Effect of Cetylated Fatty Acid Supplementation on Low Back Facet Joint Arthritis

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INTRODUCTION

- Facet joint arthritis (FJA) is a primary cause of axial low back pain (LBP), affecting 65 – 80% of U.S. adults.
- First-line treatment includes chronic NSAID use, which can lead to undesired GI and renal toxicity side effects.
- Cetylated Fatty Acids (CFAs) have been shown to decrease inflammatory mediators in shoulder tendinopathies, osteoarthritis, and athletic pubalgia with limited documented side effects, but have yet to be evaluated in FJA.

PURPOSE

- This study aims to investigate if short term CFA supplementation, including an oral gel and transdermal patch, reduce pain and disability in patients with FJA-related low back pain

METHODS

1. The study included 28 patients (n= 28; age 61.8±17.2, BMI 24.7±3.9 kg/m^2) diagnosed with FJA based on axial symptoms for more than 3 months, evidence of synovial joint pathology on magnetic resonance imaging (MRI), and consideration to exclusion criteria.
2. The primary outcome of the study was the Roland Morris Disability questionnaire (RMDQ).
3. The secondary outcomes were the Numeric Pain Rating Scale (NPRS) (best, worst, and current pain scores) and adverse events.
4. Clinical evaluations were performed at baseline and after 30-day consecutive supplementation period with single 8-hour transdermal patch and twice daily oral CFAs system.

RESULTS

Clinical Evaluation	Baseline	Final	P-Value
RMDQ	8.21 ± 4.96	4.30 ± 3.60	*0.002
NPRS Best	3.20 ± 0.25	3.4 ± 2.19	0.42
NPRS Worst	8.6 ± 1.34	6.2 ± 2.59	*0.05
NPRS Current	5.95 ± 2.27	4.52 ± 2.66	*0.04

Table 1: Final = 30-day follow up. Baseline and Final values stated as mean ± sd. P-value = baseline vs. final. A p-value of less than 0.05 was considered statistically significant (*)

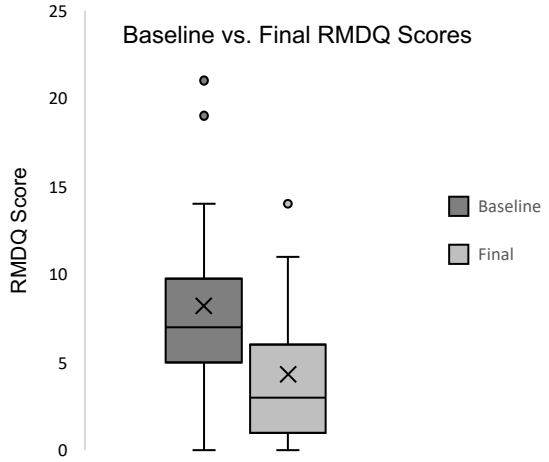

Fig 1: Box and Whisker Plot for baseline and final (30-day) RMDQ scores. RMDQ scores declined from baseline (8.21± 4.96) to final (4.30 ± 3.60) is a statistically significant manner (P-value: 0.002).

- After 30-days of supplementation, analysis determined statistically significant reduction in RMDQ scores (p value = 0.002).

RESULTS (continued)

- 79.1% of patients were determined to be responders by fulfilling the calculated Minimal Clinically Important Difference (MCID) for RMDQ at 30-days.
- NPRS current and worst scores both improved significantly (p-value <0.05) from baseline to 30-days.
- The following adverse events, none of which were life-threatening, and exclusions during trial period were documented:
  - 21.4% reported skin irritation to transdermal patch
  - 10.7% reported GI upset and/or diarrhea
  - 4 patients were excluded from final analysis, due to failure of compliance (n=2) and unrelated hospitalizations (n=2)

CONCLUSIONS

The use of CFA supplementation reduced FJA-related low back pain and disability in this prospective study. Further research on the use of this treatment is warranted including randomized controlled trials with a larger cohort.

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