



## Immunonutrition with Mushrooms

### Introduction

In Corpet News 3, we focus on further developments on the application of *Coriolus versicolor* (Corpet)\* supplementation as an immunonutrient in small pets with Visceral Leishmaniasis. This is highly important, as according to the latest statistics, Visceral Leishmaniasis has increased in 46% from 2000 to 2007, in Portugal.

In this Buletin, we included some clinical work developed by Prof. Dr. Girão Bastos at his clinic, and a clinical study conducted by Dr. Andrea Lara Oliveira, and her assistant, Dr. Ricardo Almeida Santos, at Clínica Veterinária da Lousã (located in the center of Portugal).

In closing, we have inserted a poster presented by Dr. José Manuel Silva Couto and Dr. Daniel Pereira da Silva, at the 20th Congress of European Obstetrics and Gyneacology, in 2012, in Prague, Czech Republic, on the use of *Coriolus versicolor* supplementation in women with HPV (**Human Papilloma virus**) which may cause cervical cancer.



## Mushroom Supplementation as Immunonutrition in Dogs



### Visceral Leishmaniasis

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Visceral Leishmaniasis or Kala-azar, is a disease transmitted by the protozoa of the genus *Leishmania*.

In Portugal, Visceral Leishmaniasis is highly important, as it overtakes dogs, wolves, foxes and man himself, with a period of incubation that can last from several months to years. *Leishmania* strike the organs rich in macrophages, such as the spleen, liver, lymph nodes and bone marrow. The internal lesions are primarily characterized by adenopathy, splenomegaly and hepatomegaly and skin lesions, due to external events such as furfuraceous desquamation, wounds, ulcers, dark areas of skin, increased length of nails and sometimes epistaxis .

The immune system can respond effectively producing a cytotoxic response (TH1) that destroys the macrophages carriers of *Leishmania*. In these cases the infection is controlled and the slight existing symptoms disappear, only developing cutaneous manifestations. However, if the immune system develops a humoral or TH2 response, with production of antibodies, the *Leishmania* within the macrophages will not be destroyed, because they are out of the reach of the antibodies. In these cases the infection progresses to a severe Visceral form of Leishmaniasis .

The traditional approach uses the antimony compounds, aromatic diamidines, amphotericin or more recently, miltefosine. However, the administration of these drugs normally originates secondary reactions, which often eventually lead to the sacrifice of the sick animals, to minimize the possibility of infection in humans through bites of the sandfly .

The use of a preventive vaccine is not yet available. Therefore, we considered the use of *Coriolus versicolor* supplementation as an immunonutrient, with the aim of enhancing the immune system with a TH1 response and in order to avoid severe Visceral Leishmaniasis.

# Update on the Cases of Visceral Leishmaniasis Included in CORPET NEWS 2

## Case Study 1: December 5th, 2005

Yorkshire Terrier Dog breed, aged 2 years and a half, weight: 4.7 kg, resident in Amadora, Portugal

Clinical diagnosis confirmed by IFI test results

Supplementation with *Coriolus versicolor*\* - Schedule: 4 tablets of 500 mg/day for a period of 6 months, due to the poor general condition of the animal and reduced organic defenses.

**He died** in August of 2006, due to complications related with the Cushing Syndrome, which is a very common condition in dogs of this breed.

## Case Study 2: December 24th, 2005

S. Bernardo Dog breed, aged 3 years, weight: 58 kg, resident in Sintra, Portugal

Clinical diagnosis confirmed by IFI test results

Supplementation with *Coriolus versicolor*\* - Schedule: 6 tablets of 500 mg/day for a period of 6 months

**Currently**, he continues with the maintenance dosage (I) of 3 tablets of 500 mg/day

## Case Study 3: January 27th, 2006

Dog of unknown breed, aged 11 years, weight: 37 kg, resident in Lisbon, Portugal

Clinical diagnosis confirmed by IFI test results

Supplementation with *Coriolus versicolor*\* - Schedule: 6 tablets of 500 mg/day for a period of 6 months

**Currently**, he continues with the maintenance dosage (II) of 1 tablet of 500 mg/day

## New Cases of Leishmaniasis

### Case Study 4: September 15th, 2007

Golden Retriever Dog breed, aged 5 years, weight: 37,5 kg, resident in Odivelas, Portugal

Clinical diagnosis confirmed by IFI test results

Supplementation with *Coriolus versicolor*\* - Schedule: 6 tablets of 500 mg/day for a period of 6 months

**Currently**, he takes 3 tablets of 500 mg/day, maintenance dosage (I)

### Case Study 5: April, 3rd, 2007

Boxer Dog breed, female, aged 5 years, resident in Praia do Meco, Portugal

Clinical diagnosis confirmed by IFI test results

He was given causal treatment with Glucantime (injectable) and symptomatic treatment with wheat germ oil, cod liver oil and Legalon 140 (orally)

After his 10th Glucantime injection, due to his poor health condition, he began to take *Coriolus versicolor*\*, 4 tablets of 500 mg/day, for a period of 6 months

**Currently**, he takes 2 tablets of 500 mg/day, maintenance dosage (I)

\* Dr. Girão Bastos is a Veterinary Doctor with practice in Portugal, he is an expert in his area and in the use of natural products.

He teaches at the Veterinary Faculty of Veterinary Science and graduated as a Medical Surgeon at the University of Luanda - Angola, and at the School of Veterinary Medicine, Technical University of Lisbon. He is presently a professor at the Lusofona University in Lisbon.

Dr. Girão Bastos also has his own practice at Dr. Girão Bastos Clinic in Lisbon.

He has a degree in Homeopathy and is a member of the Portuguese Society of Homeopathy.

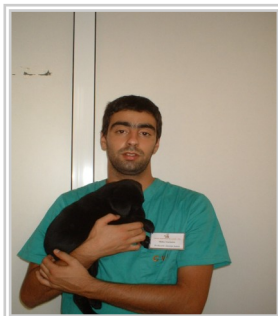
## CORPET Supplementation Schedule for Cats and Dogs

	Loading Dosage*	Maintenance Dosage I**	Maintenance Dosage II**
Cats and Dogs	Day 1 to 15	Day 16 to 60	Day 61 to 120
Small <10Kg	2 tablets/day	1 tablet/day	1 tablet/day
Médium 10 to 30Kg	4 tablets/day	2 tablets/day	1 tablet/day
Large >30Kg	6 tablets/day	3 tablets/day	1 tablet/day

\***Loading Stage** - It is recommended that this supplementation is followed and coordinated by a Veterinary

\*\***Maintenance Stage** - Should be coordinated by a Veterinary, according to the clinical evolution of the animal

# A Case Study on the Effectiveness of Immunonutrition with *Coriolus versicolor* Supplementation in Canine Leishmaniasis\*



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## Introduction

Leishmaniasis is a zoonotic disease with high incidence in the region where we practice, and the high number Leishmaniasis' cases that we deal with everyday, led us to seek other medical treatments, including the use of an adjuvant to conventional therapy.

We then chose immunotherapy as the adjuvant therapy, since the stimulation of the immune system of animals has a very important role while treating the disease and is essential for the recovery of the animal, considering that for the moment, we are using it just as a paliative treatment.

With the clinical immunotherapy that we are using (oral and injectable administration of Levamisole of inactive cells of *Propionibacterium acnes* and lipopolysaccharide of *E. coli* cells), we decided to establish an alternative protocol with daily oral supplementation with *Coriolus versicolor* \* (**CORPET**). Below, we describe one of many cases of canine leishmaniasis, in which we could prove the real effectiveness of this treatment alone, compared with the conventional protocol.

## Efficacy of the Use of Immunotherapy in Canine Leishmaniasis

**Identification of the Patient:** "Shadow", Dog, crossed with German Shepperd breed, with approximately 2 years of age.

### 1st Appointment on April 7th, 2007

**Anamnesis:** "Shadow" was found a week before, scrubby, with inthermitent wheezing, frequente sneezing, sometimes with hemoptysis, intermittent claudication MAD

**Clinical Examination:** Weight = 24.4 kg; Temp. = 38.4 ° C; body condition 2/5

Right Upper Limb, with small lesion in the planter pad

Nose running on the right nasal cavity

Auscultation without respiratory sounds. Slight bradycardia 52 BPM, strong and synchronous pulse

**Complementary tests:** Biochemistry: N and CBC: N

Test Witness Leish. positive; positive serology to 1/240 (negative 1/320)

**Administered Treatment:** antibiotic and systemic anti-inflammatory; local treatment of the wound in the foot end

**Prescribed Treatment:** cleaning the wound with hydrogen peroxide twice a day

### 2nd Appointment on April 12, 2007

**Anamnesis:** maitains intermittent hemoptysis, especially when sneezing

**Clinical Examination:** Weight = 25 kg; Temp. = 38.3 ° C; body condition close to 3/5. Traces of blood in the right nostril

**Prescribed treatment:** began therapy with *Coriolus versicolor* (**Corpet**) - 2 tablets of 500 mg/day BID, for the first 15 days and and maintaining the 2 tablets 500 mg/day SID., after the Loading Stage

Control is recommended after 15 days of therapy

### 3rd Appointment on April 30th, 2007

Substantial recovery in his body condition as well as in his behaviour

Began Maitenance Stage (I) with *Coriolus versicolor* (**Corpet**) until June 15th, 2007

### 4th Appointment on July 5th, 2007

According to his owner, "Shadow" does not have any more hemoptise or sneezing, has normal apetite and behaviour, and a very good body condition - Weight = 26 kg; Temp. = 38,3°C.

Biochemical Tests and CBC: nothing to report

Serological Analysis Ac anti Leishmaniasis: positive 1/160

\*\* Graduated at the Universidade de Trás-os-Montes and Alto Douro, Portugal

\*\*\* Graduated at the Universidade Vasco da Gama in Coimbra

\**Coriolus versicolor* (**CORPET**) fornecido pela Mycology Research Laboratories Ltd (MRL) - <http://www.mycologyresearch.com>

For more information, please visit our website at: <http://mycologyresearch.com/research/animalhealth>

## 5th Appointment on October 4th, 2007

**Anamnesis:** continues without epistaxis and has good appetite and normal behavior

**Clinical Examination:** Weight = 25,9 kg; Temp. = 38,1°C

**Complementary Exams:** Serological Analysis Ac anti leishmaniasis: positive 1/160

HEMOGRAM				BIOQUEMISTRY			
Tests	Normal V.	Before	After	Tests	Normal V.	Before	After
		07/04/2007	04/10/2007			07/04/2007	04/10/2007
WBC	C: 6-17; F: 5.5-19.5	9.34x10 <sup>9</sup> /l	13 x10 <sup>9</sup> /l	ALB	C: 2.5-44; F: 2.2-4.4	2.1 G/DL	3.9 G/DL
lym%	C: 1-4.8; F: 1,5-7	2.802 x10 <sup>9</sup> /l	2.5 x10 <sup>9</sup> /l	ALP	C: 20-150; F: 10-90	21 U/L	120 U/L
MID	C: 0.18-0.13; F: 0-0.8	x10 <sup>9</sup> /l	1.1 x10 <sup>9</sup> /l	ALT	C: 10-118; F: 20-100	U/L	90U/L
GRA	C: 3-12; F: 2.5-14	x10 <sup>9</sup> /l	11 x10 <sup>9</sup> /l	AMY	C: 200-1200; F: 300-1100	U/DL	950 U/DL
LYM%	C: 12-30; f: 2.5-14	30%	15%	TBIL	C: 0.1-0.6; F: 0.1-0.6	MG/DL	0.5 MG/DL
MI%	C: 3-10; F: 1-4	%	4%	BUN	C: 7-25; F: 10-30	20.6 MG/DL	21 MG/DL
GRA%	C: 62-87; F: 35-80	%	81%	CA++	C: 8.6-11.8; F: 8-11.8	MG/DL	9.3 MG/DL
RBC	C: 5.5-8.5; F: 5.5-10	5.73x10 <sup>12</sup>	7.1 x10 <sup>12</sup>	PHOS	C: 2.9-6.6; F: 3.4-8.5	MG/DL	5.6 MG/DL
HGB	C: 12-18; F: 8-15	12.9 g/dl	15g/dl	CREATINE	C: 0.3-1.4; F: 0.3-2.1	0.91 MG/DL	0.9 MG/DL
HCT	C: 37-55; F: 24-45	45.1 %	51%	GLU	C: 60-110; F: 70-150	MG/DL	100MG/DL
MCV	C: 0-77; F: 39-55	78.7 fl	75fl	NA+	C: 138-160; F: 142-164	MMOL/L	156 MMOL/L
MCH	C: 19.5-24.5; F: 12.5-17.5	22.5 pg	23.5 pg	K+	C: 3.7-5.8; F: 3.7-5.8	MMOL/DL	4.8 MMOL/DL
MCHC	C: 31-34; F: 30-36	28.6 g/dl	33 g/dl	TP	C: 5.4-8.2; F: 5.4-8.2	9.1 G/DL	7.9 G/DL
PLT	C: 200-500; F: 300-800	x10 <sup>9</sup> /l	- x10 <sup>9</sup> /l	GLOB	C: 2.3-5.2; F: 1.5-5.7	6 G/DL	4.9 G/DL
				REL. ALB/GLO	C: 0.6-1.1; F: 0.8-1.3	0.35	0.8

### COMMENTS:

We have concluded that, in addition to a full recovery in terms of clinical signs and general body condition, "Shadow" also showed, in only three (3) months, a significant reduction in the antibodies of anti-*Leishmania*. This reduction is undoubtedly due to the stimulation of the immune system carried out by fungal proteases.

### CONCLUSIONS:

We can confirm that oral supplementation with *Coriolus versicolor* \* (**CORPET**) is an optional immunotherapy with results of being the only treatment. However, we can not confirm that the patient is no longer a threat for public health, once clinical tests have still not been conducted, to identify the form of infection or not, and its location on the protozoa in question.

\*\*Licenciada na Universidade de Trás-os-Montes e Alto Douro

\*\*\* Licenciado na Universidade Vasco da Gama de Trás-os-Montes

## Final considerations

We are delighted to highlight the fact that Veterinaries are beginning to show their clinical work on the use and results obtained with the supplementation with *Coriolus versicolor* \* (**CORPET**).

As previously mentioned, given to the major climate changes in progress, caused by known "global warming", with unpredictable consequences regarding this and other diseases, especially in zoonoses of such importance in public health, it is essential that we have a "weapon" such as (**CORPET**), to wrestle against these processes which are so difficult to terminate.

As this immunonutrition becomes more and more effective based on its use, it is only permissible to say that *Coriolus versicolor* \* (**CORPET**) supplementation must be used in pathological processes in which the immune system is seriously compromised.

*Dr. Girão Bastos*

Veterinary Doctor  
Parsitologist

\**Coriolus versicolor* (**CORPET**) fornecido pela Mycology Research Laboratories Ltd (MRL) - <http://www.mycologyresearch.com>

For more information please visit our website at: <http://mycologyresearch.com/research/animalhealth>

# CORPET Supplementation for Ponies and Horses

**CORPET** supplementation is used as immunonutrition for horses and ponies for the following conditions\*\*:

1. Inbalance of the Immune System due to Overtraining.
2. Inbalance of the Immune System due to Age or Stress in Gallop.
3. Inbalance of the Immune System due to Viral Infection / Post Viral Infection.
4. Inbalance of the Immune System due to Oxidative Stress.

The **CORPET** supplementation schedule for horses and ponies are prescribed according to their weight (500 kg).

**CORPET** supplementation schedule is comprised of two stages:

- a) Loading Stage:** For the first 10 days, the loading stage allows the uptake absorption and accumulation of the product. **CORPET** should be mixed with the horse's feed.
- b) Maintenance Stage:** The maintenance stage is a 40 day period, beginning on the 11th day of the treatment, for a period of 70 days, ending on the 80th day. This period can be reduced or increased in duration depending on the condition of the equine and can be reduced for less than 80 days.



Horses and Ponies	Days 1-10	Days 11-80
500 kg	Loading Dosage	Maintenance Dosage
Adenovirus Post Viral Síndrome Sarcoideo (New)	25 gr per day mixed with feed	12.5 gr per day mixed with feed
Number of Grams per period	250 gr	875 gr
1 Corpet Tub of 750 gr, with a 10 gr spoon		
Total de Tubs	1,5 Tubs in Total	

## Implications of the Recent Clinical Study with the Supplementation of *Coriolus versicolor* in Patients with HPV Lesions (LSIL), in Animal Health

Dr. José Silva Couto and Dr. Daniel Pereira da Silva have evaluated the efficacy of the supplementation with ***Coriolus versicolor*** in patients with HPV lesions (LSIL). The persistence of cervical lesions have been determined with colposcopy, cytology and biopsy exams.

The results are as follows, after a period of one (1) year:

- a) The supplementation with ***Coriolus versicolor*** has demonstrated that there was a regression of 72% on the patients with LSIL, compared with the rate of 47,5% in patients who did not take the supplementation.
- b) The supplementation with ***Coriolus versicolor*** demonstrated that there was a regression of 90% in patients with the subtypes of the High Risk HPV virus, compared with a rate of 8.5% in patients that did not take the supplementation.

The High Risk HPV is related with certain strains of the virus, which are known as being responsible for the cause of cervical cancer. These strains include HPV 16, 18, 31 e 45.

These results confirm the observations of Dr. Girão Bastos in the use of ***Coriolus versicolor*** as a reinforcement of the immune system in animal\*.

\*Published in the Boletim Mycology News, Volume 1, Edition 9 (Copies available through Mycology Research Laboratories, Ltd. (MRL):  
E-mail: [info@mycologyresearch.com](mailto:info@mycologyresearch.com)

***Coriolus versicolor*** (Corpet) is available at:

Country	Distributor	Phone	E-mail
United Kingdom	Mycology Research Laboratories, Ltd. <a href="http://www.mycologyresearch.com">www.mycologyresearch.com</a>	+44 158 248 5209	<a href="mailto:info@mycologyresearch.com">info@mycologyresearch.com</a>
United States of America	MRL USA - <a href="http://www.mrlusa.com">www.mrlusa.com</a>	+1 888 675 8721	<a href="mailto:luna@mrlusa.com">luna@mrlusa.com</a>

\****Coriolus versicolor*** (CORPET) is supplied by Mycology Research Laboratories Ltd (MRL) - <http://www.mycologyresearch.com>  
For more information, please visit our website: <http://mycologyresearch.com/research/animalhealth>

\*\*To receive the Corpet Handbook for horses and Ponies, please contact Mycology Research Laboratories, Ltd. (MRL) - Email: [info@mycologyresearch.com](mailto:info@mycologyresearch.com)



# Evaluation of the Efficacy of *Coriolus versicolor*\* Supplementation in HPV Lesions (LSIL)

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## Introduction

The use of mushroom nutrition with an immunomodulator effect is a common and ancient practice in Asian cultures. The significant amounts in free polysaccharides, proteoglycans, enzymes, and secondary metabolites (e.g. terpenes, alkaloids, steroids) constitute the main compounds responsible for their immunomodulating activity.

The *Coriolus versicolor* biomass, is a non-specific immunomodulator which can be very useful as an adjunct to nutrition in support of the immune system in common patients undergoing chemotherapy or radiotherapy during oncological treatment.

## Objectives

With the aim of evaluating the supplementation effects in patients with cervix lesions (LSIL) by HPV, a group of 43 LSIL patients (confirmed by cytology, colposcopy and biopsy) was randomly divided into 2 sub-groups:

The first group received supplementation with *Coriolus versicolor* (biomass) for 1 year-3g/day (6 tablets: 3 tablets at breakfast and 3 tablets at dinner). The control group did not receive any supplementation.

In neither group was any therapeutic procedure performed (cryotherapy, electrocoagulation or laser vaporization) thus performing an evaluation of the *Coriolus versicolor* effects in patients not submitted to routine surgical treatment.

## Material and methods

### Study Design

The 43 patients, selected randomly, were divided into two groups:

The first group (21) was not submitted to any conventional treatment: the Control group.

The second group (22) was submitted to *Coriolus versicolor* supplementation for a period of one year (6 tablets/day i.e. 3g/day).

### Protocol

All patients were submitted to colposcopy, biopsy and HPV tipification (hybrid capture) at the first observation.

Cervical cytology exams (Pap smear tests) determined the LSIL patients. The colposcopy and biopsy tests reconfirmed LSIL status.

Four months after the first observation, all patients were once again evaluated performing colposcopy and cervical cytology. At the same time, there was an evaluation of possible side effects from *Coriolus* supplementation.

After one year, (at the end of the supplementation with *Coriolus*), all patients were examined for the third time (colposcopy, cervical cytology and HPV tipification).

The efficacy of *Coriolus* supplementation in LSIL patients was evaluated considering the evolution of HPV tipification (from HPV+ to a HPV- status) as well as the persistence of the cervical lesions (persistence measured by colposcopy and cytology LSIL) both over the course of the study period.

### Success Parameters

The efficacy of the administration of *Coriolus versicolor* as a food supplement was evaluated in the LSIL group by:

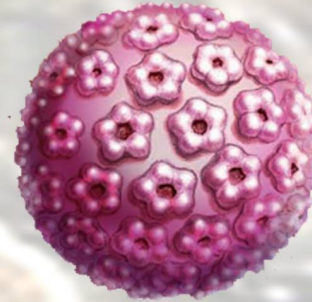
- reverting the HPV positive stage (HPV+) to a HPV negative stage (HPV-);
- establishing cervical cytology normalization after 1 year.

### Study Population

Of the 43 patients who started the experiment, 39 completed the trial. Of the four (4) who did not complete the trial, 1 patient left the country and 3 discontinued supplementation due to minor side-effects (See side effects).

The age distribution of the two groups was very similar. Patients submitted to *Coriolus* presented an average age of 31.7 years, with a minimum age of 19 and a maximum age of 49 years. The control group had an average age of 33.4 years, with a minimum age of 19 and a maximum of 51 years.

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Lisbon Congress Centre, March 4-8, 2008  
Lisbon, Portugal



## Results

Thirty-nine (39) patients already concluded one year of follow-up. The first time they were controlled, 22 patients had HPV+ High Risk.

Eighteen (18) patients took *Coriolus* supplementation, while the other twenty-one (21) patients had no therapy (control), all being under clinical observation for 365 days.

Of the 22 patients who showed HPV+ High Risk tipification, 10 patients took *Coriolus* supplementation and 12 patients did not.

Of the 18 patients who took *Coriolus* supplementation over one year, 13 (72,5%) still showed normal cervical cytology, after one year of follow up.

Of the 21 patients who did not take any supplementation, 10 (47,5%) still showed normal cervical cytology after one year of follow-up.

Regarding HPV tipification, from 10 patients who had HPV+ High Risk and took *Coriolus* supplementation, 9 (90%) reverted to HPV- status after one year. On the other hand, of the 12 HPV+ High Risk status patients who did not take *Coriolus* supplementation, only 1 (8,5%) reverted to HPV- status.

Table 1. Results of the treatment of LSIL lesions

	With <i>Coriolus versicolor</i>		Without supplementation		Total
	Negative after 1 year	Positive after 1 year	Negative after 1 year	Positive after 1 year	
Citology	13 (72,5%)	5 (27,5%)	10 (47,5%)	11 (52,5%)	39
HPV	9 (90%)	1 (10%)	1 (8,5%)	11 (91,5%)	22

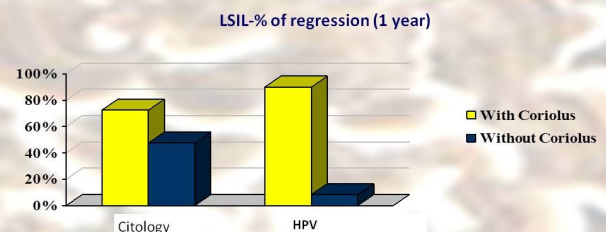


Fig.1 - Percentage of regression of cytologies LSIL and HPV+ in LSIL patients

### Side effects

Three patients stopped taking *Coriolus* supplementation as they showed minor side effects:

- 1 patient had gastric pain
- 1 patient had diarrhoea
- 1 patient had nausea

The side effects were not serious in any of the cases, and it was not necessary to take any kind of therapeutic action in response to these side effects. After stopping the *Coriolus* supplementation the symptoms did not remain.

### Conclusions

The use of *CORIOLUS VERSICOLOR* for 1 year revealed a great efficacy, whether in the regression of the displasia (LSIL), or in the disappearance of the High Risk HPV. It seems therefore, to be a very useful food supplementation with positive therapeutic impact, either in the reversion of LSIL (with High Risk HPV+), or in those HSIL patients, who have undergone surgery but experience continued High Risk HPV viral count.

\* *Coriolus* MRL – Mycology Research Laboratories Ltd