

Chinese Herbal Formula, FAHF-2 and IBD

Lecture May 11, 2010

Presented by David Dunkin, MD (Pediatric GI Attending, Children's IBD Center at Mount Sinai) in Collaboration with the Center for Chinese Medicine at Mount Sinai

Purpose of the Study: To see if a Chinese Herbal Formula (FAHF-2) is effective against Crohn's disease (CD) in both a mouse model and blood cells from patients with CD.

IBD and Complementary and Alternative Medicine (CAM)

- Chronic nature of IBD, lack of preventive and curative therapy and some current medications with potential side effects

In the Literature

- **French population with IBD**
 - CAM usage was estimated to be 21.2%
- **German population with IBD**
 - 51.3% had experience with CAM
 - Homeopathy and herbal medicine were most commonly used types: 52.9% and 43.6% respectively
- **In Canadian population with IBD**
 - CAM use by 47% of patients
 - 50% were currently using CAM
 - 41% were using herbal therapies
- **In US Pediatric population with IBD**
 - CAM in 72% of children
 - 24% were using herbal medicines

IBD and Cytokines

- TNF- α (an inflammatory chemical or cytokine) is increased in patients with Crohn's disease and ulcerative colitis
- Other inflammatory chemicals released from cells (cytokines and chemokines) are altered in patients with IBD
- These chemicals can be measured in the lab

FAHF-2- is based on a classical traditional Chinese herbal formula-Wu Mei Wan which has long been used in Traditional Chinese Medicine (TCM) to treat gastrointestinal disorders, including colitis. (Bensky and Barolet 1996)

Study Objectives

- Determine effect of FAHF-2 on mouse macrophages (a type of white blood cell)
- Determine effect on white blood cells of patients with Crohn's disease
- Determine how FAHF-2 works
- Determine effectiveness of FAHF-2 in mouse models of IBD

Results:

- Our preliminary data shows that FAHF-2 inhibits TNF- α secretion by mouse macrophages.
- TNF- α is decreased by using FAHF-2 on white blood cells obtained from children with Crohn's disease.

How does it work?

- Interrupts the pathway involved in inflammation and the production of TNF- α
- Stops the protein production in a pathway called NF κ B

Conclusions

- FAHF-2 showed a positive effect on white blood cells from CD patients by suppressing Th1 and pro-inflammatory cytokines; it does not globally decrease all cytokines.
- The mechanism of FAHF-2 inhibition on TNF- α production by mouse macrophage cells is due to FAHF-2 partially blocking signal transduction through the NF- κ B pathway that leads to protein production.

Possible Future Endeavors

- Effect on mouse models of ileitis and colitis
- Safety in children with Crohn's disease
 - Newly diagnosed
- Early efficacy in children with Crohn's disease
 - Newly diagnosed