



PAIN MANAGEMENT

The Right Way to Fight Pain

Jacob Teitelbaum, MD | DIGITAL EXCLUSIVE

For anyone dealing with acute pain, the temptation to find quick answers is understandable. And with one-third of adults suffering needlessly, pain – and the attempts to relieve it – is likely part of everyday life for the patients who rely on your practice. Working with patients to help them reduce their pain safely and effectively, especially when they are away from your office, is a challenge I know from my own experience as a practitioner.

Three Important Botanicals

Patients can often seem wary about alternatives to common over-the-counter or prescription drugs. After all, everyone wants relief – the sooner, the better! Fortunately, three botanical ingredients – curcumin, boswellia, and black sesame seed oil – can respond quickly and effectively to the sudden onset of pain without causing the negative effects of standard over-the-counter medications.

Curcumin and boswellia are already well-established as pain-fighting herbs. Curcumin fights COX-2 inflammation and modulates virtually every other inflammatory pathway. It reduces delayed-onset muscle soreness, relieves rheumatoid arthritis symptoms, and alongside boswellia, improves quality of life for those with osteoarthritis.



Because boswellia works primarily through the 5-LOX inflammatory pathway – a rare attribute in the botanical world – it makes a great partner to curcumin for pain relief.¹⁻² And black sesame seed oil's efficacy for pain relief is supported by traditional practice, scientific research and clinical study.

Sesame seed has strong anti-inflammatory actions and has been shown to reduce the activity of TNF- α , an inflammatory cytokine overexpressed in cases of rheumatoid arthritis joint damage.³ Other scientific studies show that sesame seed compounds can help increase type II collagen, a primary component of joint cartilage, and prevent the breakdown of joint-supporting fatty acids.⁴⁻⁶

In clinical research, sesame seed supplementation alone reduced inflammatory markers, decreased pain scores and relieved symptoms for patients with knee osteoarthritis.^{7,8}

In addition to its anti-inflammatory power, sesame seed also helps other nutrients, including vitamin E tocopherols, vitamin C and vitamin K, absorb more effectively, giving them the potential to provide greater benefits in the body.⁹⁻¹⁰

As Good as Acetaminophen – But Without Some Major Complications

These combined attributes of anti-inflammatory ability and absorption enhancement attracted researchers to choose black sesame seed oil (which contains higher levels of beneficial lignans phenolic compounds than white sesame seeds) and combine it with curcumin and boswellia in a pain-relieving combination tested against acetaminophen.¹¹ The results of the clinical study were

impressive, revealing that the herbal combination was just as effective and worked as quickly as acetaminophen, with both methods averaging about an hour for results.¹¹ The difference, of course, is that the curcumin, boswellia and black sesame seed oil approach is much safer.

This is exciting to me as a practitioner and is good news for patients, because although acetaminophen is available everywhere, it isn't benign. In fact, the statistics regarding this common drug tell a frightening story.

For example, from 2008-2012, there was an average of more than 100,000 calls per year to poison control centers in the United States due to acetaminophen. About 67 percent of those calls were due to unintentional poisoning when people were simply trying to relieve their pain and didn't realize the danger of acetaminophen overdose or buildup.¹²

Acetaminophen also dramatically lowers levels of glutathione – one of the key health-promoting antioxidants made in the human body.¹³⁻¹⁴

But what's also interesting about this study was that the combination of curcumin, boswellia and black sesame seed oil also reduced the negative emotional aspects of pain 8.5 times better than acetaminophen.¹¹ This is an extremely important aspect of pain relief.¹⁵⁻¹⁶ In my experience, the emotional factor, which is what creates suffering, is a major piece of the pain-fighting puzzle; and acetaminophen has some potentially disturbing side effects on that front.

A growing body of research suggests acetaminophen reduces a person's capacity to feel empathy for another's pain or joy. In fact, due to the way it works in the brain, some researchers have called acetaminophen a "social analgesic" because it cuts off the ability to socially connect at a basic, human level with other people.

When you consider that more than 600 medicines include acetaminophen, it creates a frightening picture of the way this drug can emotionally separate us from one another.¹⁷⁻¹⁹ Further, when you also think about the stress, fatigue and social isolation many of your patients likely experienced during the pandemic, finding a different approach is critical.

Curcumin, boswellia and black sesame seed oil can be part of that approach. Numerous studies have already shown great promise. And these ingredients are potentially even more efficacious when the curcumin is blended with turmeric essential oil for enhanced bioavailability; and the boswellia is standardized for higher levels of acetyl-11-keto-beta-boswellic acid (AKBA), one of the herb's compounds most recognized for fighting 5-LOX inflammation.

Plus, all three botanicals bring their own individual strengths while working synergistically through overlapping pathways. They can make an excellent addition to your patients' own regimens to help them feel better and support their muscles and joints with ingredients that are safe, effective and do more than mask pain; and truly rivals potentially dangerous over-the-counter options, assisting your thoughtful guidance and professional treatment.

References

1. Chandran B, Goel A. A randomized, pilot study to assess the efficacy and safety of curcumin in patients with active rheumatoid arthritis. *Phytother Res*, 2012 Nov;26(11):1719-25.

2. Antony B, Kizhakedath R, Benny M, Kuruvilla BT. Clinical evaluation of a herbal product (Rhulief™) in the management of knee osteoarthritis. Abstract 316. *Osteoarth Cartil*, 2011;19(S1):S145-S146.
3. Khansai M, Phitak T, Klangjorhor J, et al. Effects of sesamin on primary human synovial fibroblasts and SW982 cell line induced by tumor necrosis factor-alpha as a synovitis-like model. *BMC Complement Altern Med*, 2017 Dec 13;17(1):532.
4. Phitak T, Pothacharoen P, Settakorn J, et al. Chondroprotective and anti-inflammatory effects of sesamin. *Phytochem*, 2012 Aug;80:77-88.
5. Khansai M, Boonmaleerat K, Pothacharoen P, et al. Ex vivo model exhibits protective effects of sesamin against destruction of cartilage induced with a combination of tumor necrosis factor-alpha and oncostatin M. *BMC Complement Altern Med*, 2016 Jul 11;16:205.
6. Srisuthtayanont W, Pruksakorn D, Kongtawelert P, Pothacharoen P. Effects of sesamin on chondroitin sulfate proteoglycan synthesis induced by interleukin-1beta in human chondrocytes. *BMC Complement Altern Med*, 2017 May 31;17(1):286.
7. Eftekhari Sadat B, Khadem Haghighian M, et al. Effects of sesame seed supplementation on clinical signs and symptoms in patients with knee osteoarthritis. *Int J Rheum Dis*, 2013 Oct;16(5):578-82.
8. Khadem Haghighian M, Alipoor B, Malek Mahdavi A, et al. Effects of sesame seed supplementation on inflammatory factors and oxidative stress biomarkers in patients with knee osteoarthritis. *Acta Med Iran*, 2015;53(4):207-13.
9. Hanzawa F, Nomura S, Sakuma E, et al. Dietary sesame seed and its lignan, sesamin, increase tocopherol and phyloquinone concentrations in male rats. *J Nutr*, 2013;143(7):1067-1073.
10. Ikeda S, Abe C, Uchida T, et al. Dietary sesame seed and its lignan increase both ascorbic acid concentration in some tissues and urinary excretion by stimulating biosynthesis in rats. *J Nutr Sci Vitaminol*, 2007;53(5):383-392.
11. Rudrappa GH, Chakravarthi PT, Benny IR. Efficacy of high-dissolution turmeric-sesame formulation for pain relief in adult subjects with acute musculoskeletal pain compared to acetaminophen: a randomized controlled study. *Medicine*, 2020;99(28):e20373.
12. Major JM, Zhou EH, Wong HL, et al. Trends in rates of acetaminophen-related adverse events in the United States. *Pharmacoepidemiol Drug Saf*, 2016;25(5):590-598.
13. Subramanya SB, Venkataraman B, Meeran MFN, et al. Therapeutic potential of plants and plant derived phytochemicals against acetaminophen-induced liver injury. *Int J Mol Sci*, 2018;19(12):3776.
14. Smith GJ, Cichocki JA, Manautou JE, Morris JB. Acetaminophen at low doses depletes airway glutathione and alters respiratory reflex responses. *FASEB J*, 2013;27:1107.4
15. Vallath N, Salins N, Kumar M. Unpleasant subjective emotional experiencing of pain. *Indian J Palliat Care*, 2013;19(1):12-19.
16. Löffler M, Kamping S, Brunner M, et al. Impact of controllability on pain and suffering. *Pain Rep*, 2018;3(6):e694.
17. Mischkowski D, Crocker J, Way BM. A social analgesic? Acetaminophen (paracetamol) reduces positive empathy. *Front Psychol*, 2019;10:538.
18. Tully J, Petrinovic MM. Acetaminophen study yields new insights into neurobiological underpinnings of empathy. *J Neurophysiol*, 2017;117(5):1844-1846.
19. Mischkowski D, Crocker J, Way BM. From painkiller to empathy killer: acetaminophen (paracetamol) reduces empathy for pain. *Soc Cogn Affect Neurosci*, 2016;11(9):1345-1353.

AUGUST 2022