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Herbal Anti-Inflammatories

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In the last decade, the use of herbs for both therapeutic and prophylactic nutrition has grown exponentially. Most herbs new to the mainstream market have been used for years by various cultures for both specific and general conditions. With the large profit potential of these herbs, it is not uncommon for substances to be sold based on anecdotes and testimonials alone. Just because science has not caught up with these products does not mean they do not work. Conversely, many clinicians (myself included) feel more comfortable recommending substances that have been studied.

There are many herbs that reduce inflammation. These six have been studied and work well alone and in combination formulas:

Bioflavonoids¹⁻⁴: -- a large class of compounds derived from fruits and vegetables:

- includes limonene, hesperidin, and rutin (all from citrus);
- decreases arachidonic acid release;
- decreases histamine release;
- exhibits a wide range of antioxidant activity, including the protection of collagen and hyaluronan from free radical attack;
- strengthens capillary and vessel walls;
- works well with vitamin C;

dosing: 250-1000 mg t.i.d.

Turmeric, AKA Curcuma Longa⁵⁻⁹ -- a spice whose active component is the yellow pigment curcumin:

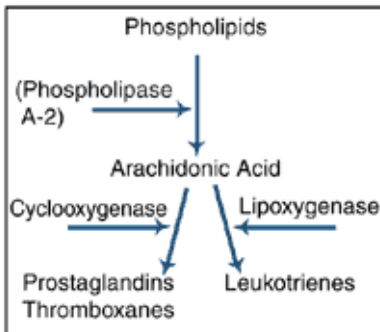
- possesses powerful anti-inflammatory properties by inhibiting lipoxygenase, cyclooxygenase, and phospholipase A2; thus, turmeric disrupts the arachidonic acid cascade at three important steps;
- possesses the ability to scavenge nitric oxide*;
- demonstrates antioxidant properties by both inducing glutathione production and quenching free radicals;
- reduces neutrophil cascade to areas of tissue injury;
- decreases platelet aggregation;
- has been used for osteoarthritis and rheumatoid arthritis and postsurgical inflammation;

dosing: 250-500 mg t.i.d. on an empty stomach.

Quercetin⁹⁻¹² -- a citrus bioflavonoid that is also found in onions:

- well-absorbed in the intestine and can also be derived from rutin during digestion;
- reduces inflammation by inhibiting phospholipase and lipoxygenase enzyme activity;
- works well with vitamin C and vitamin E as a powerful antioxidant;
- reduces histamine and degranulation reactions;
- dosing: 250-1000 mg per day in divided doses.

**Figure 1:
Arachidonic Acid Cascade Pathway.**



[Figure 1: Arachidonic Acid Cascade Pathway.]

Boswellia Serrata^{6,13-15} -- from the leaves of a tree in central India:

- blocks the enzyme lipoxygenase, thus reducing leukotriene production;
- decreases lymphocyte migration to inflamed tissues;
- has been used for both osteoarthritis and rheumatoid arthritis;
- can suppress connective tissue degeneration during inflammation;
- dosing: 250-400 mg t.i.d.

Ginger^{3,16,17} -- a spice that interferes with the cyclooxygenase enzyme, thus reducing prostaglandin and thromboxane production:

- has been used for the treatment of both osteoarthritis and rheumatoid arthritis;
- dosing: 500-2000 mg per day in divided doses.

Rosemary^{18,19} -- fresh or dried leaf of *Rosmarinus officinalis* (Fam. Lamiaceae)

- Has both antioxidant and anti-inflammatory properties;
- Neutralizes nitric oxide* and peroxynitrate radicals;
- Protects DNA from xenobiotics;
- Dosing: 200-1000 mg in divided doses.

- Nitric oxide (NO) is produced when white blood cells encounter irritation. This includes allergens, infection, toxic exposure and trauma, all of which can shift the cell into oxidative stress physiology. NO production in proinflammatory environments stimulates both cyclooxygenase and lipoxygenase pathways.²⁰

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