patients worked in the fishing industry (50.6%) and there was male predominance (65.1%). Subjects usually presented late with an average duration of 4.9 months (0.25-120). 37 (22.3%) patients had intralesional steroid injections prior to admission. 100 (64.1%) patients had an excellent (TAM >195°, >75% return of motion) outcome, 28 (17.9%) patients had good (TAM 130–195°, 50–75%) outcome, 22 (14.1%) patients had fair (TAM 65–130°, 25–50%) outcome and 6 (3.8%) patients had poor (TAM

<65°, <25%) outcome. Thus, according to our criteria, 128 patients had satisfactory outcome (82.1%) and 28 patients had poor outcome (16.9%). Patients with poor functional outcome usually had intralesional steroid injections ( $p < 0.001$ ) and patients treated 2 months after injury had poor outcome ( $p = 0.004$ ). The management provided did not affect the outcome. All 32 patients treated conservatively had satisfactory outcome and 96 of 124 with operative treatment had satisfactory outcome ( $p = 0.001$ ). Student t-test showed that numbers of days of mobilization ( $p = 0.441$ ) and duration of antibiotics ( $p = 0.244$ ) was not associated with outcome.

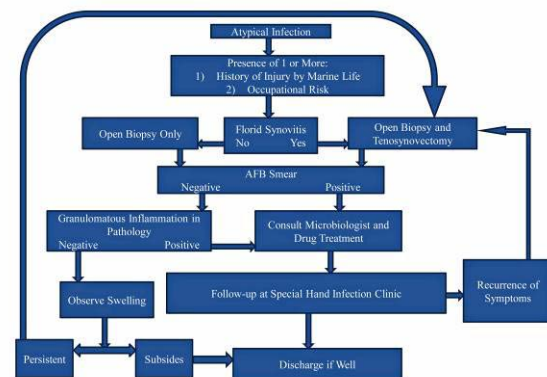


Fig. 1: Our treatment algorithm

**DISCUSSION & CONCLUSIONS:** There was no consensus on the optimal treatment option for *Mycobacterium marinum* tenosynovitis. This study found that only delayed treatment and steroid injections were associated with poor outcome. Conversely, antibiotic regimens and duration were not associated with poor functional outcome.

**REFERENCES:** <sup>1</sup>Chow SP, et al. *Mycobacterium marinum* infection of the hand and wrist. Results of conservative treatment in twenty-four cases. *J Bone Joint Surg Am* 1987;69:1161-8.