Optimal Arthritis Control
Multi-Targeted Compounds Combat Inflammation

By Julius Goepp, MD

SUCCESSFUL RA INTERVENTION WITH HIGH-POTENCY CURCUMIN

Derived from the traditional Indian spice turmeric (Curcuma longa), curcumin has been shown to beneficially modulate the underlying mechanisms behind a host of chronic diseases, including cardiovascular disease, cancer, diabetes, Alzheimer’s disease, and osteoporosis, among others.49-61

Scientific advances in our understanding of curcumin’s molecular action have led to its application in the treatment of rheumatoid arthritis as well.54,58,62 andrographolides, curcumin and its main constituents, the curcuminoids, powerfully inhibit NF-κB, downregulating multiple inflammatory pathways. 54,63 Of course, global suppression of immune function is emphatically not desirable since it opens the body up to deadly infections—in fact, that is precisely what makes existing pharmacological therapies potentially dangerous. Curcuminoids, by contrast, can increase normally functioning immune cell numbers in people with recurrent infections,64 and reverses the immune suppression caused by some cancers.65,66 And in animal models of inflammatory arthritis, curcumin can produce a remarkable antigen-specific suppression of inflammation, meaning that only the dangerous inflammatory response is quenched, leaving healthier immune functions unaffected.67

Curcumin suppresses gene expression of matrix metalloproteinases,68 destructive enzymes that dissolve cartilage.69 It also blocks numerous inflammatory signaling molecules that aggravate painful joint inflammation.70,71 Curcumin is a powerful inhibitor of migration inhibitory factor, now thought to play a significant role in many of the symptoms of rheumatoid arthritis.72

Curcumin also blocks the multiple effects of the inflammatory cytokine IL-1beta, which contributes to much of the devastating, painful destruction of joint cartilage symptomatic of rheumatoid arthritis. Lab studies show that curcumin slows the degeneration of cartilage caused by IL-1beta while restoring normal cartilage protein production.73

RA cartilage deterioration is also mediated by an enzyme called collagenase, whose action is also powerfully neutralized by curcumin.74 A newly discovered cytokine called IL-18 may also play a role in rheumatoid arthritis by triggering vascular endothelial growth factor (VEGF), an agent that triggers blood vessel growth (angiogenesis) and thickens joint membranes. Curcumin downregulates IL-18’s stimulatory effect on VEGF, thus reducing angiogenesis and promoting healthy joint membranes.75

In 2006, rheumatologists undertook a study examining curcumin’s efficacy in treating RA.76 They induced rheumatoid-like arthritis in lab rats and then treated them with turmeric extracts rich in curcumin. The scientists reported that the extract “profoundly inhibited joint inflammation and periarticular joint destruction... [and] prevented local activation of NF-kB and the subsequent expression of NF-kB-regulated genes mediating joint inflammation and destruction.” In fact, they conducted other research showing that they could prevent lab-induced rheumatoid arthritis in animals through the use of a special curcumin formulation.77

With respect to its application in humans, the challenge has been that raw curcumin is not well absorbed in the intestinal tract.78 This has proven an obstacle in the scientific application of curcumin for managing the effects of rheumatoid arthritis.68,78 All of that changed in recent years.

RA researchers are using an enhanced preparation of curcumin standardized to a 95% concentration of curcuminoids that reincorporate many of the components of raw turmeric root that are normally removed during the extraction process. This enhanced extract was found to be 6 to 7 times more bioavailable than conventional curcumin extracts. Importantly, this enhanced curcumin was absorbed more rapidly and retained longer in the blood, compared with standard curcumin preparations.79,80

In an as-yet-unpublished, randomized, controlled trial, researchers compared this enhanced curcumin preparation to the commonly-used NSAID diclofenac.81 Forty-five subjects with mild to moderate disease activity as rated on a standard score
were enrolled and randomly assigned to 3 groups. One group received 500 mg of enhanced curcumin twice daily, another both 500 mg enhanced curcumin and 50 mg diclofenac, and a third group 50 mg diclofenac only, and their conditions were evaluated over the next 8 weeks, including blood testing and disease scoring.

The greatest reduction in the disease activity score was attained by the patients treated exclusively with enhanced curcumin. The diclofenac group experienced the least improvement! Similarly, the supplement-only group showed the greatest improvement in the inflammatory blood markers C-reactive protein and antistreptolysin O (ASO).

**SUMMARY**

While its origin and causes are not fully understood, rheumatoid arthritis involves system-wide, chronic inflammation in the body. Until recently, mainstream medicine’s focus on highly profitable single-target drugs has left the 1.3 million rheumatoid arthritis sufferers in this country with few attractive and affordable options. A novel set of safe, multi-targeted natural agents has been identified that disrupts the inflammatory cascade involved in rheumatoid arthritis at multiple stages. Curcuminoids and andrographolides specifically target the conditions associated with rheumatoid arthritis, including underlying gene transcription factors involved in the body’s inflammatory response. Both compounds provide multi-modal relief from inflammation and other symptoms of rheumatoid arthritis, suppressing inflammatory cytokines throughout the body and reducing joint swelling, pain, and stiffness. Clinical trials suggest they may act as powerful complements or alternatives to some pharmaceutical interventions.

*If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.*

**References**


23. Doan QV, Chiou CF, Dubois RW. Review of eight pharmacoeconomic studies of the value of biologic DMARDs (adalimumab, etanercept, and infliximab) in the management of rheumatoid arthritis. J Manag Care Pharm. 2006 Sep;12(7):555-69.


All Contents Copyright © 1995-2010 Life Extension Foundation All rights reserved.

These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease. The information provided on this site is for informational purposes only and is not intended as a substitute for advice from your physician or other health care professional or any information contained on or in any product label or packaging. You should not use the information on this site for diagnosis or treatment of any health problem or for prescription of any medication or other treatment. You should consult with a healthcare professional before starting any diet, exercise or supplementation program, before taking any medication, or if you have or suspect you might have a health problem. You should not stop taking any medication without first consulting your physician.