

# Aromatherapy alternatives for gynaecological pathologies: Recurrent vaginal *Candida* and infection caused by the human papilloma virus (HPV).

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Scientific aromatherapy and integrated medicine are taking an increasingly greater role in the treatment of a number of infectious diseases for which conventional medicine has few effective solutions. Powerless and faced with treatment failure, some therapists are actively seeking alternative effective active substances to resolve this inadequacy. When prescribed by competent scientists, essential oils that are chemically and chemotypically defined provide real opportunities with encouraging measurable results that can be observed in clinical practice. In this area of research, the authors are particularly interested in vaginal pathologies of fungal (*Candida albicans*) and viral (human papilloma virus) origin, for which the consequences of ineffective therapeutic intervention can be extremely serious. This article is divided into two parts. The first part is concerned with aromatic treatment approaches for recurrent vaginal candidiasis; the second section is dedicated to the treatment of infection caused by the human papilloma virus (HPV). It presents different active biochemical families and their essential oils along with treatment protocols for these infections arising from professional clinical experience.

## I. VAGINAL CANDIDIASIS

Vaginal candidiasis is amongst the most recurrent and longest to treat of infectious gynaecological pathologies. A lasting cure is only achieved through the implementation of a strict healthy diet and by drastic reduction of all invasive allopathic treatment with antibiotics, sulphonamides and topical antiseptics.

Aromatic treatment will be required over a long duration (three to six months) and demands the use of several simultaneous and complementary administration methods. The length of treatment, the obligation of simultaneous and repetitive administration and the cost of treatment (even though competitive in comparison to allopathic treatment) as well as a healthy diet are at the same time the keys to successful positive results and the reasons for failure due to a lack of rigor in implementing the treatment.

## SELECTION OF ESSENTIAL OILS

Amongst the numerous essential oil possibilities, we remind the reader that those characterised by the biochemical families of aromatic phenols, aromatic and terpenic aldehydes, terpenic alcohols, oxides and ethers are the most active against this yeast (Pattnaik et al., 1997; Bouchra et al., 2003).

A screening of essential oils characterised by their chemical and chemotypical composition (HECT) demonstrate that the most active antibacterial essential oils are not necessarily the most effective against the *Candida* yeast (Galal et al., 1973; Valnet et al., 1978; Onawunmi, 1989; Stiles et al., 1995; Williams and Home, 1995; Charai et al., 1996; Pattnaik et al., 1997; Hammer et al., 1998; Cowan, 1999; Mastura et al., 1999; Manohar et al., 2001; Singatwadia and Katewa, 2001; Baudoux, 2003; Bouchra et al., 2003; Kalembe and Kunicka, 2003; Baudoux, 2004; Allan and Bilkei, 2005).

Table 1 lists key essential oils that have demonstrated antifungal effect, especially with regards *Candida albicans*.

## AROMATIC TREATMENT APPROACHES

Treatment via the vaginal route unfortunately cannot include high doses of the most effective essential oils (++++) because they are all caustic or irritant to the mucus membranes. Low doses of these essential oils associated with other essential oils and the macerated herbal oil of *Calendula officinalis* may have certain uses either in the form of 'vaginalettes'(small vaginal ovules) or vaginal suppositories.

**Table 1. Essential oils active against *Candida albicans***

<i>Latin name</i>	<b>Common name</b>	<b>Active components</b>	<b>Therapeutic interest</b>	<b>Mucosal tolerance</b>	<b>References</b>
<i>Litsea citrata</i>	May Chang	citral	++++	medium	Onawunmi, 1989
<i>Cymbopogon flexuosus</i>	Indian lemongrass	citral	++++	good	Onawunmi, 1989
<i>Cymbopogon citratus</i>	Lemongrass	citral	+++	good	Singatwadia, 2001; Williams, 1995
<i>Laurus nobilis</i>	Bay laurel	various	+++	good	Cowan, 1999
<i>Lavandula latifolia</i>	Spike lavender	1,8-cineole, linalol	+++	excellent	
<i>Myroxylon balsamum var. pereirae</i>	Peru balsam	benzyl benzoate	+++	excellent	
<i>Trachyspermum ammi</i>	Ajowan	thymol	++++	irritant	
<i>Thymus vulgaris</i> CT thymol	Thyme CT thymol	thymol	++++	irritant	Cowan, 1999
<i>Eugenia caryophyllata</i>	Clove bud	eugenol	++++	irritant	
<i>Cinnamomum cassia</i>	Chinese cinnamon	cinnamaldehyde	++++	dermocaustic	Mastura, 1999
<i>Cinnamomum verum</i> (cort.)	Cinnamon bark	cinnamaldehyde	++++	dermocaustic	Cowan, 1999
<i>Satureja montana</i>	Mountain savory	carvacrol	++++	irritant	Pellecuer, 1975
<i>Origanum compactum</i>	Oregano	carvacrol	++++	irritant	Allan, 2005
<i>Origanum heracleoticum</i>	Greek oregano	carvacrol	++++	irritant	Manohar, 2001; Stiles, 1995; Charai, 1996
<i>Melaleuca alternifolia</i>	Tea tree	terpinen-4-ol	+++	good	Hammer, 1998; Stiles, 1995
<i>Melaleuca quinquenervia</i>	Niaouli	1,8-cineole, $\alpha$ terpineol	+++	excellent	
<i>Cymbopogon martinii</i>	Palmarosa	geraniol	+++	good	Singatwadia, 2001
<i>Eucalyptus globulus</i>	Eucalyptus globulus	1,8-cineole	++	good	
<i>Thymus vulgaris</i> CT thujanol	Thyme CT thujanol	thujanol	+++	excellent	
<i>Origanum majorana</i>	Sweet marjoram	thujanol	++	excellent	
<i>Pelargonium x asperum</i>	Rose geranium	citronnellol	+++	excellent	Galal, 1973

The formulation synergies proposed in Figures 1 and 2 combine several essential oil components that have activity against *Candida albicans* in order to ensure the best results for this multifactorial pathology that is particularly difficult to treat. These two complementary formulations are designed to be given over the same time frame.

#### Figure 1. Vaginal formulation suggestion for *Candida albicans*

##### Essential oils (HECT)

<i>Eugenia caryophyllata</i>	30 mg
<i>Cymbopogon flexuosus</i>	50 mg
<i>Laurus nobilis</i>	30 mg
<i>Lavandula latifolia</i>	30 mg
<i>Cinnamomum verum</i> (cort.)	15 mg
<i>Melaleuca alternifolia</i>	30 mg

##### Macerated herbal oil

<i>Calendula officinalis</i>	50 mg
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##### Suppository base

Witepsol (or other conventional suppository base) in a quantity sufficient to make one vaginal suppository. Quantity required: 20 suppositories.

##### Treatment:

One vaginal suppository morning and night for three weeks. Break treatment for one week (therapeutic window) then recommence treatment over a period of three months.

#### Figure 2. Oral formulation suggestion for *Candida albicans*

##### Essential oils (HECT)

<i>Origanum compactum</i>	25 mg
<i>Cinnamomum cassia</i>	15 mg
<i>Litsea citrata</i>	15 mg
<i>Laurus nobilis</i>	20 mg
<i>Melaleuca quinquenervia</i> CT 1,8-cineole	10 mg

##### Powdered excipient

330mg to make one 'O' sized capsule. Quantity required: 120 capsules.

##### Treatment:

One capsule three times a day taken with a glass of fresh water before meals for three weeks. Break treatment for one week (therapeutic window) then recommence treatment over a period of three months.

It is not until the end of the aromatic treatment that it will be useful, indeed indispensable to take lactic ferments (probiotics) in elevated doses in order to assist with the recolonisation of the commensal flora (the vital saprophytic flora essential for healthy balance of the organism).

The combined aromatic treatment approach must imperatively be accompanied by a strict life style where

sugars, milk products, refined flour and cereals are banished. Aromatherapy assists with 'cleansing' of the terrain but fundamental to this there is also the important work of regeneration. It is at this price that vaginal (and often intestinal) candidiasis may be eliminated.

## II. INFECTION CAUSED BY THE HUMAN PAPILLOMA VIRUS (HPV)

We acknowledge the therapeutic interest of using essential oils for an important number of diverse viral pathologies such as influenza, herpes, shingles, varicella and infectious mononucleosis (Vichkanova et al., 1973; Cowan, 1999; Minami et al., 2003; Sokmen et al., 2004). The results achieved with essential oils are more than convincing especially in view of the poor efficacy of allopathic treatments using classic synthetic medications.

The second part of this article examines the treatment possibilities that essential oils offer for viral infections caused by the human papilloma virus; the seriousness of which is linked to its oncogenic potential. This cancer-related risk is at the origin of the proposition of unavoidable surgical excision by the gynaecologist as soon as the pathology has reached an advanced state.

Surgical intervention brings serious consequences to the patient (even more so if she is young) as the woman's emotional, sexual and social stability is deeply affected. Professional experience gained with gynaecologist Dr Kokos of the university hospital of Geneva shows us that treatment with essential oils can result in full healing. It may also help to avoid 60% of surgical interventions if there is a delay of three to four months following treatment before measuring the effects of aromatherapy on these papillomatous cervical lesions and genital warts.

Faced with the seriousness of the disease, several methods of administration, strict doses and long treatment duration are necessary to obtain a serious chance of healing in the long term. A gynaecological follow up is essential to monitor the evolution or regression of the lesions.

### SELECTION OF ESSENTIAL OILS

The criteria for selecting essential oils for therapeutic use are based on the presence of certain chemical components such as terpenic alcohols (linalol, geraniol, thujanol, terpinen-4-ol), aromatic phenols (thymol, carvacrol, eugenol) terpenic aldehydes (neral, geranial), terpenic ketones (thujone, cryptone, verbenone) and lastly an alcohol-oxide partnership of 1,8-cineole,  $\alpha$ -terpineol (Carson et al., 2001; Schnitzler et al., 2001; Allahverdiyev et al., 2004). Essential oils meeting the above criteria are listed in Table 2.

Whilst there is scant research concerning the efficacy of essential oils specifically against HPV, our therapeutic experience coupled with existing anti-viral research concerning other viruses is supportive of the above-mentioned chemistry criteria (Vichkanova et al., 1973; Bourne et al., 1999; Benencia and Courreges, 2000; Carson et al., 2001; Baudoux, 2003; Minami et al., 2003; Baudoux, 2004; Sokmen et al., 2004).

**Table 2. Essential oils indicated in the treatment of infectious disease associated with HPV.**

Latin name	Common name	Active components	Therapeutic interest	Mucosal tolerance
<i>Cinnamomum camphora</i> CT linalol	Ho wood	linalol	++	excellent
<i>Cymbopogon martinii</i>	Palmarosa	geraniol	+++	excellent
<i>Thymus vulgaris</i> CT thujanol	Thyme ct thujanol	thujanol	+++	excellent
<i>Melaleuca alternifolia</i>	Tea tree	terpinen-4-ol	++++	good
<i>Trachyspermum ammi</i>	Ajowan	thymol	++++	irritant
<i>Origanum compactum</i>	Oregano	carvacrol	++++	irritant
<i>Eugenia caryophyllata</i>	Clove bud	eugenol	++++	medium
<i>Salvia officinalis</i> ssp officinalis	Sage	thujone	++++	good
<i>Eucalyptus polybractea</i> CT cryptone	Eucalyptus polybractea	cryptone	+++++	excellent
<i>Rosmarinus officinalis</i> CT verbenone	Rosemary CT verbenone	verbenone	+++	excellent
<i>Cymbopogon flexuosus</i>	Indian Lemongrass	neral, geranial	+++	good
<i>Litsea citrata</i>	May Chang	neral, geranial	+++	medium
<i>Cinnamosma fragrans</i>	Saro, Mandravasarotra	linalol, 1,8-cineole	+++	excellent
<i>Cinnamomum camphora</i> CT cineole	Ravintsara	$\alpha$ terpineol, 1,8- cineole	+++	excellent
<i>Melaleuca quinquenervia</i>	Niaouli	$\alpha$ terpineol, 1,8- cineole	++++	excellent

### AROMATIC TREATMENT APPROACHES

The main routes of administration for treatment of HPV of the female genital tract are oral and vaginal and are designed to be used simultaneously and in complement to one another.

The oral formulation (see Figure 3) consists of capsules each containing 100 mg of an essential oil synergy. This synergy includes essential oils of differing chemistry that are active against the viral agent as well as assisting the immune terrain of the patient.

**Figure 3. Oral formulation suggestion for HPV**

#### Essential oils (HECT)

<i>Thymus vulgaris</i> CT thymol	30 mg
<i>Melaleuca alternifolia</i>	15 mg
<i>Origanum compactum</i>	10 mg
<i>Cinnamomum camphora</i> CT 1,8-cineole	15 mg
<i>Melaleuca quinquenervia</i>	30 mg

#### Powdered excipient

330 mg to make one 'O' sized capsule. Quantity required: 100 capsules.

#### Treatment:

One capsule three times a day taken with a glass of fresh water before meals for three weeks. Break treatment for one week (therapeutic window) then recommence treatment over a period of three to nine months.

The powdered excipient for the capsules may be composed of for example, 30% kaolin (a buffer for the aggressive nature of certain essential oils on the gastric mucosa) and 70% tricalcium phosphate (an inert calcium salt).

The vaginal route (see Figure 4) may consist of 'vaginalettes'(small vaginal ovules) or less expensively, vaginal suppositories, each containing 250 mg of essential oils identified by their chemical and chemotypical composition (HECT). The selection rationale for the essential oils is the same given for the capsules mentioned above. The use of essential oils that are irritant to the vagina mucosa are limited in their dose and tempered by the inclusion of *Calendula officinalis* macerated herbal oil.

### ADDITIONAL THERAPEUTIC COMMENTS FOR TREATMENT OF HPV

For optimised patient comfort it is suggested to time the therapeutic window with the woman's menstrual period.

The treatment cannot be implemented during pregnancy, principally due to the presence of essential oils rich in ketones (thujone, cryptone).

Gynaecological monitoring is recommended as the only means of verifying the efficacy of the proposed treatment. The gynaecologist must monitor regularly the evolution of the infection and his ultimate decision (taken in consultation with the patient) should be respected for any intervention that is needed in the case of treatment failure.

**Figure 4. Vaginal formulation suggestion for HPV**

#### Essential oils (HECT)

<i>Melaleuca alternifolia</i>	50 mg
<i>Eugenia caryophyllata</i>	25 mg
<i>Eucalyptus polybractea</i> CT cryptone	70 mg
<i>Cymbopogon flexuosus</i>	25 mg
<i>Salvia officinalis</i> ssp. <i>Officinalis</i>	30 mg
<i>Melaleuca quinquenervia</i>	50 mg
<i>Cinnamomum verum</i> (cort.)	15 mg

#### Macerated herbal oil

<i>Calendula officinalis</i>	50 mg
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#### Suppository base

Witepsol (or other conventional suppository base) in a quantity sufficient to make one 3g vaginal suppository. Quantity required: 60 suppositories.

#### Treatment:

One vaginal suppository morning and night for three weeks. Break treatment for one week (therapeutic window) then recommence treatment over a period of three to nine months.

### CONCLUSION

By way of conclusion we pose the following question: When the conventional therapist finds him/ herself powerless faced with gynaecological pathologies that allopathic treatments cannot help as, for example, with cervical dysplasias and genital warts or in the case of long invasive treatments with variable results as with vaginal Candida, why not have an open-minded critical and scientific approach towards using powerful, effective natural alternatives that have controllable toxicity? In these circumstances, the use of essential oils is without doubt the most appropriate and the most recommended response for the greatest benefit to patients.

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