

# 9<sup>TH</sup> ORTHOPEDICS & RHEUMATOLOGY ANNUAL MEETING & EXPO

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### Pilot study showed C-reactive protein was significantly reduced in subjects with progressive osteoarthritis consuming a proprietary dietary supplement for 4 weeks

**Statement of the Problem:** Osteoarthritis (OA) is a major cause of disability. It causes pain due to inflamed knee joints, involves cartilage degeneration and loss of collagen fibers. Current therapies have little influence on disease progression and are associated with adverse side effects. There is merit for use of safe compounds derived from natural sources for the treatment of OA. Increased serum levels of C-reactive protein (CRP) are observed in patients with OA. A low-level increase in CRP occurs in early disease and is predictive of progressive loss of joint space. CRP levels at presentation may help physicians identify individuals at risk of progression who may be suitable for intervention.

**Methodology & Theoretical Orientation:** Five subjects experiencing joint stiffness and pain were recruited by the physician. They signed voluntary informed consent for routine blood sampling and supplement ingredients. Subjects consumed one supplement (Laminine®, LifePharm Inc. Lake Forest, CA) in the morning and one in the evening for 4 weeks. Subjects were not asked to modify behaviors or medical regimens.

**Findings:** A t test for related samples was performed comparing baseline and 4 week final CRP values ( $p=0.02562$ ). A sign test ( $p=0.03125$ ) and Wilcoxon matched-pairs signed-ranks test ( $p=0.03125$ ) were performed to confirm results as sample size was small.

**Conclusion & Significance:** This pilot study indicated the supplement supported a reduction in CRP in subjects with mild to moderate OA symptoms. The supplement contains proprietary fertilized chicken egg extract, fish and pea proteins. Recent human skin fibroblast experiments showed the unprocessed egg used in Laminine®, contained active Platelet Derived Growth Factor, Transforming Growth Factor  $\beta$ -1, Lysyl oxidase, Fibroblast Growth Factor 2 and chondroitin. When the proprietary egg was added to the cells there was highly significant up-regulation of collagen, elastin and fibronectin production compared to controls. These receptors and mechanisms are also found in connective tissues. Results warrant further studies.

### Biography

Edward Andujar has received his Medical degree from Harvard Medical School and did his Residency at Temple University Hospital in Philadelphia, PA. He had a general practice for 20 years. With the growth of the dietary supplement industry and his interest in the field, he has joined LifePharm Global Network in 2011 as a Research Scientist. He designs protocols with clinical physicians to investigate safety and efficacy of various dietary supplements. His preliminary work of investigating Laminine® and other dietary supplements appears in the Physician's Desk Reference. He is devoted to educating consumers and other health care professionals in the clinical efficacy of nutritional supplements and their potential benefits.

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