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ABSTRACT

CYTOKINE TH1 TO TH2 SHIFT CAN BE REVERSED BY CORIOLUS. PROSPECTIVE TRIAL FOR HPV CONTROL WITH CORIOLUS

Infection by Human Papillomavirus can induce cervical cancer. There is evidence for correction of immune responses in patients with chronic fatigue syndrome and persistent viral infection with Coriolus.

The defects and abnormal immune responses seen in patients with chronic fatigue syndrome have been treated with Coriolus. A group of 60 patients have had the diagnosis of chronic fatigue syndrome established by national diagnostic criteria.

We have shown in these patients there are abnormal T-lymphocyte subsets and low natural killer cells. We have established that, in these patients, many of them have activation of Epstein Barr virus, Cytomegalovirus or Human Herpes virus 6, and high titres of antibodies, IgG or IgM, to these viruses. In treatment of these patients with Coriolus for an eight week programme, there was a doubling of the levels of natural killer cells.

It is therefore suggested that cancer risk from Human Papillomavirus can be minimised by augmentation of immunological parameters. Those at risk, having contracted HPV as evaluated by PCR techniques, can then be protected with Coriolus as a preventive cancer programme, so that the cervical cancer may not then subsequently develop. In our experience, folic acid has also been of benefit. Postulation that nutritional, microbiological and immune biomarkers can be evaluated, and the synergistic use of Coriolus and folic acid could be used preventatively for cervical cancer.

References:

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Prospective Trial Design For HPV Control with Coriolus and Folic Acid

Global Causes of Cancer

Professor Karol Sikora has observed that 75% of newly diagnosed cancers each year (7.5 million) can be identified as caused by*:

1. Pollution: i.e tobacco smoking - 3.0 million
2. Poor Diet: i.e. malnutrition / incorrect nutrition - 3.0 million
3. Infection: i.e. virus - 1.5 million

Subtotal - 7.5 million
Not Identified Causes of Cancer - 2.5 million
Total New Cancer Cases per Year - 10.0 million

- "The Future of Cancer Care" by Professor Karol Sikora :April, 2001 lecture at Royal Society.

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Steps in Cancer Care

1. Prevention - Research required
2. Diagnosis - Well developed

3. Treatment:
a) Surgery - Well developed
b) Radiotherapy - Well developed
c) Chemotherapy - Well developed
d) Immunotherapy - Research required

"The Future of Cancer Care" by Professor Karol Sikora :April, 2001 lecture at Royal Society.

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In cancer treatment there is a tendency to focus on "fighting" cancer but treatment of the three causes is not well managed.

As biological systems are "networked" or linked, to ensure long term survival, the clinician should address all three causes of cancer*:

1. Pollution: i.e tobacco smoking
2. Poor Diet: i.e. malnutrition / incorrect nutrition
3. Infection: i.e. virus

*"The Future of Cancer Care" by Professor Karol Sikora :April, 2001 lecture at Royal Society .

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How does "pollution" cause cancer? It has been suggested that though there may be a biological "irritant", (such as tobacco smoke or physical agents, such as ionising radiation or a virus) the cancer may occur years after the initial exposure? Why?

Over time, a cytokine Th1 to Th2 Shift may have occurred whereby the "network" mechanism is weakened and the TH1 immune response (anti-viral / anti-bacterial) is not fully functional.

Folic acid deficiency has been identified as a "patchy" loss in colonic mucosa, as a precursor for colon cancer. Why? Folic acid is depleted by "pollutants" i.e. oestrogen mimics and oestrogen*

*-Professor Yuriy Bukin –National Institute of Cancer Research-Moscow

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Causes of cancer may invoke a cytokine TH1 to TH2 Shift

1. Pollution: i.e tobacco smoking
2. Poor Diet: i.e. malnutrition / oestrogen mimics
3. Infection: i.e. virus

The aforementioned may temporarily shift the immune system from a TH1 immune response state (anti-viral / anti-bacterial in nature) to a TH2 state (pro-inflammatory); or keep the body permanently fixed in a TH2 immune response state, during which the aforementioned causes (singularly or as a group) continue to weaken the immune system.

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Cancer Treatment (HPV treatment) should include:

a) Reversal of a cytokine TH1 to TH2 Shift, allowing for the periodical restoration of TH1 activity (anti-viral / anti-bacterial activity).

b) Avoidance of personal “pollution” tendency i.e. cessation of tobacco smoking or elimination of oestrogen mimics / oestrogen in diet.

c) Exposure to biological agents that restore or support TH1 immune response activity.

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

1) The Breakspear Hospital has experience with reversing cervical dysplasia with folic acid.

2) The Breakspear Hospital has conducted clinical research in the use of *Coriolus versicolor* supplementation to reverse Cytokine TH1 to TH2 shifts in 60 patients with Chronic Fatigue Syndrome Patients, by:

a) Increasing % of natural killer cells by 25%
b) Increasing natural killer cell count by 44%

3) These joint observations will be combined to design a prospective trial for HPV Control with *Coriolus versicolor* and Folic Acid.
4) Objective of protocol is to reverse early stages of cervical cancer to reduce risk factors of reoccurring HPV virus.

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

1) Initially patients with cervical dysplasia will be selected from teaching hospitals in the London area.

2) Endocervical swabs will be taken and evaluated for HPV, by Dr.Colin Fink, using PCR method for cervical screening in United Kingdom.

3) Where positive, repeat endocervical swabs at monthly intervals will be taken to discern the natural history of the infection.

4) The folic acid and *Coriolus versicolor* supplementation programme will then be invoked and comparisons made.

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

		Folic Acid mg per day	Coriolus-MRL grams per day
Week	1	300 mg /day	3 grams / day*
Week	2	10 mg/ day	3 grams / day
Week	3	10 mg/ day	3 grams / day
Week	4	10 mg/ day	3 grams / day
Week	5	10 mg/ day	3 grams / day
Week	6	10 mg/ day	3 grams / day
Week	7	10 mg/ day	3 grams / day
Week	8	10 mg/ day	3 grams / day

* 6 tablets per day (2 early morning, 2 noon, 2 evening)

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

1) Breakspear Hospital is open to collaboration with other European based research partners.

2) Breakspear Hospital contact is Dr.Jean Monro, Medical Director at Fax:00-44-1442-266-388

3) Mycology Research Laboratories Ltd. will support prospective clinical trial for HPV Control with *Coriolus versicolor* supplementation and Folic Acid.

4) Mycology Research Laboratory contact is Mr.William Ahern, Managing Director at Fax:00-44-1482-667-859

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

Chemical and Biological Properties of Coriolus-MRL tablets by Associate Professor Amin Karmali-Biotechnology Section, Instituto Superior de Engenharia de Lisboa. (Fax:21-831-7267 / akarmali@isel.ipl.pt)

1. Several research workers have demonstrated that protein-bound polysacharide complex (PSK or PSP) derived from *Coriolus versicolor* is the most important component responsible for immunoenhancing and anti-tumour activities. However, other factors may be also involved in these biological processes which have not been investigated.

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

2. The biomass of *Coriolus versicolor* contains a number of enzymes:

a) **Laccase (benzenediol:oxygen oxidoreductase; EC 1.10.3.2)** is present in active form and catalyses the reduction of dioxygen to water as well as the oxidation of a wide range of phenolic and related compounds. This enzyme also catalyses the oxidation of 3-hydroxyanthranilic acid (3-HAA) into *cinnabarinic acid (CA) which is of great clinical interest because 3-HAA is produced in large quantities by interferon-y primed mononuclear phagocytes*. Furthermore, 3-HAA has been shown to act as a powerful scavenger of reactive oxygen species. On the other hand CA is one of the major product of oxidation of 3-HAA suggesting that it may prevent oxidative damage in mammalian tissues.

Prospective Trial Design For HPV Control with Coriolus and Folic Acid

b. **Pyranose oxidase also known as glucose 2 oxidase (pyranose:oxygen 2-oxidoreductase; EC 1.1.3.10)** catalyses the oxidation of several aldopyranoses producing hydrogen peroxide and 2-keto-D-glucose.

c. **Peroxidases (EC 1.11.1.7**) .These enzymes catalyse hydrogen peroxide-dependent one-electron oxidation of a wide range of phenolic and related compounds which result in the formation of aryl cation radicals. These enzymes can be used in detoxification of a broad range of environmental pollutants namely PCBs and dioxins.

d. **Chelating properties**: As histidine residues are involved in chelation of transition metals through co-ordination of enzyme activity: thus Coriolus is a chelator of iron and heavy metals

