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Turmeric

- Ginger Family
- Phytochemical
- Arabic derivative "Kurkum"
- Grown in Southeast Asia

What is Turmeric?

HISTORY

- Growth in Western India
- Domesticated Plant
- White Spiky Flowers
- Curing Rhizomes
- Drying Method

Uses of Turmeric

Medicinal

- Anti-inflammatory
- Rheumatoid Arthritis
- Inhibit Cancer Growth

Cultural

- Wedding Blessings
- Beauty Routine Before Weddings

Cooking

- Indian and Middle Eastern Cuisine
  - Ranges of Colors and Flavors
- Use in American Staple Ingredients

NO MESS CAP
French's
Classic
YELLOW

SWANSON
Chicken
Broth

Anti-Inflammatory Mechanism

Curcumin Inhibits

factorkappa B (NF- κB)

STOP

cyclooxygenase-2 (COX-2) & inducible Nitric Oxide Synthase (iNOS)

STOP

Inflammatory Response

Applied Anti-Inflammatory

- Patients post surgery
- Study: Inguinal Hernia
- Curcumin vs phenylbutazone NSAID (non-steroidal anti-inflammatory drug; ex/ aspirin) vs placebo
- Curcumin most successful!

Applied Anti-Inflammatory & Dosages

- Rheumatoid Arthritis
- Survey of dietary supplements—majority less than 50% curcuminoids
- 40% curcumin (fractured) vs 93% curcumin (purified)
- Dosages present similar results
- Good for prevention

Chemoprevention

- Anti-inflammatory →anti-carcinogenic
- colorectal, pancreatic, gastric, prostate, hepatic, breast, and oral cancers, and leukemia, and at various stages.
- Inhibition of iNOS &COX-2 again

Cancer Metastasis Control I

- Breast Cancer
- *In vitro:* human mammary epithelial carcinoma cells vs curcumin (purified,98%)
- increased [curcumin] → decreased cancer cell proliferation

Cancer Metastasis Control II

- Lung Cancer
- *In vitro* and *in vivo*
- Higher [curcumin]→ increased cancer cell apoptosis
- Lower [curcumin]→slowed cancer cell migration & invasion
- Cancer cell metastasis is the leading cause of cancer mortality

Bioavailability

- Injections vs orally
- Enzymatic breakdown and excretion within 24 hrs
- Limits turmeric use ☹
- Piperine (black pepper and long pepper)

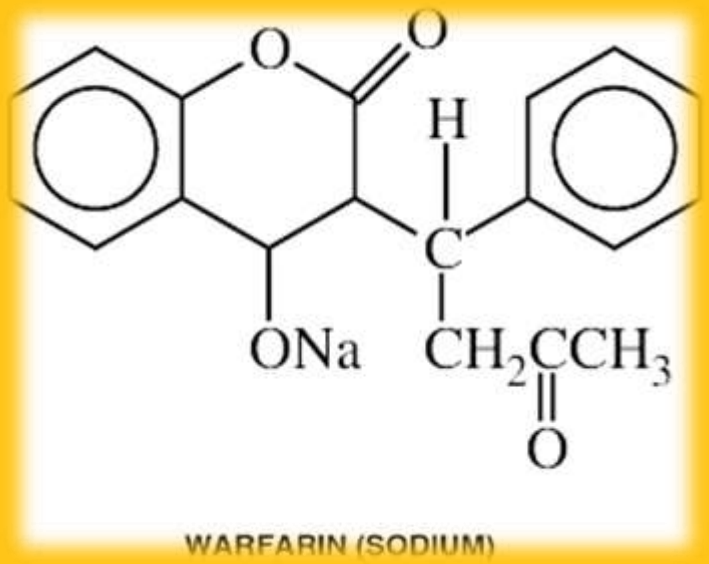
Discussion

- More Research
  - Dosages
  - Increasing bioavailability
- Drug interactions post surgery (anti-coagulants)
- Most helpful in prevention
- Patients should consult physician

Forms of Turmeric and Dosage Recommendations

- Powder form as a Spice
- Supplementation through Pills
- Recommended Dosage
- Bioavailability?

Side Effects & Drug Interactions



- 68 Drug Interactions
- Anti~Coagulants
- Turmeric During Pregnancy
- Gallbladder Problems

Conclusion

- Many Risks
- Potential pain relief and benefits
- Consult physician
- Use carefully and moderately
- Always eat MORE CURRY! ☺

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