

The Use of Coriolus-MRL Supplementation in Lung Cancer Patients Undergoing Radiotherapy

It is very common for radiotherapy patients to become anaemic as a consequence of radiotherapy and, depending on the stage of the cancer, for many to discontinue treatment due to fatigue.

Based on information provided by Mycology Research Laboratories, Dr. Jose Catita-(MD), the head radiotherapist for lung and thorax cancer patients at the Lisbon-based Instituto Portuguesa de Oncologia (Fax: +351 (0)21 722-9836) agreed to conduct a pilot study on the use of Coriolus-MRL supplementation to reduce fatigue in three lung cancer patients undergoing radiotherapy.

The patients involved had been diagnosed with adenocarcinoma (stage III) and were to undergo a six week program of radiotherapy at doses of 40Gy + 20 Gy per week.

Response was measured in terms of four variables:

- 1) Erythrocyte count
- 2) Hemoglobin
- 3) Leukocytes
- 4) Platelet count

Supplementation Schedule: Supplementation started at six tablets per day of Coriolus-MRL (500 mg per tablet of Coriolus versicolor - 3 grams per day) in the first week before being increased to 9 tablets (4.5 grams) a day in the second week and 12 tablets per day (6 grams) in the third week. Supplementation in weeks 4-6 was maintained at 12 tablets (6 grams) per day. Supplementation was divided evenly between morning (6 tablets) and evening (6 tablets).

Coriolus-MRL Schedule for Fatigue During Radiotherapy

WEEK	TABLETS/DAY	NO. OF CORIOLUS-MRL TABLETS /WEEK	NO. OF CORIOLUS-MRL 90 TABLET BOTTLES
1	6	42	
2	9	63	
3	12	84	
4	12	84	
5	12	84	
6	12	84	
		441	5

Patient A (Female, 32 years)

Stage IIIa patient with severe tumour on upper right hand shoulder. She has a 15% to 20% chance of surviving 5 years. Patient A is seeking a second opinion in the United Kingdom.

Patient A Female, 32 years

Weeks	1	2	3	4	5	6
Erythrocyte count	3.540.000	3.620.000	3.650.000	3.680.000	3.670.000	3.740.0
Hemoglobin	11,3	11,7	11,7	12	12	12,1
Leukocytes (WBC)	7.800	7.700	7.900	8.100	8.150	8.200
Platelet Count	331.000	336.000	336.000	340.000	338.000	341.000

Normal Readings Female

4.600.00-5.400.000
12.0-16.0
4.000-11.000
150.000-350.000

Observations: Over the course of six weeks, Patient A's erythrocyte count, hemoglobin, WBC and platelet improved steadily. Hemoglobin entered into the normal range as well.

Only erythrocyte count remained below the normal range throughout the six week period.

Patient B (Male, 63 years)

Stage IIIa patient with 15% to 20% chance of surviving 5 years.

Patient A Female, 32 years

Weeks	1	2	3	4	5	6
Erythrocyte count	4.300.000	4.290.000	4.310.000	4.300.000	4.315.000	4.400.000
Hemoglobin	13,1	13	13,2	13	13,3	13,5
Leukocytes (WBC)	7.200	7.300	7.350	7.350	7.400	7.500
Platelet Count	265.000	270.000	271.000	269.000	272.000	276.000

Normal Readings Male

4.600.00-6.200.000
13.5-18.0
4.500-11.000
150.000-350.000

Observations: Over the course of six weeks, Patient B's erythrocyte count, hemoglobin, WBC and platelet improved. However, erythrocyte count remained below normal range throughout the six week period.

Patient C (Male, 59 years)

Stage IIIa patient with 15% to 20% chance of surviving 5 years.

Patient C Male, 59 years							Normal Readings Male	
Weeks	1	2	3	4	5	6		
Erythrocyte count	4.210.000	4.200.000	4.200.000	4.250.000	4.260.000	4.270.000		4.600.00-6.200.000
Hemoglobin	12,3	12,2	12,3	12,4	12,7	13,1		13.5-18.0
Leukocytes (WBC)	7.200	7.300	7.350	7.350	7.400	7.500		4.500-11.000
Platelet Count	164.000	163.000	167.000	171.000	171.000	171.000		150.000-350.000

Observations: Over the six week course, Patient C's erythrocyte count, hemoglobin, WBC and platelet count improved. However, both hemoglobin and erythrocyte count remained below normal range throughout the six week period.

General Observation: Dr.Catita was impressed by the steady immune parameters over the course of the six weeks. In most lung cancer radiotherapy patients, immune parameters decrease over the course of the treatment. Dr. Catita feels that Coriolus-MRL would have a beneficial application in chemotherapy patients as well, since chemotherapy also results in significant changes in blood cell levels and fatigue, which can reduce the possibility of the patient also receiving radiotherapy. In conclusion, Dr.Catita feels that these immune results are a curiosity, requiring further clinical investigation in the area of chemotherapy.

The Virus-Cancer Link *continued ...*

(1) **Dr. Kent Sepkowitz**, Virus and Cancer: Finding the Links - MD Infectious Diseases Society of America-37th Annual Meeting Day 3-November 20, 1999.

(2) **Miller G.** The role of human herpes virus 8 (HHV-8) in cancer. Presented at the 37th Annual Meeting of Infectious Diseases Society of America; Philadelphia, Pa;November 18-21, 1999. Session 61,S100.

(3) **Miller G, Risby MO, Heston L, et al.** Antibodies to butyrate-inducible antigens of Kaposi's sarcoma-associated herpes virus in patients with HIV-1 infection. N Engl J Med. 1996;334(20):1292-1297.

(4) **Koutski L. Papilloma virus and human cancers.** Presented at the 37th Annual Meeting of the Infectious Diseases Society of America; Philadelphia, Pa; November 18-21, 1999. Session 61, S101.

(5) **Wang F.** pathogenesis of Epstein-Barr virus infection and associated malignancies: development of new primate models. Presented at the 37th Annual Meeting of the Infectious Diseases Society of America; Philadelphia, Pa;November 18-21, 1999. Session 61, S102.

(6) **Labrecque LG, Barnes DM, Fentiman IS, Griffin BE,** Epstein-BAR virus in epithelial cell tumors: a breast cancer study. Cancer Research 1995; 55:39-45.D F

(7) **Richardson** ^a Is breast cancer caused by late exposure to a common virus? Med Hypotheses 1997;48:491-7.

(8) **Sasco Aj, Lowmfels AB, Pasker-de Jong P.** Epidemiology of male breast cancer. A meta-analysis of pbulised case-contolded studies and discussion of selected aetiological factors. Int J Cancer 1993;53:538-49.

(9) **Abhyankar SH, Chiang KY, Mc Guirk JP, Pati AR, Godder KT, Welsh JA et al.** Late onset Epstein-Bar virus-associated lymphonproliferative disease after allogeneic bone marrow transplant presenting as breast masses. Bone Marrow Transplant.

(10) **Koulibaly M Diallo SB, Wann AR, Diallo MB, Charlotte F, Le Chrbreast** localized in the breast (letter) Ann Pathol 1998;18:237-8.

(11) **Luqmani YA, Shousha S.** Presence of Epstein-Barr virus in breast carcinoma. Int J Oncol 1995;6:899-903.

(12) **Bonnet M, Guinebretiere JM Kremmer E, Grunewald V, Benhamou E, Contesso G, Joab I**-"Detection of Epstein-Barr Virus in Invasve Breast Cancers"- Journal of the National Cancer Institutes, Vol 91, No. 16, August 18, 1999.

Suggested Reading:

(1) **Miller G.** The switch between latency and replication of Epstein-Barr virus. J Infect Dis. 1990; 161 (5): 833-844

(2) **Wang F, Seldin DC, Annis B, Trocha A, Johnson RP.** Immune modulation of hum B lymphocytes by gene transfer with recombinant Epstein-Barr virus amplicons. J Virol Methods. 1998;72 (1):81-93.

(3) **Tindall J, Clegg E.** "The Effectiveness of Coriolus versicolor Supplementation in the Treatment of Kaposi's sarcoma in HIV+ Patients" Poster 8.16-Submitted to the 10th International Congress of Mucosal Immunology, June 27-July 1st, 1999. Amsterdam, the Netherlands (available under R&D section <http://www.mycologyresearch.com>)



Coriolus versicolor growing in the wild