AHG Professional Herbalist Training Webinars Presents:

**Herbal Pharmacology: Case Based Studies with Guido Masé, RH (AHG)**

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Clinical Pharmacognosy

A case-based approach
Part III

Guido Masé RH(AHG)
Areas of influence

Tissue-level activity

- Central nervous system
- Gastrointestinal tract
- Lymphatic channels / Immune cells

“Acupharmacology”

- Reflex action mediated by autonomies

Hepatic effects

- Hormone metabolism
- Toxicity
Tissue-level activity

Central nervous system effects: limbic system, frontal cortex, hypothalamus / autonomies
Tissue-level activity

Central effects (limbic, olfactory, frontal)
Peripheral effects (vanilloid receptors, chemosensing receptors)
Tissue-level activity

GI tract - emulsification / entrapment of glucose, cholesterol, bile salts
Tissue-level activity

GI tract - enhanced absorption

Tissue-level activity

Lymphatic channels and immune system: innate immune activation / conversation, helper T cell modulation
“Acupharmacology”

Simon Mills - *Out of the Earth* and
*Principles and Practices of Phytotherapy*
Hepatic effects

Steroid hormone metabolism (cortisol/cortisone)
Also occurs in the kidney
Hepatic effects

Toxicity – with repercussions on vasculature (VOD, e.g.)

Representative scheme of PA mechanisms of toxicity: PA, pyrrolizidine alkaloid; EPy, pyrrole ester; APy, pyrrolic alcohol; GSH, glutathione; Py-SG, pyrrole-glutathione conjugate; Py-SPr, pyrrole bound to protein thiol; RBC, red blood cell. The dashed lines for APy indicate that it is a minor metabolite responsible for chronic effects because of its lower reactivity and long half-life. Prakash et al 1999
Case 1

Male, 8 years old
Recurrent anxiety, agitation
Belly spasm, especially secondary to stress
Bloating, esp. post-carbohydrate
Beginning glycemic / lipidemic issues

Overweight, somewhat sedentary
Cool, moist skin
Case 1

Potentially applicable chemical classes:
Volatile oils
Pungent compounds
Saponins (with caution re: nausea)

Constitutional notes:
Dietary assessment crucial
Activity?
Case 1

Potentially applicable chemical classes:

Volatile oils

Peppermint (*Mentha x piperita*)

[though perhaps a bit cool?]

Case 1

Potentially applicable chemical classes:
Volatile oils

Chamomile (*Matricaria*)

Case 1

Potentially applicable chemical classes:
Pungent compounds

Case 1

Potentially applicable chemical classes:
Saponins

Fenugreek (Trigonella)

Case 1

Male, 8 years old

Recommendations:
Chamomile infusion, slightly sweetened, ad. lib.
Fenugreek powder, 2tsp. BID (2,000mg) (hard to tolerate, moved to caps)
Crystallized ginger pieces, after meals as needed, no more than 3x/day
... 2 weeks ...
Fewer GI symptoms, less painful
No nausea or bloating.
Discussed: exercise, carb choices, bitters
Case 2

Female, 65 years old
Generally active, at least 3-4 days / week
Frequent daytime urination (12+ times / day) with small amount of urine voided. No nighttime urination.
Diet lacks diversity, but is generally whole-grain and vegetable based. Adequate protein from legumes and fish.
No history of urinary infection.
Normal cardiovascular parameters. Good sleep quality.

Fairly balanced, tends to dryness
Slightly cool, weak pulse
Case 2

Potentially applicable chemical classes:
- Tropane alkaloids
- Volatile oils

Constitutional notes:
- Social anxiety? Daytime anxiety? Unclear. To watch!
Case 2

Potentially applicable chemical classes:
Tropane alkaloids

Scopolamine - Datura spp.

Case 2

Potentially applicable chemical classes:
Volatile oils

Linalool, eudesmol - Viburnum

Case 2

Female, 65 years old
Recommendations:
Tincture formula: Viburnum 20ml, Datura 10ml. 30gtt QD am
... 48 hours ...
Marked improvement in urinary frequency and urgency
... 4 weeks ...
Discontinue formula and assess:
- No insomnia
- No hypertension
- No vision disturbances
- No anxiety
... 6 weeks ...
Symptoms begin to return. Restart herbal formula. More nervines
Case 3

Male, 20 years old
Asthma (mild) induced by exercise: track+field athlete 800m
Excellent diet, “imports” fruits and vegetables into college cafeteria to feed himself
Uses rescue inhaler before race and still unable to breathe
Seasonal allergy pattern aggravates; otherwise healthy

Constitutional notes:
Healthy, mostly balanced, ruddy
Calm demeanor
Case 3

Potentially applicable chemical classes:
- Triterpenoids - from medicinal mushrooms
- Polysaccharides - from medicinal mushrooms
- Xanthine alkaloids
- Piperidine alkaloid derivative - lobeline
- Volatile oils

Constitutional notes:
- Generally balanced, keep it up!
Case 3

Potentially applicable chemical classes:
Triterpenoids (steroidal) - from medicinal mushrooms

Ganoderma lucidum

Case 3

Potentially applicable chemical classes:
Polysaccharides - from medicinal mushrooms

Ganoderma lucidum

Case 3

Potentially applicable chemical classes:
Xanthine alkaloids

Case 3

Potentially applicable chemical classes:
Piperidine alkaloids

Lobeline - Lobelia inflata

Case 3

Potentially applicable chemical classes:

Volatile oils

Eucalyptol - Eucalyptus globulus

Case 3

Male, 20 years old
Recommendations:
Morning: tincture of Lobelia, 15gtt in water, before workout
Ganoderma lucidum, 2-phase extract, 2ml BID
Cacao - hot beverage from organic powder + raw honey
Eucalyptus inhaler PRN
... 2 weeks ...
Able to breathe better after race
... 6 weeks ...
Reaches final in All-America East
Generally very pleased
During the Great Plague, physicians routinely used relatively airtight masks with long beaks stuffed with aromatic plants - notably rosemary and mugwort - to prevent noxious vapors, thought to carry disease, from infecting them.

An antiseptic interlude
Antiseptic mechanisms: Nazzaro 2013
Antispasmodic action: Ca²⁺ channel inhibition
Case 4

Female, 25 years old,
Preparing for first delivery, 39 weeks since conception
All seems fine - fetal health excellent, maternal health good
Latent labor passing into active labor, pain increases

Has an herbal tea for labor pain ready:
Black Cohosh
Red Raspberry
Ragwort
Evening Primrose

Wants to take it starting now,
For 3+ weeks postpartum
ISSUES?
Ragwort

Traditional uses include:
- Pain control
- Topical antidyscratic
- Bitter, astringent post-partum remedy

...but recognized as potentially toxic to livestock as early as Maude Grieve (1930) and earlier

Ragwort - Senecio jacobaea et al spp.
Case 4

Potentially applicable chemical classes:
Pyrrolizidine alkaloids

Ragwort - Senecio jacobaea et al spp.

Re: toxicity see Prakash 1999
Case 4

Female, 25 years old
Recommendations:
Discontinue tea blend, and reformulate without the ragwort!
Avoid Symphytum, Borago, Petasities, Tussilago, etc... as well, including during lactation (breast milk transfer does occur)

Hepatotoxic!
Carcinogenic!

May not be an issue for mother
BIG issue for newborn infant
Cumulative toxicity