

# Mushroom study builds on Coriolus' immune modulating reputation

Bastyr University, the world's leading naturopathic school, has begun recruitment for a double-blind placebo-controlled trial on the use of *Coriolus versicolor* in women who have undergone conventional breast cancer treatment (surgery, chemotherapy and radiotherapy).

The clinical trial will involve 50 patients and is funded by the Cancer Treatment Research Foundation in collaboration with Bastyr University. The primary outcome is whether *Coriolus versicolor* at 4500 mg per day (*Coriolus*-MRL at 9 tablets per day) can increase natural killer cell activity (NKCA) over 8 weeks after conventional breast cancer treatment.

Bastyr researchers have chosen *Coriolus versicolor* supplements supplied by Mycology Research Laboratories after a comparison against other strains of the same mushroom.

"In addition, the fact that there are two published papers on MRL's *Coriolus versicolor* published in western journals, was important in the selection process", said MRL's Bill Ahern.

"Given that the immune state of post breast cancer patients is extremely low, and there is no medical procedure or practice that exists to assist such patients, the potential use of mushroom nutrition as adjunct nutrition could be very beneficial to this patient group", he added.

MRL's stance is that the use of mushrooms is adjuvant nutrition and is not being used as a substitute for a medical procedure or product. The protocol is to medical standards, but the application being studied is in post-breast cancer patients where conventional medicine only offers a "wait and see" policy.

Ahern says that in a sense this nutritional use of mushroom products was developed in the United Kingdom. It was proven with clinical work by Dr Jean Monro and also by Portuguese researchers at the Institute of Oncology in Portugal in human papillomavirus (HPV) patients.

Dr Silva Couto, MD, who leads the cervical pathology unit and is head of the department of Gynaecology at the Portuguese Institute of Oncology (IPO), Coimbra, Portugal, recently presented findings showing that supplementation



with *Coriolus* was a viable alternative or adjuvant to conventional approaches

The treatment of HPV cervical lesions is presently undergoing re-evaluation, he has reported. The traditional approach, which includes such treatment options as conventional surgery, laser surgery, cryosurgery and loop electrosurgical excision procedure (LEEP) are effective "but may have reached the limits of their respective applications", he says.

For patients with high-grade squamous intra-epithelial lesions (HSIL), cone biopsy (conization) is the method of treatment generally considered to be most effective. But for patients with low-grade squamous intra-epithelial lesions (LSIL), the destruction of cervical lesions through the traditional treatment options has been modified to a more passive approach, commonly termed "wait and see". He says there is "increasing evidence that a woman's immune system, if sufficiently strong, can control and possibly clear LSIL over time".

Dr Couto's work shows that *Coriolus* can help HPV patient's immune systems in both HSIL and in particular in LSIL, where preliminary findings were:

■ **negative cervical cytology in 91% of cases compared to 50% of patients in the control group and**

■ **HPV+ High Risk negation in 100% of cases compared to 0% of patients in the control group.**

Dr Couto presented his research at the Portuguese Society of Gynaecology and also at the First Annual Monro Medical Lecture Series – "HPV and Cervical Cancer: New Developments" held at the Royal College of Physicians in September 2006.

Meanwhile, a new paper by Prof Amin Karmali, Dr Antonio Bugalho and Prof Tito H. Fernandes – "*Coriolus versicolor* mode of action in HPV" – has highlighted

the relationship between HPV infection and age, and proposed an explanation for mushroom nutrition's effectiveness.

The researchers, from Lisbon's Chemical Engineering and Biotechnology Research Centre; the Department of Gynaecology and Obstetrics, Central Hospital of Maputo, Mozambique; and the Technical University of Lisbon; concluded that:

"The immune profile for a CIN-1 (LSIL-HPV) patient (man or woman) over the age of 35, subject to chronic toxic overload, is extremely low.

"For this reason, the immunonutrition properties in *Coriolus versicolor* (biomass) supplementation should be considered as a clinical tool for patients over the age of thirty-five (35) since supplementation at 3g per day provides the delivery of:

1. Protein-bound polysaccharide complexes (beta-glucans) responsible for immune enhancement.
2. Enzymes that prevent oxidative stress, inhibit cell growth and are involved in detoxification processes, and
3. Secondary metabolites."

They say that the combined impact of these "could be responsible for improving the immune profile for CIN-1 (LSIL HPV) patients, thereby allowing their immune systems to 'control' or to eliminate the HPV virus. However, it should be noted that *Coriolus* supplementation is not a substitute for medical procedures or medical products and further clinical work in a larger number of HPV patients is required to determine the full extent of its potential."

\* Couto JS, Evaluation of *Coriolus versicolor* supplementation in HPV Patients. *Clinical Journal of Mycology* (formerly *Mycology News*) 2007, 2 :1 (Feb).

\* Karmali A et al, *Coriolus versicolor* Supplementation in CIN-1 (LSIL) HPV Infection: Mode of Action. *Clinical Journal of Mycology* (formerly *Mycology News*) 2007, 2 :1 (Feb).

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