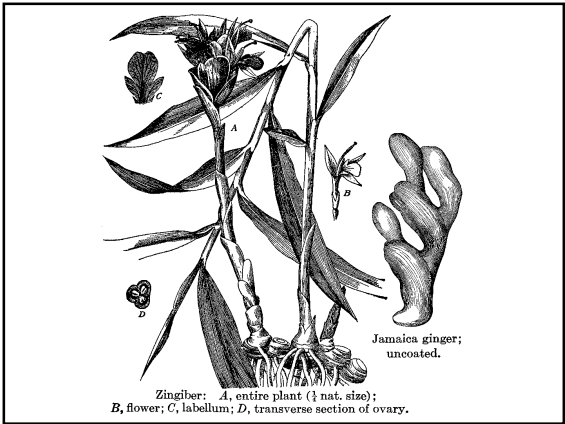
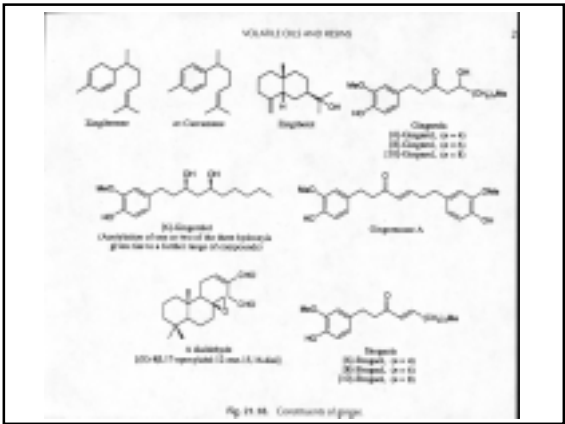


Ginger - *Zingiber officinale*



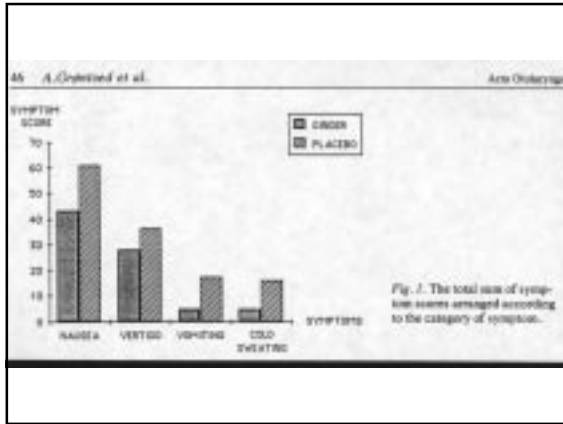
Ginger

- History-long used for food and medicine
- Pharmacology
 - digestive aid
 - flavor
 - nausea and vomiting treatment-effect is on the stomach not on the CNS
- Chemistry
 - volatile compounds
 - non volatile compounds
 - gingerol
 - shogaol



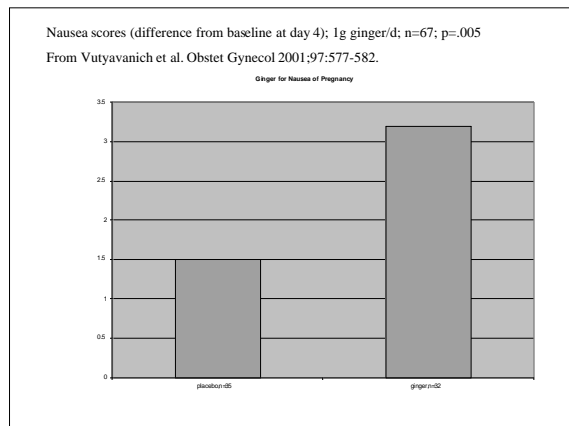
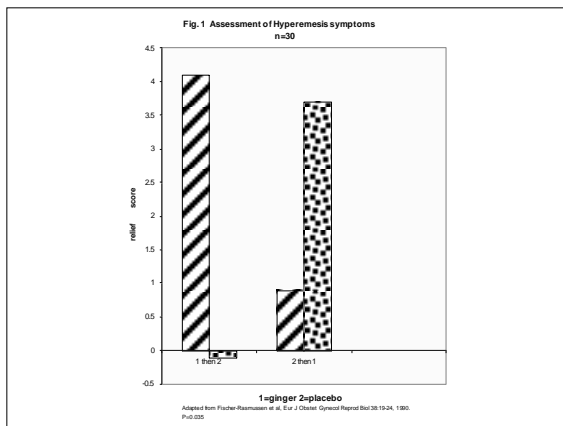
Ginger

- Efficacy Studies
 - motion sickness
 - most studies “in the field” show benefit but those in a spinning chair are equivocal
 - post operative nausea
 - studies are not in agreement on efficacy



•Ginger and Pregnancy

- “morning sickness”
 - Fischer-Rasmussen et al[#]
 - risks: Backon[#]



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Letter to the Editor

Ginger in preventing nausea and vomiting of pregnancy: A review due to its thrombotic cytotonic activity and effect on testosterone binding

It was recently reported that ginger root could either or eliminate the symptoms of hyperemesis gravidarum [1] and that this is due to its anti-thrombotic and alkaloid properties.

See below: ginger aggregation and also alkaloids and serotonin. United States News 1984;33:15-34.

1. Backon J. Ginger inhibition of thrombotic symptoms and elimination of postoperative nausea for medicine and psychology. Med Signals 1984;20:273-274.

2. Backon J. Antithrombotic activity of gingerol: inhibition of thrombotic inhibition. Med Sci Res 1987;15:1019.

3. Backon J, Williams J, Young R, McNeil J, Chantred A. Ginger root - a new anti-nausea: the effect of ginger on postoperative nausea and vomiting after major gynecological surgery. Anaesthesia 1990;45:502-511.

GINGER is a potent thrombotic syndrome inhibitor [2,3], as is gingerol [4], it may affect spontaneous ovulation binding in the fetus possibly allowing sex steroid differentiation of the fetal testis. Ginger has recently been found to significantly reduce postoperative nausea and vomiting [5].

The group has had extensive therapeutic experience with ginger. We have suggested numerous uses for it [3,6] including: preventing liver damage [7], in burns [8], in treating pyloric obstruction [9], as an antidepressant [4], and in preventing aging endothelial changes and impotence [10].

We carried out toxicological tests on ginger using the SCE Chromotest but could find no evidence of toxicity (Backon J, unpublished data). However, until the effects of ginger on testosterone receptor binding in the fetus are thoroughly investigated, I would be hesitant to recommend its use in pregnant women.

References

Fischer-Rasmussen W, Kuo SK, Gao C, Aging J. The effect of gingerol on hyperemesis gravidarum. Eur J Obstet Gynecol Biol 1990;38:14-16.

Backon J. Ginger: a review of its uses, risks and gynecological uses.

**Extract from the German Commission
E monograph**

Uses:

- Dyspeptic complaints. Prevention of the symptoms of travel sickness.

Contraindications

With gallstones, to be used only after consultation with a doctor.

Warning: not to be used during morning sickness.

Side effects

None known.

Interactions with other remedies

None known.

Dosage

Unless otherwise prescribed: average daily dose, 2 g drug; preparations correspondingly. Externally: 100 g to a full bath; preparations correspondingly.

Ginger Summary

- possibly worthwhile in preventing motion sickness
- possibly worthwhile in treating and preventing nausea
- must weigh risk vs. benefit in treating nausea of pregnancy
- products and doses
 - 0.5-1g one hour before travel
 - 2g/d in divided doses for nausea
 - dried powdered ginger capsules are OK

Yohimbe

•Botany:

- W. African tree (*Pausinystalia yohimbe*)
- bark used

•Chemistry:

- about 6% alkaloids
- 2-4% yohimbine (Rx only, 5.4mg TID)

•Pharmacology:

- alpha adrenergic receptor blocker
- increase excitability in sacral region of spinal cord
- MAOI vasodilation

Yohimbe

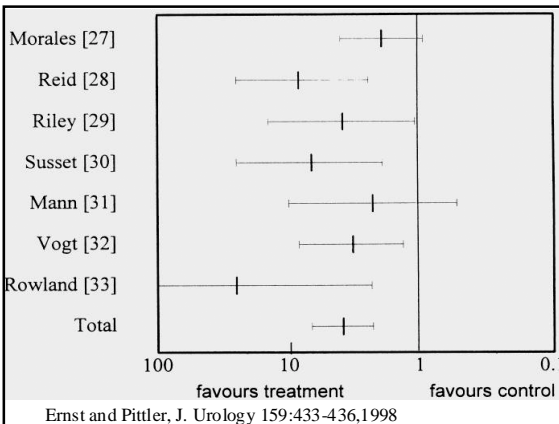
•Adverse

- CNS stimulation
- hypotension, hypertension, insomnia
- activation of psychoses
- cardiac

•Herbal/Drug interactions

- MAOI
- additive problems with adrenergic and other MAOI

•Evidence



Yohimbine-Bottom line

- Adverse effects could be significant but warnings in the literature may be exaggerated
 - Reasonable evidence for some improvement in ED
 - Studies needed to compare with Viagra
 - Rx drug
- Yohimbe-Bottom line**
- Quality control problems
 - Most dietary supplement products have subtherapeutic amounts of yohimbine

Feverfew

➤ Botany

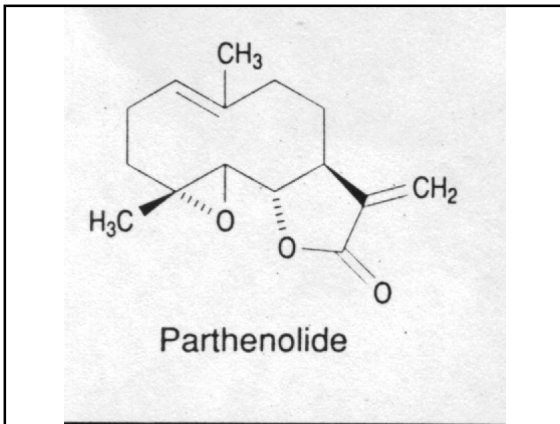
- *Tanacetum parthenium* (daisy family)(Asteraceae)(bachelor button)
- leaves and flowering tops

➤ History

- long used for fever, headache, pain, menstruation, childbirth
- 1970s in England publicity on use in migraine

➤ Chemistry

- 0.2% sesquiterpene lactone, parthenolide
- also has volatile oil, flavonoids



Feverfew

➤ Pharmacology

- parthenolide blocks serotonin release from platelets
- decrease vasodilation in brain due to this release
- parthenolide decreases pain sensation
- parthenolide inhibits cyclooxygenase to decrease thromboxanes and hence inflammation
- but recent study of parthenolide extract showed no effect (De Weerd CJ, et al. *Phytomedicine* 3(3): 225-230, 1996)

Evidence

➤ Migraine

- 3/5 DBPC trials showed positive benefit.
 - One negative trial is an abstract (Kuritzky et al., *Neurology* 44:supp 2:293P, 1994).
 - One negative trial used an alcohol extract standardized to parthenolide (maybe not active?)
 - Positive trials used whole leaf e.g. Palevitch et al. *Phytotherapy Res* 11:508-511, 1997.

➤ Arthritis/inflammation

- *Phytomedicine* 3:225-230,1996
 - no differences between placebo and feverfew in a RDBPC crossover study (n=48) for 9 months.

Feverfew

➤ Evidence - migraine

- Murphy et al, *Lancet* II:189,1988
 - n=72
 - double blind, crossover, placebo controlled
 - 4 months on each
 - Table 1

Feverfew

• N=59

	Feverfew	Placebo	p
• No attacks	3.6±0.2	4.7±0.3	<0.005
• Duration	14±1.0	14±1.0	NS

• adapted from Murphy et al, Lancet II:189,1988

Feverfew

• Precautions

- allergies
- mouth ulcers if chew leaves
- contraindicated with aspirin, etc?
- no special problems noted in the studies

• Products

- quality control is problem
- pick product standardized to 0.2% parthenolide? **Use whole leaf product!**
- 100-300mg/capsule; 125mg BID is often used

Hawthorn

• Botany

- Crataegus sp
- dried flowering twig tips used

• Constituents

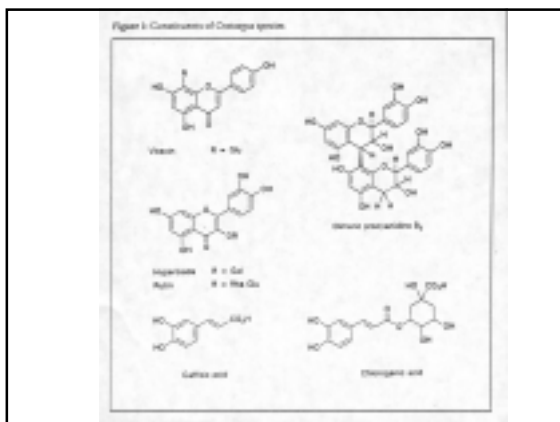
- flavonoids and oligomeric procyanidins (OPC)
- triterpenes and aromatic acids

• Pharmacology

- increases contractility of myocardium (positive inotropic effect)
- reduced vascular resistance
- increased blood flow to heart
- increased cardiac output



The rationale for using the hawthorn plant to treat congestive heart failure is based primarily on its content of pharmacologically active flavonoids that inhibit vasoconstriction and promote dilation of blood vessels.
Photo: F. Robert Wesley



• Use

- heart disease, chronic heart failure

• Evidence

- 4/5 PDB trials showed significant positive results
- all small studies

• Adverse Effects

- has been studied and hawthorn seems benign; drug interactions? (Schlegelmilch and Haywood, J Am College Toxicol 13:103-111,1994)

• Recommendations

- potential of hawthorn is high but more work needed
- not for self therapy
- quality control of products is essential
- use standardized product containing 18-19% OPC and /or 2-3% flavonoids, e.g. 2.2% vitexin
- dose of extract is 300mg BID or TID