

# Inflammation and Disease

## Natural & Herbal Approaches - Part 2

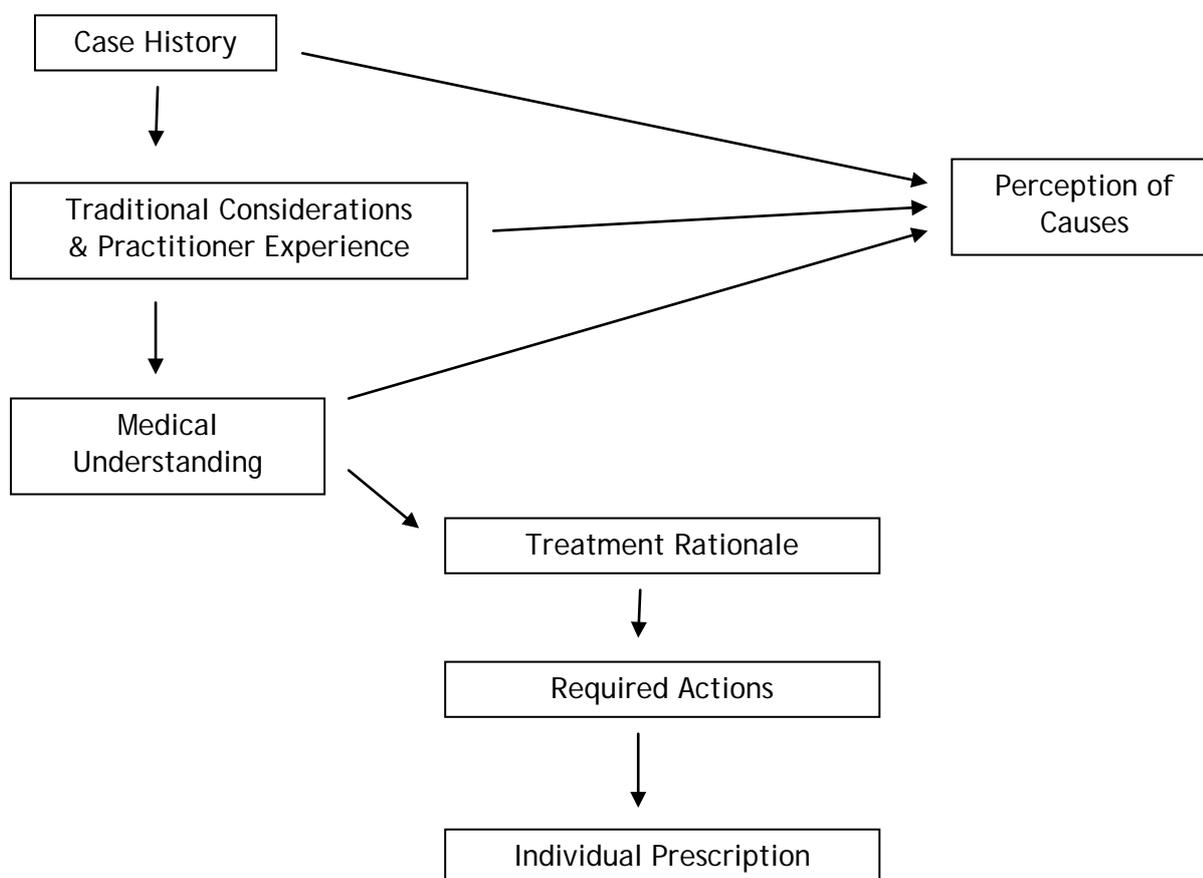


Figure 1: A summary of the event sequence in Western Herbal Medicine (adapted from Mills & Bone, 2000)

### Dietary Approaches

There has been a long standing notion of 'acid' and 'alkaline' foods being of some importance and impact in disease because metabolites tend to be acidic. Bodily fluids contain acid-buffering agents and organs of elimination (lungs, kidney, bile, bowel) pass mainly acidic materials. Inflammatory disease may be marked by, and even result from greater acidosis.

This is the persistent European tradition in degenerative disease especially arthritis. Overt, metabolic acidosis has recognised, established effects within conventional medicine. In this regard, CAM approach has largely focussed on what's now commonly referred to as an 'Anti-inflammatory Diet':

- o one of the popular views involve switching to an alkaline diet in order to reduce metabolic acidosis

- fasting & switching to a vegetarian diet reduces the ability of urine to support the growth of *Proteus mirabilis* and *E.coli* (infective agents that can cause inflammation)
- gamma- linoleic acid (GLA) - a component mainly of plant-based foods has been shown in a substantial placebo-controlled trial to possess anti-rheumatic activity
- the possibility of cross-reaction between dietary collagen (found in animal products) and the sufferer's connective tissue has been postulated on more than one occasion
- there is clinical evidence to support the effects of a low starch diet in reducing the gut levels of anaerobic bacteria (eg. *Klebsella spp*) and serum IgA antibody levels in both normal subjects and those suffering ankylosing spondylitis; the latter group benefitting in an improvement in symptoms
- foods that modify, heal & repair
- foods that prevent inflammation (protective effect)
- the importance of the 'good' fats:
  - omega 3 EFA (oily fish, marine fish oils, flax, hemp, soy, canola & sea vegs)
  - omega 6 EFA (flax, hemp, grapeseed oil, pine nuts, pistachios, olives...)
  - green-lipped mussel oil (from New Zealand)
- elimination of the 'bad' fats thought to promote inflammation:
  - margarine & other hydrogenated fats
  - trans fatty acids
  - partially hydrogenated fats
  - limit saturated fats
- carbohydrates also influence the inflammation process especially when chemical reactions between the sugars and proteins produce pro-inflammatory compounds called AGEs (Advanced Glycation End Products). Therefore:
  - reduce meat
  - increase vegetable protein (fermented soy foods, beans, lentils & other legumes)
  - increase wholegrains, seeds & nuts
- there are a whole range of culinary herbs and spices which have powerful anti-inflammatory properties (by virtue of their antioxidant activity)

### **New Zealand green-lipped mussel oil**

Extracted from the mussels found off the coast in NZ and done in such a way as not to damage the vital non-polar lipids which are the constituents known to confer anti-

inflammatory properties. Overcoming the oxidisation process and heat exposure which thwarted earlier attempts to recover this precious oil has generated a commercial supplement. It contains the designated active constituent: **lyprinol** which is thought to be significantly more potent than omega 3 EFA.

Mussel Oil Studies into:

- arthritis
- asthma
- heart disease
- athletic performance (thought to increase this)
- ADHD
- Alzheimer's
- ocular disease (age-related blindness, macular degeneration, retinopathy)
- diabetes
- immune responses (thought to increase these)
- depression
- osteoporosis

The best preparation is the oil, **not** the powder and beware of rogue traders....!

## Herbal Approaches

### Acute inflammation:

Acute Inflammation requires a number of different approaches, herbs of choice and preparation types depending on the condition being treated. The overall rationale for any CAM approach would be to enable the body to heal by itself and in this regard the following may be useful:

1. Immune-enhancing herbs
2. Warming circulatory stimulants
3. Supportive herbs especially to organs (eg. defensive function of the liver, the lungs, urinary tract & kidneys)
4. Combat viral infections with long-term treatments (eg. St. John's Wort, *Arbor vitae* (tree of life))
5. topical treatment of accessible surfaces with:
  - o creams & lotions
  - o ointments & liniments
  - o mouthwashes & gargles
  - o eyedrops & eardrops
  - o syrups
  - o poultices & plasters
  - o douches
  - o steam baths & inhalants
  - o suppositories & pessaries

Immune stimulants are very important in inflammation and the very nature of immune involvement means that these herbs enable the body to combat inflammation by itself. Useful herbs (by order of proven effectiveness):

- *Echinacea purpurea* (echinacea)
- *Astragalus membranaceus* (astragalus)
- *Andrographis paniculata* (andrographis)
- *Baptisia tinctoria* (wild indigo)
- *Allium sativum* (garlic)

### Other actions of herbs

**Demulcents** to soothe & calm inflamed areas especially mucous membranes. Herbs chosen invariably because of their relatively high % of mucilaginous active constituents (AC).

eg. slippery elm, marshmallow root, fenugreek, linseed (flaxseed), comfrey root cream (external application only), aloe vera

**Astringents** to shrink areas of inflammation especially mucous membranes. Herbs chosen to astringe these areas due to their relatively high % of tannins (AC).

eg. witch hazel (bark), oak tree (bark), tormentil (root)

**Anti-inflammatories** direct anti-inflammatory action especially when used topically. Herbs of choice also possess other actions such as healing & repair, demulcent action, astringency etc... therefore preferable choices in any acute inflammation. Often considered as alternatives to conventional steroidal, NSAIDs and other anti-inflammatory prescriptions.

eg. chamomile (flowers) and calendula (marigold flowers) - excellent direct action

eg. Oregon grape (mahonia) especially for psoriasis (proven efficacy in psoriatic lesions)

eg. Echinacea - local anti-inflammatory effect when applied topically

eg. St. John's Wort - fixed oil used for the relief of burns and skin pain (eg. herpetic lesions in shingles)

eg. lavender oil - excellent anti-inflammatory topical action especially in burns, stings, insect bites, acne

eg. turmeric, juniper oil and angelica oil all have direct anti-inflammatory action

eg. arnica and horse chestnut (suitable topical preparations) are excellent at bruising but MUST only be applied to unbroken skin

**Antiseptics** conventional antiseptics have a range of actions from destroying pathogens directly to ensuring that the right environment (eg. food supply) and conditions for the growth and multiplication of pathogens are not provided. Herbal antiseptics also work in pretty much the same way as conventional antiseptics, and the choice of herb depends on what you want it to do...

|   |   |
|---|---|
| General actions   | raw garlic! (in Europe)<br>echinacea (excellent all-round prophylactic)<br>wild indigo<br>hydrocotyl ( <i>Centella asiatica</i> )<br>picrorhiza or <i>Picrorhiza kurroa</i> (in Asia)<br>andrographis (in China)<br>artemisia<br>goldenseal<br>chinchona (quinine bark)<br>berberis |
| Protection against parasitic infections (also effective in enteric & hepatic infections)  | andrographis (in China)<br>artemisia<br>goldenseal<br>chinchona (quinine bark)<br>berberis  |
| Hot, pungent spices (good for enteric infections). Also effective treatment in respiratory infections (warm, soothing, ↑ circulation to the area) | capsicum (chillies)<br>ginger<br>cinnamon   |
| Good for urinary tract infections   | juniper<br>bearberry (uva ursi)<br>barosma<br>cranberry   |

Chronic Inflammation: poor immunity and recurrent infections

- Immune - enhancing herbs eg. echinacea, astragalus, poke root, andrographis
- Tonic & Adaptogenic herbs eg. the gingengs (Korean, Siberian, Indian)
- Bitters (bitter herbs) eg. gentian, wormwood, bogbean, artemisia - work via bitter (reflex action)

## Debility, Chronic Fatigue, Lingering Viral Infection & Convalescence

- Immune-enhancing herbs (strong doses may be needed)
- Antiviral herbs
- Tonics (range of Western & Chinese approaches):
  - avena (oatstraw)
  - licorice
  - St. John's Wort
  - Indian ginseng (*Withania somnifera*)
  - alfalfa (*Medicago sativa*)
  - fenugreek
  - damiana
  - vervain

In Chronic Fatigue Syndrome (CFS) particularly, examine viral causes & immunological abnormalities such as:

- circulatory abnormalities
- brain abnormalities
- pituitary & hypothalamic abnormalities
- biochemical abnormalities

### **Autoimmune Diseases**

Apart from their use in providing non-specific support for recuperation & repair, specific herbal strategies in autoimmunity include the following:

- Treatment of acute inflammation of muscles, joints & connective tissues
- Management of:
  - RA
  - AS
  - other chronic inflammatory joint disease
  - psoriasis
  - scleroderma
  - other persisting skin diseases

**Note:** Because of the use of secondary plant products, particular caution is necessary in adopting the herbal approach in inflammatory disease complicated by glomerulonephritis or other kidney disease.

### **Holistic Approaches**

Lifestyle risk - smoking, lack of exercise, stress & inflammation

#### **Reference:**

Mills, S., Bone, K (2000) Principles and Practice of Phytotherapy - modern herbal medicine. Churchill Livingstone.